

**WHAT CAN ECONOMICS TELL US ABOUT THE CONDUCT OF WAR?
THE AMERICAN CIVIL WAR AND THE PRINCIPLE OF INFORMATION**

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Good afternoon.

There is a small trepidation factor associated with presenting a theoretical paper. We historians are skeptical of theory, suspecting proponents of ignoring inconvenient facts, massaging data, relying on secondary sources, and merely putting old wine into new bottles. Yet theory-guided research is necessary if we are to develop new interpretations and find new avenues for research.

This paper is part of a larger project that seeks to apply economic theory to military history. Economic theory has been used to analyze human behavior in fields as diverse as law, sociology, health care, military strategy and general history, but not to military history as a whole.¹ My coauthor and I selected a number of fundamental economic principles and applied them to illustrative cases of military history. Our purpose is to demonstrate that economics can usefully illuminate military history, and that new insights can be gained.

The basic argument is simple enough. Planning and prosecuting war requires choices. The analysis of decision-making is the provenance of economics. Hence history, military history in particular, should be amenable to economic analysis. We hope to lay the foundation for a new method in the analysis of military history in which principles of economics serve as guidelines of analysis. We began our study with a lengthy forthcoming article in *Defence and Peace Economics* which examined the applicability of principles of economics to three major cases in military history.² Our goal was to determine the extent to which decision making in war could be explained through these principles. In this paper we examine the principle of information in relation to the eastern theater of the American Civil War.

The principle of information

The principle of information states that unequal (or asymmetric) information creates power favoring one party over another. It was developed to explain the effects on markets when one party to a transaction knows more than the other (a fairly common situation). Differential

¹ There have been applications of economics to particular historical instances and episodes (see, e.g., Conybeare, Murdoch, and Sandler, 1994) but not to military history as a field of study. Our claim is not that a particular event might be usefully illuminated by recourse to economic principles but that the entire field would so benefit.

² The principles were opportunity cost, marginal costs/benefits, substitution, diminishing returns, and incentives, applied, to medieval siege warfare, battle in the 17th-18th centuries, and the French *force de frappe*.

information leads to advantages and disadvantages to be exploited by one side to the exchange in order to maintain a higher than competitive price. Deliberate attempts to mislead would also be expected. The principle itself is self-evident; but its implications and subtleties are more complicated. What is the actual impact of having information on behavior and actions? How is the information collected, processed, and actually used in a decision? Some people act correctly based on limited information, while others are paralyzed into indecision by a flood of it – a situation not uncommon in the history of warfare. What kinds of information have the most impact? If there is asymmetric information, how important is it for one of the participants in the transaction to know about the asymmetry?

The principle of information and warfare

The role of information in warfare is unique for two reasons. First, the need for information - about one's own forces as well as the enemy's - is insatiable. Early West Point superintendent Dennis Hart Mahan considered the collection of information an officer's most important duty.³ Baron Antoine de Jomini, the military theoretician whose interpretations of Napoleon influenced generations of American officers, even advised against taking the offensive because it gives the adversary information.⁴ Two of the U.S. Army's official principles of war relate to information.⁵

Second, the available information in war is always inadequate.⁶ The enemy has no incentive to share. Karl von Clausewitz noted that “[m]any intelligence reports in war are contradictory,

³ “There are no more important duties which an officer may be called upon to perform than those of collecting and arranging the information upon which either the general or daily operations of a campaign must be based.” Quoted in William B. Feis, *Grant's Secret Service: The Intelligence War from Belmont to Appomattox*. Lincoln and London: University of Nebraska Press, 2002, 3. He gave commanders no practical advice on how to control the collection process or analyze the resulting information, however. J. Boone Bartholomees, *Buff Facings and Gilt Buttons: Staff and Headquarters Operations in the Army of Northern Virginia, 1861-1865* (Columbia: University of South Carolina Press, 1998), 249.

