

Grant was able to concentrate quickly and deliver fatal attacks against bewildered defenders in localized engagements before Pemberton could counter the Federal advance. General Johnston's force was maneuvered out of any position from which a riposte could be launched.

By mid-May, Grant's grand maneuver was complete, and the investment of Vicksburg began in earnest. He re-established his line of communication with the Union river fleet at Haynes Bluff. With supply channels intact, Union forces received reinforcements and provisions for the anticipated siege. The beleaguered fortress, threatened with starvation, succumbed to the inevitable on 4 July 1863.

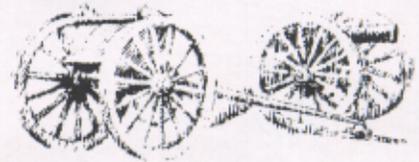
Grant achieved his objective by maneuver and deception. The significance of his brilliant preparation and foresight for logistics services in the Vicksburg campaign cannot be overemphasized. They were inseparable factors in his equally brilliant tactical plan and bold execution. **ALOG**

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# Logistics of the Gettysburg Campaign

by Major Gilbert S. Harper III



**A**lthough the strategic effects of logistics during the Civil War are much discussed, the tactical effects are too often simplified by merely listing statistics or pointing out that the Confederate Army was ill fed and poorly equipped. However, the Confederate invasion of Pennsylvania provides an excellent study of both the tactical and strategic impact of logistics. The tactics of the invasion—which was itself logistically motivated—were severely limited by logistics capability.

After the defeat of General Joseph Hooker and the Army of the Potomac at Chancellorsville, Virginia, in April 1863, the Confederacy had four options—it could continue its defensive strategy under pressure on three fronts and an increasingly tight naval blockade; it could send one corps from General Robert E. Lee's Army of Northern Virginia via the Confederate rail system to reinforce General Joseph Johnston and possibly defeat the Union siege of Vicksburg; it could send one corps from Lee to reinforce General Braxton Bragg in order to defeat the Army of the Cumberland and recapture Tennessee, thus threatening General

Ulysses Grant's line of communication to Washington and possibly forcing his withdrawal from Vicksburg; or it could reinforce Lee to 100,000 men by drawing troops from other theaters and invade the North.

The last option—an invasion of the North—was selected by President Jefferson Davis and his cabinet, for it alone offered decisive results. A successful invasion into the rich farm lands of Pennsylvania might ease the critical supply shortages of the Army of Northern Virginia, encourage European support for the Confederacy, and reduce the Northern will to continue the war in light of the Presidential elections scheduled the next year. Furthermore, Lee would not support any plan that jeopardized his beloved Virginia.

However, since Davis did not fully support the invasion, he would not authorize troop reinforcement or supply allocation for Lee's Army to support an invasion. Lee's supply situation had so deteriorated that he was forced to import fodder from North Carolina to feed his horses, and the situation would not improve without drastic administrative action. But

the Quartermaster General of the Confederate Army answered Lee's demand for supplies by saying, "If General Lee wants supplies, let him seek them in Pennsylvania."

In selecting the fourth course of action, the Confederate Government established general strategic objectives for the invasion: it was to obtain supplies, encourage European support, and reduce the Union's will to continue the war. Lee failed to translate the strategic objectives into tactical objectives, however. Except for a carefully prepared deception plan aimed

at bypassing the Union Army of the Potomac, Lee appeared uncertain of his ultimate destination, whether to move north to Harrisburg or east to Baltimore.

