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Force-Structure Comparisons of the Armies at Gettysburg

DOUGLAS R. KLEINSMITH

Until Gettysburg, the Confederate Army of Northern Virginia had bested its rival Union Army of the Potomac in most of their major engagements. The Army of the Potomac did fairly well against the Army of Northern Virginia on the Peninsula and fought them to a draw at Antietam. But at Second Bull Run, Fredericksburg, and Chancellorsville, they met with decisive defeats. Gettysburg pitted the two against each other once again. However, this engagement played out very differently than past battles. In this battle, the organization and unit integrity of the infantry force structure of the Union army had a *subtle*, but decided, operational and tactical advantage over the way the Confederates had structured their infantry coming into this battle. As it turned out, the Army of Northern Virginia encountered much greater command and control difficulty than the opposing Army of the Potomac. In the end, the Union infantry force structure, intentionally or unintentionally, proved to be a principal attribute underlining its success at Gettysburg.

Countless analyses exist on why the Confederates were unable to achieve a victory at Gettysburg. However, artillery and cavalry aside, very little study has been done with regard to a comparative analysis of the opposing sides' force structures. The ability to effectively command and control any military organization plays a critical role in ensuring success on the battlefield. By this time in the war, Confederate commanding general Robert E. Lee had finally structured his army into an ideal model of symmetry and balance that possibly Napoleon himself might envy. His army now consisted of three powerful corps and a famous division of cavalry. Each corps had three large infantry divisions

with their own direct and general support artillery. However, this organizational force structure had just been established following the army's most recent battle at Chancellorsville in May of 1863. In fact, from the time the Army of Northern Virginia first came into being, before the gates of Richmond in the 1862 Peninsula Campaign, to this most recent change, it had gone through numerous reorganizations of one form or another.

More than anything, the perceived personalities and capabilities of prospective commanders drove the methodology behind the organizational construction of the Army of Northern Virginia. Much of this involved the personal taste of the commanding general, Lee, which included how well commanders worked with each other, what size organization they could effectively handle, and what credentials and loyalties they possessed. Consequently, this army underwent force-structure reorganizations after every campaign, due in large part to officer casualties and reassignment of ineffective commanders. These reorganizations ranged from the creation of new corps to the juggling of brigades and divisions in order to fit the personalities and capabilities of the various commanders.¹

In the beginning of the war, Confederate military acts did not account for organizations larger than a division. Consequently, at the start of the 1862 Peninsula Campaign, Joseph E. Johnston, who commanded what became the Army of Northern Virginia, had six independent divisions loosely grouped under three wings. Following Johnston's wounding, Lee assumed command and inherited a

¹ Douglas Southall Freeman, *Cedar Mountain to Chancellorsville*, vol. 2 of *Lee's Lieutenants: A Study in Command* (New York: Charles Scribner Sons, 1943), xiv–xv.

command structure consisting of four widely varying size divisions organized as Thomas J. (Stonewall) Jackson's Army of the Valley, three small divisions nominally grouped under John B. Magruder, and four other independent divisions of unequal size and brigade composition.²

Lee, recognizing the difficulty of commanding and controlling this disjointed structure, sought to improve that condition by dividing his infantry under two commands led by Jackson and James Longstreet.³ With the formal approval of an amendatory act by Confederate president Jefferson Davis, these two commands became designated as

corps by late fall of 1862.⁴ During this corps restructuring, new divisions came into being through the amalgamation of small divisions and the addition of several new brigades.⁵

Despite this turmoil at the higher echelons, the greatest structural strength and unit integrity the Confederates enjoyed came at the regimental

Gen. Robert E. Lee was largely responsible for the structure of the Army of Northern Virginia as it embarked on the Gettysburg Campaign. Courtesy of the Library of Congress.

level. The Confederate practice for replenishing strength losses involved the injection of new men directly into the existing regiments. With this practice, brigades had the potential for keeping the same regiments battle after battle. However, this apparent stabilization fell victim to President Davis's insistence that regiments from the same state brigade together in the belief that it would create wholesome rivalry. Lee did not think it the best organization and believed brigades composed of regiments from different states could be better controlled, promote friendly rivalry, and ensure less solidarity against authority.