⁴ “Tactically, the offensive also possesses advantages, but they are less positive, since, the operations being upon a limited field, the party taking the initiative cannot conceal them from the enemy, who may detect his designs and by the aid of good reserves cause them to fail.” Quoted in Gérard Chaliand, *The Art of War in World History: From Antiquity to the Nuclear Age* (Berkeley: University of California Press, 1994), 741.

⁵ Principle VIII, *Surprise*: “Accomplish your purpose before the enemy can effectively react,” and Principle IX, *Security*, “Never permit the enemy to acquire an unpredicted advantage.”

⁶ If information were perfect in all relevant aspects, disputants could deduce which side would win, and hence there would be no need to go to battle. Thus, one could argue that wars take place only because of imperfect information.

even more are false, and most are uncertain.”⁷ Knowledge about enemy forces has a half-life little more than the price quotes of a day trader. Even the results of a battle may be unclear to participants. Soldiers after Fredericksburg and Chancellorsville wrote home asking kinfolk whether they might have newspapers so that they would know who won.⁸ The enemy actively works to mislead, and, in contrast to the economic marketplace, there are no legal barriers to doing so. Knowing that generals on both sides read the other’s newspapers, Sherman recommended placing misleading accounts in the press. Apparently this was done, but Lee, who constantly perused Northern newspapers, saw through some misleading published statements.⁹ Needless to say, the Confederacy reciprocated. Confederate officers ran disinformation schemes against McClellan. Later in the war, General Jubal Early, knowing that the Yankees could decipher rebel codes, deliberately sent deceptive messages.¹⁰ Determining the role of information in commanders’ decisions is not easy. During planning periods - when the asymmetry of information is the greatest, incidentally - there may be a great many reports and memoranda, but battle orders were often verbal.¹¹ Hence research depends on after-action reports and memoirs. Unfortunately, a general’s postwar recollections may be a mixture of

- < what happened,
- < what he believed happened,
- < what he would like to have happened,
- < what he wanted others to believe happened, [and]
- < what he wanted others to believe that he believe happened.¹²

⁷ Feis, *Grant’s Secret Service*, 4.

⁸ Daniel E. Sutherland, *Fredericksburg and Chancellorsville: The Dare Mark Campaign* (Lincoln and London: University of Nebraska Press, 1998), 69, 183.

⁹ James G. Randall, “The Newspaper Problem in its Bearing upon Military Secrecy during the Civil War,” 23 *American Historical Review* (January 1918), 311-12.

¹⁰ Bartholomees, *Buff Facings*, 255, np.

¹¹ Most of Lee’s were, and many of his written 1864-65 battle reports were burned. Clifford Dowdey, ed., *The Wartime Papers of R. E. Lee* (Boston: Little, Brown, 1961), xii.

¹² Jonathan Lynn and Antony Jay, eds., *The Complete Yes Minister: The Diaries of a Cabinet Minister by The Right Hon. James Hacker MP* (London: British Broadcasting Corporation, 1985 (1981)), 9. Grant’s memoirs, for example, reveal a surprising level of misunderstanding about Lee and his army in 1864. E. B. Long, ed., *Personal Memoirs of U.S. Grant* (Cleveland and New York: The World Publishing Company, 1952), 391 ff.

Intelligence North and South

Civil War information gathering was often haphazard and inadequate.¹³ Even so, both sides invested considerable time and effort on intelligence. The Confederacy began with certain advantages. The Union already had an organized government for spies to target.¹⁴ Much of the fighting occurred in areas filled with Confederate sympathizers. To take advantage of these opportunities, the Confederacy spent four times as much as the Union on clandestine operations - in greenbacks!¹⁵ The rebels' greatest intelligence asset was Lee, who "outshone" his opponents in using intelligence to divine their intentions.¹⁶ In response the Union formed a Bureau of Military Intelligence in 1863 that developed astonishingly accurate information about the Army of Northern Virginia.¹⁷