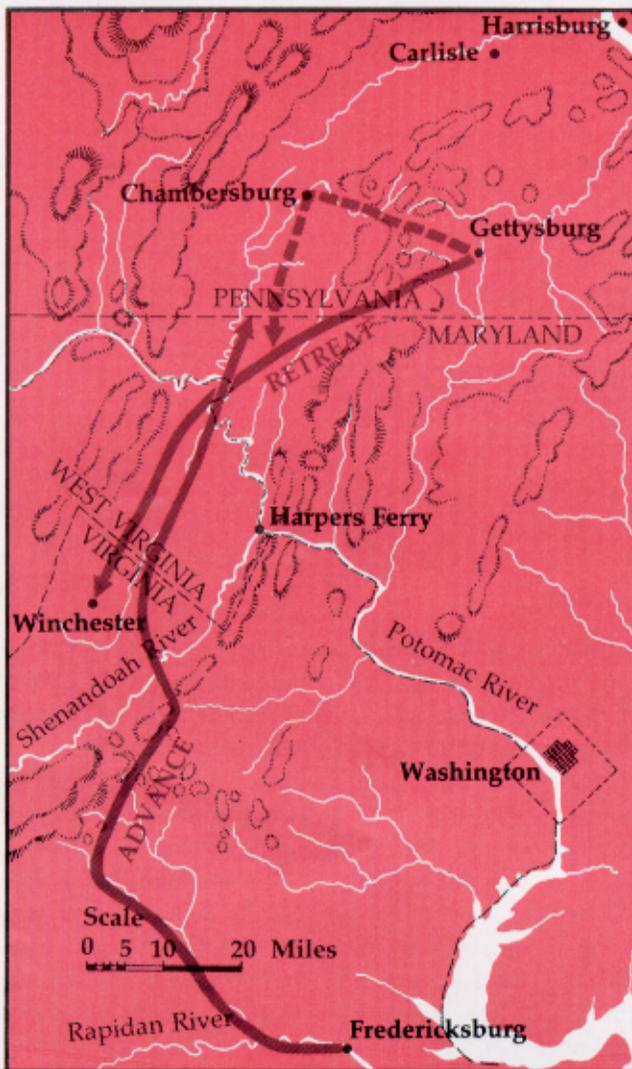
In May 1863, the Confederate Army still faced the Union Army in the vicinity of Fredericksburg, Virginia. On 3 June, General James Longstreet began to move his 1st Corps westward, one division each day, followed by General Richard Ewell's 2d Corps. The 3d Corps under General A. P. Hill would remain in position to cover the movement of the Confederate forces. The plan was simple. The Confederate Army would make a wide sweep through the Shenandoah Valley around the Union Forces. General J.E.B. Stuart's cavalry would screen the movement, and Lee would be in Northern territory before Hooker realized it.

The deception plan was not as successful as it could have been. The Richmond press printed current accounts of Lee's preparations and movements. Furthermore, the flamboyant Stuart was far from subtle in withdrawing from Fredericksburg. Stuart was so elated at the size of his cavalry force that he heralded his movement west with a military review, complete with musicians and gun salutes, at Brandy Station on 5 June. The review drew the attention of Union patrols and spies and prompted a dawn attack on 9 June by Union cavalry. The attack, though repulsed, revealed that the Confederates were on the move. Stuart's poor judgment brought him extensive criticism in the Southern press.

If Lee were moving west, why didn't Hooker drive through Hill and capture Richmond, which was lightly defended by local forces? One reason was that Hooker had not yet replaced the horses and artillery he had lost at Chancellorsville. In addition, the expiration of enlistments was causing a major personnel turnover in the Army of the Potomac. Nevertheless, these problems should not have outweighed the golden opportunity laid before Hooker.

It would seem that the main reason was Hooker's lack of resolve. By this time Hooker was a defeated man, Chancellorsville having destroyed his confidence. He repeatedly requested permission from the Army Chief of Staff, General Henry Halleck, to conduct tasks well within his authority. However, President Lincoln and General Halleck no longer exhibited confidence in him; instead of urging him to take the initiative, they only reinforced his timidity.

By 7 June, Longstreet had assembled 1st Corps near Culpepper Courthouse and Ewell's 2d Corps was entering the Shenandoah. Upon being informed of Ewell's march, Hooker ordered the Army of the Potomac northward. Having marched nearly 100 miles in 8 days, Ewell attacked the Union garrison at Winchester on 13 June, capturing 4,000 prisoners, 23 artillery



□ In advancing toward Gettysburg, the Confederate Army had to make a wide sweep through Virginia's Shenandoah Valley to avoid Union Forces. After the failure of Pickett's charge, Lee's army retreated along two routes, the wounded and supply trains following a northern route (broken line), and the remainder of the army following a more southerly route (solid line). The two lines eventually merged.

pieces, 300 horses, and vast amounts of supplies and munitions.

From 19 to 21 June sharp cavalry clashes fully revealed Lee's intentions, yet Hooker continued to vacillate. By 26 June, the 1st and 2d Confederate Corps had crossed the Potomac River. On 25 June, Stuart, with three cavalry brigades, began his fateful ride between the Union Army and Washington, which would put him out of touch with Lee for 9 days.

As a consequence of Hooker's military decline, General George G. Meade was awakened at 3 a.m. on 28 June to be informed that he was the new commander of the Union Army of the Potomac.