Despite his misgivings, he complied with Davis's desire, causing additional structural shifting within the army.⁶

By late 1862, the Army of Northern Virginia's force structure seemed finally set. However, casualties from the Battle of Chancellorsville in May 1863 forced, yet again, new changes. In this battle, Lee lost Jackson to an unfortunate friendly fire incident. Jackson's death prompted another profound reshaping of the army's structure, this time from two corps to three corps of three divi-

2 Stephen W. Sears, *To the Gates of Richmond: The Peninsula Campaign* (New York: Ticknor and Fields, 1992), 369–89.

3 Douglas Southall Freeman, *Manassas to Malvern Hill*, vol. 1 of *Lee's Lieutenants: A Study in Command* (New York: Charles Scribner Sons, 1942), 670–71.

4 James Longstreet, *From Manassas to Appomattox* (New York: Mallard Press, 1991), 290.

5 Freeman, *Cedar Mountain to Chancellorsville*, 269.

6 Freeman, *Manassas to Malvern Hill*, 270.

sions, described earlier. Consequently, the Army of Northern Virginia entered the Gettysburg Campaign with an untested force structure that included the assignment of two new corps commanders and five new division commanders, along with the addition of three new brigades.⁷

By contrast, the Army of the Potomac approached organization of their force structure much differently than their Southern opponents. Unlike the Army of Northern Virginia, the Union organizational structure, once set, changed very little over the same time period. Commanders and units were plugged in (or out) as required, without major impact to the basic structure. The initial organization of the Army of the Potomac came from a one-volume set of periodically revised U.S. Army general regulations issued by the War Department. These regulations laid the basic framework for brigades and divisions. The most common organization consisted of five regiments to a brigade and three brigades to a division.⁸ Corps came into existence in March 1862 when President Abraham Lincoln issued orders to consolidate the Army of the Potomac's current twelve divisions into corps.⁹ Not long afterward, the Army of the Potomac commanding general, George B. McClellan, added more corps in May of 1862 to facilitate promotion of his two pals, Fitz John Porter and William Franklin.¹⁰ In June of 1862 the Union created another eastern-theater army under John Pope, which in some ways rivaled the Army of the Potomac.¹¹ Following his disastrous battle at Second Bull Run, Pope's army merged with the Army of the Potomac, bringing in its corps.¹² With few exceptions, this pretty much set the army's infantry structure all the way through Gettysburg. Some minor adjustments came from Joseph Hooker. After assuming command in early 1863, Hooker organized the cavalry into its own corps and, in what became his most famous measure, standardized badges for each of the infantry

Gen. George McClellan organized the Union Army into corps with the approval of Abraham Lincoln. Thereafter, the basic structure varied little until inherited by Gen. George G. Meade almost literally on the eve of the battle. Courtesy of the National Archives.

corps. Although seemingly trifle, it greatly helped to instill pride, distinctiveness, and loyalty for the men belonging to these organizations.¹³

Unfortunately for the Army of the Potomac, the top commanding general position witnessed a high turnover rate, the last occurring on the very eve of the Gettysburg Campaign, with the appointment of

7 Freeman, *Cedar Mountain to Chancellorsville*, 710–12.

8 Kavin Coughenour, "Andrew Atkinson Humphreys," in *Mr. Lincoln's Army: The Army of the Potomac in the Gettysburg Campaign; Papers of the Sixth Gettysburg National Military Park Seminar* (Gettysburg, PA: Gettysburg National Military Park, 1997), 140.

9 T. Harry Williams, *Lincoln and His Generals* (New York: Alfred A. Knopf, 1952), 68.

10 Sears, *To the Gates of Richmond*, 107.

11 John J. Hennessy, *Return to Bull Run: The Campaign and Battle at Second Manassas* (Norman: University of Oklahoma Press, 1999), 6.