Many were the ways in which generals sought to penetrate the fog of war. The civil war saw the intelligence use of balloons, the telegraph, and (once) the forward artillery observer. The balloons were too vulnerable, however, and the telegraph was slow.¹⁸ More useful were

¹³ Edwin C. Fishel, "The Mythology of Civil War Intelligence, 10 *Civil War History* 1964 (4): 344-367. "The Confederacy had an eighteenth-century intelligence apparatus unsuited to the semimodern war it fought." The official Intelligence Office had very limited functions. Bartholomees, *Buff Facings*, 248. But see David W. Gaddy, "Gray Cloaks and Daggers," *Civil War Times* 1975 (4): 20-27.

¹⁴ Donald E. Markle, *Spies and Spymasters of the Civil War* (New York: Hippocrene Books, 2000 (1994), xvii, 2.

¹⁵ William A. Tidwell, "Confederate Expenditures for the Secret Service," 37 *Civil War History* 1991 (3): 219-231; Bartholomees, *Buff Facings*, 251. Few authentic records of this effort survive. Howard V. Canan, "Confederate Military Intelligence," 59 *Maryland Historical Magazine* 1964 (10): 34-51.

¹⁶ Bartholomees, *Buff Facings*, 256. Lee's "military success owed a great deal to his uncanny ability to size up an opponent and then act accordingly." Noah Andre Trudeau, *Bloody Roads South: The Wilderness to Cold Harbor, May-June 1864* (Boston: Little, Brown, 1989).

¹⁷ Joe Hooker established the Bureau before Chancellorsville. Sutherland, *Dare Mark Campaign*, 101. The BMI once calculated the size of the Army of Northern Virginia within 0.25% of the actual number. At Appomattox it turned out that the BMI chief knew more about the structure of the ANV than many rebel officers. Lee tried to stem the flow of information by warning soldiers not to reveal their unit name, if captured. Feis, *Grant's Secret Service*, 11-15, 199, 264. The Union also used runaway slaves as spies with some success. Markle, *Spies and Spymasters*, 5.

¹⁸ The Confederacy abandoned ballooning early due to the expense. Bartholomees, *Buff Facings*, 252. Balloons were discontinued by the Union in 1863 because they proved to be easy targets for rifled muskets. Markle, *Spies and Spymasters*, 33. See also David J. Truby, "War in the Clouds: Balloons in the Civil War," *Mankind* 1971 2(11): 64-71; June Robinson, "The United States Balloon Corps in Action in Northern Virginia During the Civil War," *Arlington Historical Magazine* 1986 8(2): 5-17. The telegraph was a vital element in information transmission and even espionage but messages were sometimes delayed

signal corps observation stations,¹⁹ scouts,²⁰ and cavalry.²¹ Spies were always useful, especially if they occupied important positions; one Union spy was a railroad superintendent in Confederate Virginia.²² Judging from their own reports and reminiscences, Civil War generals spent much of their time reading newspapers. Lee, Grant, Jackson, Ewell, and Stuart, all thought them important – as did even the press-hating Sherman.²³ Whatever the shortcomings of the effort to obtain information, they were intensive. To what extent did they influence decisions - and results?

First Bull Run

Victory in the war's first clash went to the side with superior information. Confederate espionage reported the date of the Union advance, its direction, and even provided a copy of

24-36 hours. Ben L. Elley, *Grant's Final Campaign: Intelligence and Communications Support* (Fort Leavenworth: School of Advanced Military Studies, 1992), 12. On the artillery forward observer experiment, see Prentice G Morgan, "The Forward Observer" *Military Affairs* 23/4 (Winter 1959-1960), 209-12.

¹⁹ Elley, *Grant's Final Campaign*, 13.

²⁰ Bartholomees, *Buff Facings*, 250.