In moving to Gettysburg, Lee's army would pause at Staunton to receive supplies that had been sent up from Richmond. Once north of Staunton, the army would live off the land, except for a limited amount of ordnance that would move by rail to Staunton and by wagon onward. At Staunton, Lee ordered his corps commanders to return all unnecessary baggage to Richmond, thereby increasing mobility and carrying capacity for captured supplies.

Lee ordered his corps commanders to obtain all supplies, livestock, and food possible, but demanded all procurements be controlled by the Quartermaster and Commissary Departments. By requiring all procurements to be handled by his logisticians, Lee hoped to increase accountability and ensure proper payment, for Lee would not tolerate marauding or unlawful seizures.

Even though Lee's intentions are still unclear, he was in a perfect position to duplicate Marlborough's tactics of roaming the enemy's countryside until it was cheaper for his adversary to sue for peace rather than continue to feed a large hostile force. The farm lands in that area offered Lee many avenues of march that would supply the needs of his army, and while his force was not large enough to lay siege to Washington or New York, it could defend itself on a field of its choosing.

Historians question why Lee concentrated his Army in the Cashtown Gap area west of Gettysburg, when tactically it was not to his advantage. The field favored the Union Army, which would approach from the southeast supported by an excellent road and rail line of communications. The ridge lines would provide excellent defensive positions for Union forces. The Confederate forage teams would have to move through the mountains west of the battlefield to supply the army, exposing the Southern line of supply to interdiction by Pennsylvania militia, which could block the passes.

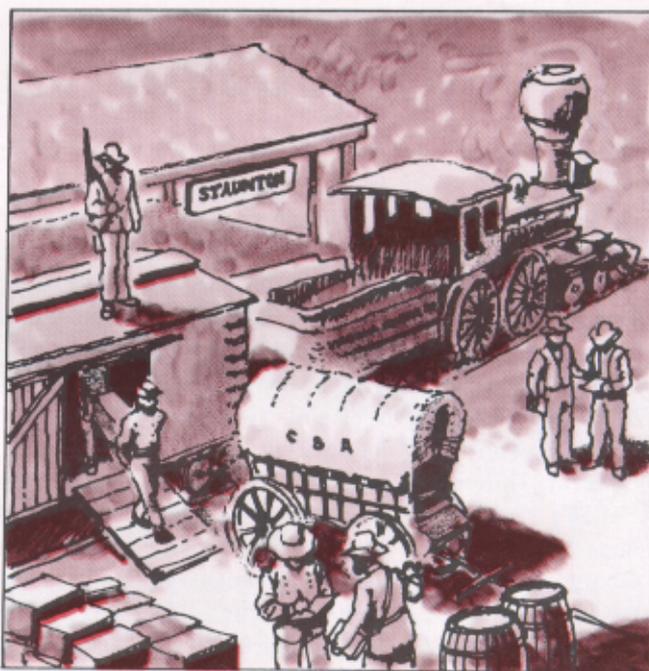
Considering the tactical inadvisability of the location, we must assume Lee chose this area not as

a potential battlefield but as a convenient road junction at which to mass his widely dispersed forces. Meade was threatening the Southern lines of communication. By massing at Gettysburg, Lee hoped to offer a counter-threat to Baltimore, thus forcing Meade to move east, away from Lee's supply line.