12 Stephen W. Sears, *Landscape Turned Red: The Battle of Antietam* (New York: Ticknor and Fields, 1983), 102.

13 Charles Fennell, "Heroes of Continual Defeat," in *Mr. Lincoln's Army: The Army of the Potomac in the Gettysburg Campaign; Papers of the Sixth Gettysburg National Military Park Seminar* (Gettysburg, PA: Gettysburg National Military Park, 1997), 9–10.

George G. Meade. Aside from this, possibly the one structural weakness for the Army of the Potomac lay at the brigade level. Keeping in practice with the general plug-and-play concept of their force structure, when brigade strength became low from casualties, sicknesses, and desertions, rather than assigning more men into existing regiments, they simply added whole new regiments.¹⁴ This resulted, not uncommonly, in several small experienced regiments in the same brigade with one very large inexperienced regiment. Because Civil War tactical maneuver elements generally went only as low as the brigade, this did not have as great an impact as the shuffling of whole sets of regiments, brigades, or divisions like the Confederates went through.

Going into Gettysburg, the Army of the Potomac's structure, on the surface, appeared fragmented and fragile. This army spread itself out between seven infantry corps, as well as a corps of cavalry, each with two or three small divisions. Each corps had general support artillery and access to general support reinforcing artillery at the army level. The army had suffered seventeen thousand casualties at Chancellorsville and also had lost a number of units whose period of service expired.¹⁵ Additionally, as noted, it had a new commander, and two new brigades. Even so, the army had perhaps attained its best fighting trim up to any time so far in the war.¹⁶

In addition to the approach the two sides took on structuring their respective armies, the size of similar tactical units within the Army of Northern Virginia and the Army of the Potomac greatly differed and had a profound impact on the ability of commanders to effectively command and control these units at the various echelons of authority. At the brigade level, the average strength of the Confederates slightly edged the Union average by 129 men (1,421 for the Union and 1,550 for the Confederates).¹⁷ After that, the jump becomes more pronounced at each successive level, mainly because the Army of Northern Virginia had more brigades (four to five) in their divisions than the Army of the

Potomac (two to three). Table 1 displays comparative division and corps sizes between the opposing armies. This shows that even the largest Union division barely equaled the smallest Confederate division. Corps strength comparison becomes even more pronounced. The largest Union corps only matches 65 percent of the smallest Confederate corps strength. Generally speaking, the Confederates had fewer divisions and corps but vastly greater numbers of personnel and brigade maneuver elements in those organizations. While this, at first, seems to be a strength, larger units with more moving parts, from a command and control standpoint, presented their commander and his staff with greater coordination challenges.

TABLE 1. Comparison of Unit Strengths

Unit	Smallest	Largest	Average
Union division	2,471	5,230	3,921
Confederate division	5,442	7,940	6,792
Union corps	8,470	13,030	10,371
Confederate corps	19,899	21,060	20,375

Taking these unit strengths and converting them into unit frontages amplifies the challenge presented by larger-sized units versus smaller-sized units. Using a simple formula of dividing the respective unit into two rank lines; then multiplying that number by twenty-four inches, to represent the standard distance each two-rank file occupied; and then dividing again by thirty-six inches results in unit frontages expressed in yards.¹⁸ While this is a very simplified approach and may not accurately reflect the employment options commanders elected when faced with variable combat conditions and tactical situations, it does provide for a straight unit-to-unit comparison to illustrate command and control differences. Figure 1 shows that the average Confederate division had a frontage of just under 2,300 yards and that a corps was at almost 7,000 yards. Union division fronts occupied less than 1,300 yards; and their corps, a little under 3,500 yards.

Civil War tactical command and control had four communication modes: face-to-face, line-of-sight hand and arm signal, sound, or messenger.

¹⁴ Jack Coggins, *Arms and Equipment of the Civil War* (Mineola, NY: Dover, 1990), 21.

¹⁵ Harry W. Pfanz, *Gettysburg: Culp's Hill and Cemetery Hill* (Chapel Hill: University of North Carolina Press, 1993), 6.

¹⁶ Fennell, "Heroes of Continual Defeat," 18.

¹⁷ All unit strength numbers throughout are taken from J. David Petruzzini and Steven A. Stanley, *The Gettysburg Campaign in Numbers and Losses* (El Dorado Hills, CA: Savas Beatie, 2012).