²¹ Lee considered Stuart "the eyes of the army" and said that "[h]e never brought me a false piece of information." Grady McWhiney, *Battle in the Wilderness: Grant Meets Lee* (Abilene, TX: McWhiney Foundation Press, 1998), 43.

²² Elley, *Grant's Final Campaign*, 17. For information on spies, see Robert Scott Davis, Jr., "The Curious Civil War Career of James George Brown, Spy," *Prologue* 1994 26(1): 7-31; Meriwether Stuart, "Of Spies and Borrowed Name: The Identity of Union Operatives in Richmond known as 'The Phillipps' Discovered," *Virginia Magazine of History and Biography* 1981 89(3): 308-27; John Bakeless, "Lincoln's Private Eye," *Civil War Times Illustrated* 1975 14(6):22-30; David B. Sabine, "Pinkerton's 'Operative': Timothy Webster," *Civil War Times Illustrated* 1973 12(5): 32-38; John Bakeless, "Catching Harry Gilmor," *Civil War Times Illustrated* 1971 10(1): 34-40; Richard P. Weinert, "Federal Spies in Richmond," *Civil War Times Illustrated* 1965 3(10): 28-34.

²³ Grant remembered that newspapers went back and forth as easily as if it were peacetime. Long, *Memoirs*, 373. Newspapers were often traded between opposing soldiers. Lee once even correctly interpreted a lack of mention of a Confederate general in Northern papers to mean that Union intelligence had not yet picked up his unit's presence. Bartholomees, *Buff Facings*, 249. Sherman blamed the press for Union problems at First Bull Run and Vicksburg but he read the papers carefully for important information. Thomas H. Guback, "General Sherman's War on the Press," 36 *Journalism Quarterly* 1959 (2): 171-76; Markle, *Spies and Spymasters*, 7-11; Randall, "The Newspaper Problem," 303. Randall claimed that the Civil War experience showed that, in World War I (occurring at the time) "the case for some form of new control becomes a convincing one." Randall, "The Newspaper Problem," 303.

McDowell's orders.²⁴ The Union attempt to turn the rebel left flank was foiled because of three separate information disadvantages. Confederate signal corps observers spotted the movement in time, and two confederate brigadiers independently concealed their inferior numbers long enough to confuse the attackers.²⁵ The Union commander did not know that his opponent (Beauregard) had been substantially reinforced by Joseph Johnston, and Beauregard knew that McDowell did not know. This is as clear a case of known asymmetric knowledge as one can find. On the other hand, Beauregard did not have the chance to make plans based on this fact.²⁶

The Peninsular Campaign

In the spring of 1862 the Union Army of the Potomac went by sea to the coast below Richmond and moved on the Confederate capital. Despite superior strength, it failed to capture the city, withdrew to the James river to the south, and permitted the Confederate army to move away to the north to humiliate yet another Union army. Asymmetry of information entered the picture early. The Union commander, George McClellan, became famous for his overcounting of his adversaries. This is one of the best known stories of the Civil War. But why did he do this? He had a professional detective, the famous Allen Pinkerton, to help spy on the Confederacy. Unfortunately, Pinkerton was in awe of McClellan and adjusted his own calculations to fit the general's overestimations.²⁷ At least four Confederate generals – Lee, Johnston, Jackson and Magruder – actively worked to deceive Union intelligence as to their numbers.²⁸ But it would not have worked without Pinkerton's searching for information that would support McClellan's preconceived notions.²⁹ At first McClellan's overestimate of

²⁴ Markle, *Spies and Spymasters*, 2, 160-61.

²⁵ Bartholomees, *Buff Facings*, 113-16. Thomas K. ("Stonewall") Jackson and Nathan G. Evans hid their troops behind the slope of a hill and in the brush, respectively. JoAnna McDonald, "We Shall Meet Again:" *The First Battle of Manassas (Bull Run), July 18-21, 1861* (Athens: Oxford University Press, 2000 (Shippensburg: White Mane, 1999)), 43-44, 84-85.