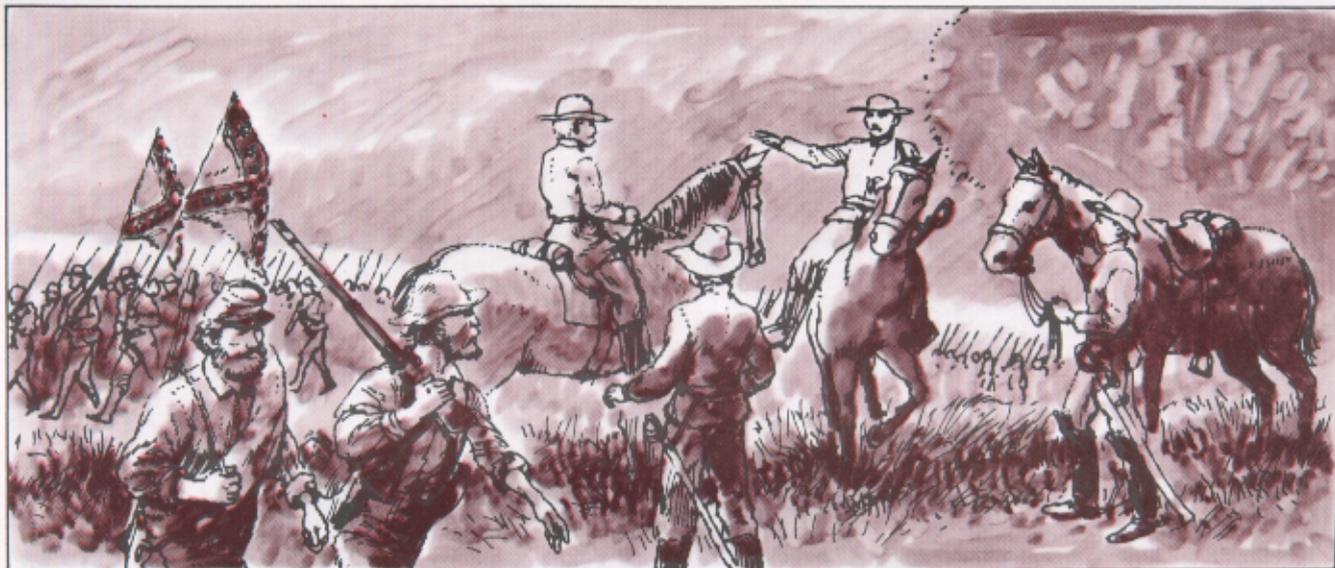
Lee was operating under the false assumption that the Army of the Potomac was further south than it was and that the Army of Northern Virginia would have sufficient time to mass and then move to more advantageous ground before being offered combat. Lee's error on the Union position was a result of insufficient intelligence; he lacked the cavalry needed to adequately patrol and reconnoiter. In fact, Stuart had taken only three of the five cavalry brigades in the army, leaving the other two to screen the line of communication. More judicious use of these two brigades could have prevented Lee's costly assumption.

Soldiers of General Henry Heth's Confederate division approached Gettysburg on 30 June to capture a reported supply of shoes. Heth underestimated the strength of the Union cavalry occupying Gettysburg and attacked piecemeal early on 1 July. The tenacity of the defense by the two Union cavalry brigades entrenched on high ground delayed Heth long enough for Union infantry to arrive, and thus Lee found himself engaged.

Lee hoped that Meade would take the offense but



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instead found the Union Army occupying defensive positions along Cemetery Ridge. As could be expected, the Pennsylvania Militia blocked the passes to the mountains to Lee's rear, limiting the effectiveness of his foraging parties. As a result, food in the Confederate Army began to run low on the second day of battle. Therefore, Lee chose the offensive rather than play a waiting game that heavily favored the North. Lee launched the costly frontal attacks of 2 and 3 July, and, upon their failure, was forced to withdraw due to shortages of ammunition and subsistence.

Lee might have withdrawn from Gettysburg to a more favorable battlefield as soon as he realized he faced the entire Union Army, but three considerations prevented him from doing so. First, moving his supply trains through the mountain passes would have been difficult and potentially costly. Second, retreating would further jeopardize his line of communication and negate some of the political gains already achieved. Furthermore, Lee still believed in the invincibility of the Army of Northern Virginia. He failed to recognize that the Army had changed since Chancellorsville—General Thomas “Stonewall” Jackson was dead.

Lee's retreat was as precise as his advance had been sloppy. After realizing the failure of General George Pickett's charge, he immediately organized his forces to meet the expected counterattack. On 4 July the Army trains with the wounded were organized and sent along the northern route through Chambersburg. The remainder of the army held the position until darkness, then retreated south through Hagerstown.

The 2d and 3d Corps were on the ends of the column, with 1st Corps in the middle escorting the

prisoners. The lead corps would bivouac first each night, while the other two passed through it. Thus, 1st Corps would remain in the middle and 2d and 3d Corps would alternate the lead and trail. Lee was careful to destroy the railroads along the route of his retreat to slow the Union pursuit.

Lee's army should have had little problem living off the land. The rich Shenandoah Valley and Pennsylvania farm lands had an average population of only 45 people per square mile, and in midsummer a 6-month supply of food should have been readily available. The Army of Northern Virginia had a strength of 75,000 men, 5,000 of whom accompanied Stuart on his raid. Considering a linear distance of 90 miles from Winchester to York, Pennsylvania, 70,000 men had to subsist for 22 days (13 June to 4 July); that would require 190 square miles to be foraged—the equivalent of a strip 2 miles wide along the line of march.