¹⁸ Coggins, *Arms and Equipment of the Civil War*, 21.

Figure 1. Comparison of unit frontages. Note that 1,760 yards equals one mile.

Figure 2. Command and control compared between Robinson's and Rodes's divisions.

For these modes, the greater the distance and number of maneuver elements, the harder for a commander to affect timely leadership and direction. All other things being equal, Confederate divisions and corps had more challenges commanding and controlling their respective units than the Union army did. Figure 2 depicts a comparison of two opposing divisions that ran up against each other during the battle, graphically emphasizing the greater command and control distance and number of brigade maneuver elements Confederate commanders had to contend with than their Union counterpart had.

Factoring terrain into this equation exasperates the situation even further. On relatively open ground, larger units had a better opportunity to fully exploit their size and combat strength. However, in restrictive terrain (rockiness, heavy vegetation, winding streams, fences, and buildings), smaller units had the clear advantage, owing mainly to their tighter command and control sphere. The terrain around Gettysburg had a mix of both open and restrictive terrain. For the most part, the restrictive terrain saw the heaviest fighting and, as a result, had significant impact on command and control.

These structural differences between the two armies became apparent throughout the battle. As an example on the first day, Confederate division commander Robert Rodes's ability to handle his division proved exceedingly difficult.¹⁹ His division had a strength of 7,940 men spread among five maneuver brigades. He describes in detail the challenges of controlling his brigades. One brigade went in without all its regiments and suffered a repulse. This left another one unsupported as it drifted off course and into a maelstrom of Union fire, where it suffered very heavy casualties. A third brigade became disconnected from the rest of the division, went in by itself, and also failed. A fourth brigade became detached from the rest of the division and ended up attacking with a neighboring brigade of Jubal Early's division. Rodes had to commit his fifth and last brigade, left in reserve, to help correct the setbacks of the other brigades.²⁰

To the left of Rodes, Early's brigades attacked aggressively and with effect but ended up scattered beyond mutual support of each other. Toward the end of the first day's battle, corps commander Richard Ewell declined to attack Culp's Hill or Cemetery Hill largely because of the condition and displacements of Rodes's and Early's divisions and the inability of A. P. Hill's neighboring Third Corps to support him.²¹ This controversial decision haunted veteran Confederates and continues to intrigue historians many years after.

On the second day, Lee called for simultaneous attacks by Ewell's Second Corps on the far left and Longstreet's First Corps on the far right. Hill's Third Corps had one division attached to Longstreet's attack and the other two tasked to engage as needed to prevent the Union from concentrating on the First Corps.²² In the actual execution, corps coordination broke down. Both Longstreet and Ewell conducted attacks at different times, and Hill's two divisions remained inactive.

Longstreet's attack on the right got off slow. It took him most of the day to get his divisions (Lafayette McLaws and John Bell Hood) with one other division (Richard Anderson) from Hill's corps into position. When he finally had his attack force ready, it was late in the day, and his battle line stretched for a distance of almost 2.75 miles.²³ Longstreet's plan called for Hood's division to initiate the forward movement with the other two divisions keying their movement off their respective neighboring division: Hood, then McLaws, and then Anderson. Owing largely to the long length of the line and the high number of brigades per division (four to five), Anderson's left division stepped off nearly an hour and a half after Hood's right division started.²⁴

As they attacked, Longstreet noted the fragmentation of Hood's four brigades as they pressed in, due in no small part to the difficult terrain. At one point, regiments from one of Hood's brigades split and crossed in between the regiments from another brigade. Compounding this mix-up, Hood fell seri-

cited as OR and followed by the volume, part, and page numbers, with all subsequent citations referencing series 1).

21 Donald C. Pfanz, *Richard S. Ewell: A Soldier's Life* (Chapel Hill: University of North Carolina Press, 2007), 324.

22 James Longstreet, "Lee's Right Wing at Gettysburg," in *The Tide Shifts*, vol. 3 of *Battles and Leaders of the Civil War* (Edison, NJ: Castle, 1995), 341.