²⁶ McDonald, *We Shall Meet Again*, 17-19.

²⁷ Edwin C. Fishel, "Pinkerton and McClellan: Who Deceived Whom?" 34 *Civil War History* (2): 115-42.

²⁸ Regarding the activities of Lee, Jackson, and Magruder, see Stephen W. Sears, *To the Gates of Richmond: The Peninsula Campaign* (New York: Ticknor & Fields, 1992), 37-45, 153-54, 182-83. Joe Johnston's use of "Quaker cannon" in northern Virginia is well known.

²⁹ Pinkerton also lacked understanding of the significance of timeliness. Markle, *Spies and Spymasters*, 5, 6.

Confederate strength was only 112% but this almost doubled before the campaign was over.³⁰

Arguably more importantly, the Confederates understood McClellan far better than the other way around. Lee thought him “timid” and Longstreet also predicted slow and cautious Federal maneuvers. The Yankee, who had not fared well understanding Johnston, now decided that Lee would be timid and would never be bold.³¹

Second Bull Run

Lee’s subsequent northward move was based on more than an estimation of McClellan’s character. He received intelligence from many sources and instructed one general to send his “most reliable & intelligent men” to watch McClellan.³² He was equally well informed about the hapless John Pope. Jackson, shadowing Pope while Lee was on the way, sought and used intelligence perhaps more methodically than any other Civil War general.³³ Pope’s telegrams to Washington were promptly published in New York newspapers and at least one set of his orders was captured by rebel cavalry.³⁴ Pope, on the other hand, received little useful information from Washington, “failed to evaluate properly the information he received” and engaged in a “persistent pattern of illogical reasoning.”³⁵ From an informational standpoint his

³⁰ Sears, *Gates of Richmond*, 61, 96, 98-100, 162, 190-91, 346. It is important to understand that this was a personal, not an institutional, miscalculation. Hardly anyone else believed the figures; neither Lincoln nor McClellan’s corps commanders believed them.

³¹ “[Lee is] *too* cautious & weak under grave responsibility . . . wanting in moral firmness when pressed by heavy responsibility & is likely to be timid and irresolute in action.” “Lee will never venture upon a bold movement on a large scale.” Sears, *Gates of Richmond*, 33, 57. As Sears notes, it was fortunate for McClellan’s reputation that these comments did not become public during his lifetime.

³² John Hennessy, *Return to Bull Run: The Campaign and Battle of Second Manassas* (New York: Simon & Schuster, 1993), 30-31; Lee to Davis, 25 July 1862, Lee to D. H. Hill, 13 August 1862, and reply, 14 August 1862, Dowdey, *Papers of R. E. Lee*, 237, 251-52.

³³ Jackson “aggressively obtained intelligence as the foundation of his operational plans, enabling his numerically inferior force to win victories of strategic importance.” He used intelligence for many operational decisions, defined what he needed, aggressively sought it, and responded decisively to assessments. He was least successful when he ignored intelligence. He centralized intelligence, emphasized knowledge of geography and topography, and relied on the technical expertise of his staff. Shawn Stith, “Foundation for Victory: Operations and Intelligence Harmoniously Combine in Jackson’s Shenandoah Campaign” (M.A. Thesis: Naval Postgraduate School, 1993), iii, viii-ix.

³⁴ Randall, “The Newspaper Problem,” 306; Dowdey, *Papers of R. E. Lee*, 227.

³⁵ Hennessy, *Return to Bull Run*, 101, 108, 311, 322, 469, 470. Pope did escape from one trap that Lee had set for him due to the timely capture of a letter. A. L. Long, *Memoirs of Robert E. Lee* (New York: J. M.

failure seems inevitable.