Likewise, it would appear Lee would have little trouble feeding his army off the land during the retreat. After the battle, the Army of Northern Virginia had an approximate strength of 60,000 men. The retreat from Gettysburg took 10 days (5-14 July), which would require the supplies of 67 square miles.

Foraging during the advance was successful, but it was not so during the retreat. Even before Lee reached the Potomac River, he had reported to Davis that although his ordnance situation had improved, he needed subsistence.

Lee's food supplies were short for a number of reasons. One reason was that Lee's army retreated over the same route on which it had advanced. During

the retreat, however, an additional 2-mile-wide strip was needed. This required the foraging teams to scout a wider area while still under pressure from Union cavalry.

Also, the local population obviously had evacuated, hidden, or destroyed some supplies to keep them from being captured by the Confederates. Confederate currency was practically worthless and offered no incentive for Northern farmers or merchants to sell their goods.

Captured supplies included grain, which might have provided food, but it first had to be milled into flour before making bread. This was not a problem during the advance but during the retreat the rivers were flooded, rendering the mills inoperable.

Finally, Lee did not have enough transportation to move extra supplies with his army. Although a considerable number of wagons and buggies were seized, many were loaded with wounded or ordnance, further reducing his ability to carry supplies.

The exact number of horses and wagons Lee had is unknown, but it can be roughly estimated. The army trains leaving Gettysburg occupied 17 miles of road. A standard supply wagon with team occupied approximately 40 feet of road. Assuming a gap of two wagon lengths between wagons (Union cavalry pressure and the haste of the retreat would compress the train), there were approximately 44 wagons per mile and 748 wagons in the trains. Lee's quartermaster, Lieutenant Colonel Corley, was put in charge of the trains accompanying the corps, which were in addition to the army trains. Assuming the number of wagons under Corley was as much as 25 percent of the number in the army trains, the total was less than 1,000.

Next to food and ammunition, fodder was the army's most critical need. A horse consumes over 20 pounds of feed a day, and 1 acre of fodder would feed 50 horses for 1 day; thus, the number of horses in Lee's army can be estimated at about 16,000.

In addition to the number of horses in the cavalry, artillery, and supply trains, an unknown number of captured horses and cattle accompanied the army. Although claims files indicate that vast herds were seized, few appear to have reached Virginia since severe shortages of food and horses were reported in the Army of Northern Virginia after the campaign was over.

The total forage required by the horses during the campaign was 10,240 acres or 16 square miles. Even if the number of livestock in the captured herds equalled the number originally in the army, it would appear that Lee's forage problems were minimal.

But this was not the case, for in a letter to Stuart on 9 July Lee reported problems finding forage. This

shortage can be at least partially attributed to—

- Lack of transportation to carry forage: 1 wagon-load would feed only 400 horses for 1 day.
- Union cavalry pressure on the flanks of the columns where foraging and grazing would take place.
- The speed of the retreat, which would limit the time the animals could graze.
- The heavy rains during the retreat, which would beat down the grass and flood some grazing areas.
- The fact that some of the fodder had been carried off before the army's arrival.

Since Meade did not actively pursue, Lee was able to cross the Potomac River on 14 July 1863. His defeat erased the political gains of the invasion and was extremely costly in casualties—31,000 killed or wounded, including many important leaders. Nor did the campaign erase the Confederacy's supply problems. Lee's troops wore out more shoes during the invasion than were captured, and many of the captured supplies were consumed or abandoned during the retreat.

His most significant loss was in horses. Many of the horses that returned to Virginia were worn out by disease, exhaustion, or malnutrition. The Army of Northern Virginia did not recover from these losses. Rather, Lee found his mobility degraded for the remainder of the war. The war was lost, though it was to last for 2 more years.

In retrospect, the Confederate decision to invade Pennsylvania appears sound simply for lack of a better option. President Davis and his cabinet can be faulted for ordering the invasion and then failing to support it with sufficient supplies and transportation. In their defense, however, one might argue that the supplies they could have authorized would have to be transferred from other theaters whose needs were also critical.

In final analysis, Lee's chief failure was in not translating the broad strategic objectives into specific tactical objectives. Failing to establish tactical objectives, Lee became overly concerned about his line of communication. Since the supplies moving along it were insignificant, Lee could have better used the cavalry guarding it to keep tabs on Union forces and seek out caches of supplies. Better reconnaissance would have permitted Lee to continue to evade Meade's army and roam through the North or to accept battle on an advantageous field. **ALOG**

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