23 Tomas A. Desjardin, *Map of the Battlefield at Gettysburg: July 2, 1863—Late Afternoon* (Gettysburg, PA: Friends of the National Parks at Gettysburg, 1998).

24 OR, 27.2:614.

19 Douglas Southall Freeman, *Gettysburg to Appomattox*, vol. 3 of *Lee's Lieutenants: A Study in Command* (New York: Charles Scribner Sons, 1944), 171.

20 U.S. War Department, *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies* (Washington, DC: U.S. Government Printing Office, 1880–1901), ser. 1, vol. 27, part 2, 553–54 (hereafter

ously wounded just as his division stepped off. Confusion reigned among the division, exasperated by Hood's wounding, by casualties among the officers, by command lines broken from the terrain, and by the senior brigade commander's (Evander Law) inability to assume immediate command.²⁵ Once Law did assume control, he noted that "the ground was rough and difficult, broken by rocks and boulders [*sic*], which rendered an orderly advance impossible."²⁶ Having seen nothing of McLaws's advance, Law halted Hood's division, which by then had become broken and disorganized. Hurrying back to the attack start point, Law found that McLaws's division had not even started to advance and resorted to imploring one of McLaws's brigade commanders (Joseph Kershaw) to send his brigade in as support. Advancing, Kershaw knew the rest of the division had not yet advanced, meaning there was no support on his left. At one point, having lost contact with the rest of the division, he perceived the possibility of being surrounded and cut off and ordered a hasty retreat.²⁷

Coordination within Ewell's corps also went awry. On one attack, Ewell attempted a concerted assault with Early's and Rodes's divisions on Cemetery Hill, with the intent of Early striking one side of the hill and Rodes the other. Again, owing to the size of his division and the number of maneuver brigades, Rodes had trouble getting through the town of Gettysburg and into position in time. Early had half of his brigades too far away to provide support and only attacked with two, meeting failure short of his objective.²⁸

Typically, Army of Northern Virginia brigade commanders' after-battle reports indicate receipt of initial orders and direction at the start but never mention receiving additional adjustments or control as the fight progressed. Brigade commanders made decisions and conducted the battle on the fly as they saw fit.²⁹ After Gettysburg, Longstreet made the statement that the troops knew what to do and

did not need a "close guiding hand."³⁰ Although praising the individualistic spirit of his men and subordinates, this statement confirms how little control extended above the brigade level once they became committed. Poor coordination between the corps and divisions greatly contributed to the lack of success of the attacks on that day.³¹ Thus Longstreet summarized the day as "dwarfed into the battle of the right at three o'clock, that on the left at eight by a single division, and that nearer the centre at nine o'clock by two brigades."³²

On the opposite side, the Army of the Potomac after-battle reports show a consistent pattern of corps commanders actively directing their divisions and division commanders actively directing their brigades, with like confirmation of that direction from the respective subordinate commanders. For example, acting First Corps commander Abner Doubleday recounts how he and John Reynolds personally directed the placement of the corps' divisions and brigades as they came up along Seminary Ridge on the first day. First Corps division commanders James Wadsworth; John Robinson; and, to some extent, Thomas Rowley corroborate Doubleday's account of the command and control workings between the corps and divisions. Throughout the first day's fight, these division commanders describe how they firmly controlled and moved their brigades in their repeated repulses of the Confederate attacks all along the line. Brigade commanders, in turn, record the direction they received from their division commanders. At several points, the small number of maneuver brigades per division (two to three) allowed the tactical split of divisions to cover gaps without detriment to command and control.³³

On the second day, Meade became aware that Dan Sickles had advanced his Third Corps beyond where Meade intended. Seeing the beginning of Longstreet's attack and the precarious state of Sickles's position, he rapidly and readily drew reinforcements from nearby Winfield Hancock's Second Corps and George Sykes's Fifth Corps, to support Sickles's corps.³⁴ As Longstreet's attack began, one

25 Terry Latschar, "Jerome Bonaparte Robertson and the Texas Brigade," in *Leadership in the Campaign and Battle of Gettysburg. Papers of the Ninth Gettysburg National Military Park Seminar* (Gettysburg, PA: Gettysburg National Military Park, 2002), 128–29.