Antietam

In Lee's subsequent invasion of Maryland the information situation was reversed. The famous incident of Lee's marching orders being found in a cornfield gave McClellan a unique opportunity.³⁶ He took only partial advantage, which partly cost him his job (it is interesting to note that West Point students placed in similar situations in war games based on Antietam are often equally cautious³⁷). The Union further lost its informational advantage through poor reconnoitering.³⁸ The Union began with a tremendous informational advantage. A failure to take quick advantage of the information, a failure to gather terrain information, and Lee's superior knowledge about McClellan saved the Confederacy from complete disaster.

Fredericksburg

Paradoxically, McClellan's place was taken by the very general who had bungled along Antietam Creek - Ambrose E. Burnside. Even more paradoxically, Burnside got off to a good start; he planned and began his move to cross the Rappahannock at Fredericksburg before Lee knew his intentions.³⁹ From there things went quickly downhill. Burnside acted much too slowly in crossing the river and Lee was fully positioned above the town before the infamous

Stoddart, 1887), 187.

³⁶ A Union officer authenticated the signature on the captured "Special Order # 191," so that McClellan knew that it was real. Dowdey, *Wartime Papers of R. E. Lee*, 289. The loss was so controversial that it figured in a postwar exchange of letter between D. H. Hill, whose staff lost the document, and Lee. Hill claimed that he had not gotten the order, and that its finding had actually mystified McClellan. Lee countered that the order had been sent to Hill, and that its discovery did help McClellan. Hal Bridges, ed., "A Lee Letter on the "Lost Dispatch" and the Maryland Campaign of 1862," 66 *Virginia Magazine of History and Biography* 1958 (2): 161-68. For a discussion regarding the loss, see Wilbur D. Jones, Jr, "Who Lost the Lost Orders? Stonewall Jackson, His Courier, and Special Orders No. 191." *Civil War Regiments* 1966 5(3): 1-26.

³⁷ Carol Reardon, "From Antietam to the Argonne: The Maryland Campaign's Lessons for Future Leaders of the American Expeditionary Force," 289-312 in Gary W. Gallagher, ed., *The Antietam Campaign* (Chapel Hill: University of North Carolina Press, 1999), 290-91, 294.

³⁸ The Union did a poor job reconnoitering along Antietam Creek. Reardon, "From Antietam to the Argonne," 302, 305.

³⁹ Lee only took a few days to correct this, however. Lee to George Randolph, 17 November 1862, and Lee to Davis, 20 November 1862. Dowdey, *Papers of R. E. Lee*, 337-38, 341.

battle started.⁴⁰ Burnside, not understanding that Lee wanted him to attack, sacrificed thousands of men in a futile assault on the heights above the city; the kindest comment on this fiasco describes him as “a very unimaginative tactician.”⁴¹ By massing below Marye’s Heights Burnside gave Lee and his artillerymen *perfect information* about his strength and intentions.⁴²

Chancellorsville

From an information perspective, the next major campaign (Chancellorsville) is perplexing. The new Union commander, Joseph Hooker, demanded and got results in intelligence. His new intelligence arm⁴³ estimated Lee’s strength within 2% of the actual total.⁴⁴ Hooker’s strict secrecy enabled him to move on Chancellorsville, deceiving Lee by sending false information with signal flags.⁴⁵ Lee’s intelligence situation is in dispute. His wartime papers do not show evidence of effective espionage against the Army of the Potomac at this time.⁴⁶ Donald Markle claims that Lee received accurate information from Richmond but refused to believe it.⁴⁷ Jay Luvaas, however, concludes that Lee was much better informed than Hooker, and also made better use of the information. Luvaas claims that intelligence was a major factor in Lee’s victory.⁴⁸ If Luvaas is right, the result of the campaign makes sense. If he is wrong, it does not – unless one considers Lee’s superior ability to analyze his opponent’s intentions, and the location where Hooker stopped his advance.⁴⁹

⁴⁰ This is sometimes attributed to the failure of pontoon bridges to arrive; however, even after they arrived, Lee was still not massed above Fredericksburg and Burnside failed to cross quickly. Sutherland, *Dare Mark Campaign*, 72-73.

⁴¹ *Ibid.*, 38, 46.

⁴² Lee’s gunners had also pretested the range onto the plain below.

⁴³ See fn. 16.

⁴⁴ Feis, *Grant’s Secret Service*, 196-98.

⁴⁵ Sutherland, *Dare Mark Campaign*, 125, 129, 133.

⁴⁶ Dowdey, *Papers of R. E. Lee*, 421-445.

⁴⁷ Markle, *Spies and Spymasters*, 3.

⁴⁸ Jay Luvaas, “The Role of Intelligence in the Chancellorsville Campaign, April-May, 1863.” *Intelligence and National Security* 1990 5(2): 99-115.

⁴⁹ The Wilderness area of Virginia is densely wooded; it was almost impossible for scouts and cavalymen to locate and estimate enemy units. Hooker lost his information advantage – and this may explain his

Gettysburg

The ensuing Gettysburg campaign was conducted in a vacuum of information. Neither army had good information on the movements of the other. Hooker's information was better, but he mistrusted and disused it.⁵⁰ Lee's situation was worse. The movement north deprived his army of friendly civilian spies and his signal stations.⁵¹ Lee conceded afterwards that his biggest problem was that he had no cavalry. The latter's commander, however, was well separated from Lee and only knew his location from Northern newspapers.⁵² Lee later conceded that the battle "was commenced in the absence of correct intelligence."⁵³ The Union had the edge. The BMI correctly reported, for example, at the end of the second day of fighting, that Lee had only one fresh division left - George Pickett's. This may have influenced the Union decision to

sudden indecisiveness and decision to halt. There was an interesting sidelight to Chancellorsville which shows the role of knowledge of generals about each other. John Sedgwick (Union) faced Jubal Early at Fredericksburg. Early, holding the formidable heights above Fredericksburg where Burnside had attacked, was sure that his classmate Sedgwick would not risk a bloody head-on attack. Yet it happened anyway. Early was not mistaken, however. Sedgwick, a cautious general, had neither the desire nor the intention to attack the heights - but circumstances forced him to try. He succeeded, incidentally, although with heavy losses. Sutherland, *Dare Mark Campaign*, 147, 165-67.

⁵⁰ Dowdey, *Papers of R. E. Lee*, 478; Jay Luvaas, "Lee at Gettysburg: A General Without Intelligence," 5 *Intelligence and National Security* 1990 (2): 116-35. The Union army did not benefit as much from the location of the battle as might be expected. It had no decent topographical map of Pennsylvania, for example. Hugh Bicheno, *Gettysburg* (London: Cassell, 2001), 192.

⁵¹ Bartholomees, *Buff Facings*, 256.

⁵² Battle Report in Dowdey, *Papers of R. E. Lee*, 574, 580; Alan T. Nolan, "R. E. Lee and July 1 at Gettysburg," 3-24 in Gary W. Gallagher, ed., *Three Days at Gettysburg: Essays on Confederate and Union Leadership* (Kent, OH: Kent State University Press, 1999), 17. Stuart usually gets the blame for this situation. As Nolan points out, however, Lee's orders to Stuart did not reflect particular urgency and Stuart's famous ride around the Federal army was not the cavalryman's own idea. Further, Lee made important false assumptions about Stuart's silence. Nolan, "Lee at Gettysburg," 13-15.