26 Evander M. Law, "The Struggle for Round Top," in *The Tide Shifts*, vol. 3 of *Battles and Leaders of the Civil War* (Edison, NJ: Castle, 1995), 319–25.

27 J. B. Kershaw, "Kershaw's Brigade at Gettysburg," in *The Tide Shifts*, vol. 3 of *Battles and Leaders of the Civil War* (Edison, NJ: Castle, 1995), 334, 337.

28 OR, 27.2:556.

29 OR, 27.2:367–69, 404–6, 414–15.

30 Longstreet, *From Manassas to Appomattox*, 369–70.

31 Pfanz, *Richard S. Ewell*, 325.

32 Longstreet, *From Manassas to Appomattox*, 375.

33 OR, 27.1:243–49, 265, 281, 289, 307, 312.

34 Testimony of General George Gordon Meade before the Joint Committee on the Conduct of the War, March 5, March 11, and April 4, 1864, Washington, DC, Gettysburg National Military Park Library, Gettysburg, PA, copied in 2007.

of Sickles's division commanders, Andrew Humphreys, quickly shifted one brigade from his far right to assist his neighboring Third Corps division when the brunt of Longstreet's forces fell on it. When his division became overwhelmed, Humphreys deftly executed a difficult fighting withdrawal, suffering severe numbers of killed and wounded (1,933). However, his low number of missing or captured (222) serves as evidence to the high degree of tactical control maintained.³⁵

Other commanders also demonstrated a high degree of unit control. Reinforcing division commanders, such as John Caldwell from Hancock's Second Corps, recount in specific detail how they committed their brigades to the reinforcement of the Third Corps and directed them throughout the afternoon.³⁶ The same situation occurred with Sykes and his subordinates coming to Sickles's aid. Sykes, at one critical point, personally conferred with division commander David Birney of the Third Corps to affect coordination. One of Sykes's brigade commanders related an incident where Caldwell needed his assistance. Coordination between division commanders James Barnes and Caldwell quickly occurred, and the brigade commander immediately headed off in support.³⁷ Essentially, a brigade from one corps supported the division of another corps in the act of reinforcing yet another corps. Hancock later commented that Meade brought all the forces required into action at the right place and right time. In all, Union commanders ably met Longstreet's eleven Confederate brigades with twenty-two of their own.³⁸

³⁵ Coughenour, "Andrew Atkinson Humphreys," 153–61.

³⁶ *OR*, 27.1:379, 400.

³⁷ *OR*, 27.1:592, 601, 607, 611.

³⁸ Harry W. Pfanz, *Gettysburg: The Second Day* (Chapel Hill: University of North Carolina Press, 1987), 425–26.

Overall, the Army of the Potomac's infantry force structure, intentionally or unintentionally, proved to be a principal attribute underlining the Union success at Gettysburg. Shorter frontages and fewer maneuver elements coupled with a stable force structure familiar to the army's commanders facilitated tighter control and greater maneuverability of their units than those of the Army of Northern Virginia. Time and time again, this proved critical throughout the battle. The death or wounding of nearly half of the Army of the Potomac's corps commanders testifies to their tactical involvement and close proximity to their subordinate units directly involved in the fighting. The Army of Northern Virginia, on the other hand, entered the fight with yet another reorganized structure that featured new commanders and commands. Burdened with cumbersome-sized corps and divisions, they rarely achieved effective operational coordination and tactical command and control. Capturing the Confederates' frustrations, Lee confided after the war that "Ewell he could not get with decision, Rodes, Early, Johnson attacked and were hurt in detail. Then Longstreet & Hill &c could not be gotten to act in concert . . . the imperfect, halting way in which his corps commanders . . . fought the battle, gave victory . . . finally to the foe."³⁹

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³⁹ "Conversations with Lee," 1867–1870, notebook in the William Allan Papers Southern Historical Collection, Gettysburg National Military Park Library, Gettysburg, PA, copied in 2007.