⁵³ Gary W. Gallagher, "If the Enemy is There, We Must Attack Him:" R. E. Lee and the Second Day at Gettysburg," 109-29 in Gallagher, *Three Days at Gettysburg*, 114. Surely an understatement. On July 1, Lee did not know where the Federal army was. Nolan, "Lee at Gettysburg," 18. The corps commanders on that first day also had little terrain information. Gary W. Gallagher, "Confederate Corps Leadership on the First Day at Gettysburg: Hill and Ewell in a Difficult Debut," 25-43 in Gallagher, *Three Days at Gettysburg*, 32. Nor did the information problems stop there. Lee claimed that he did not know that his artillery was out of ammunition when Pickett's charge began. Battle report in Dowdey, *Papers of R. E. Lee*, 580. Why?

stay and fight a third day.⁵⁴

Lee's ability to size up an adversary was checkmated by a truly peculiar circumstance; the Union had changed generals in the midst of the campaign. George Gordon Meade replaced Hooker 48 hours before the battle. Lee knew Meade and respected him much more than he did Hooker, but thought that the difficulties that would beset him would counterbalance his abilities. This somewhat contradictory set of perspectives caused Lee to be both aggressive and cautious at Gettysburg.⁵⁵ Information normally vital to Lee was lacking at a critical point.⁵⁶

Grant in Virginia

Even more contradictory in relation to information and its uses is the behavior of U.S. Grant during the Virginia campaign of 1864-65.

The Wilderness. At the beginning of this phase Lee worked to anticipate Grant's moves and force him to fight in the Wilderness.⁵⁷ Grant seemed irritated when Lee's possible moves were even discussed. Nor did he collect much information before the engagement. The resulting bloodbath in an area where superior numbers meant nothing led Lee to question Grant's

⁵⁴ Markle, *Spies and Spymasters*, 11-15. The claim that this caused the Union to stay came from one of the intelligence officers, so it may be suspect. Nevertheless, their report was accurate – and the Union army stayed and correctly foresaw where the third day blow would come. Richard A. Sauer, ““Rarely Has more Skill, Vigor, or Wisdom Been Shown:” George G. Meade on July 3 at Gettysburg,” 231-44 in Gallagher, *Three Days at Gettysburg*, 235.

⁵⁵ Lee respected Meade both as a soldier and a person. Dowdey, *Papers of R. E. Lee*, 478. He apparently thought more of Meade than he did of two of his own corps commanders, which led him to avoid dividing his army as he had done at Chancellorsville. Bicheno, *Gettysburg*, 37. On the other hand, he was sufficiently convinced of the difficulties Meade would experience that he was, on balance, satisfied with the change. Long, *Memoirs*, 274. Frank Vandiver has attributed Lee's aggressiveness at Gettysburg to the sudden change in command. Gallagher, “If the Enemy is There,” 119.

⁵⁶ Lee was right that Meade would have problems, however. Meade did not know his army's plans when he was appointed, due to Hooker's secretiveness. Bicheno, *Gettysburg*, 36. (As Hooker was in a rather hesitant state, it is not clear to me whether Meade was truly hampered by this; on the other hand, there was no set of known march orders that he could continue while he studied the situation.) Meade did not anticipate Lee's actions perfectly, because he feared that Lee might go on the defensive – something hardly in Lee's character. Gallagher, “If the Enemy is There,” 118. Meade may have been right in seeing that as the correct course for Lee, of course.

⁵⁷ Lee correctly chose the Wilderness fords as the most likely crossing points and insisted on night watches of the fords, which turned out to be critical. Noah Andre Trudeau, *Bloody Roads South: The Wilderness to Cold Harbor, May-June 1864* (Boston: Little, Brown, 1989), 26.

generalship.⁵⁸ Even afterwards, Lee was the more interested of the two in divining the enemy's next move.⁵⁹

Spotsylvania, the North Anna, and Cold Harbor. Neither army, however, was sure about the other's whereabouts until they collided at Spotsylvania Court House.⁶⁰ Grant had no cavalry to speak of, poor maps, did little reconnoitering, and sent his division commanders into their initial assault "with no knowledge of the position or strength of the enemy."⁶¹ Grant conceded making mistakes due to a lack of information.⁶² Lee admitted the same. He was slow to predict Grant's moves correctly, but he was doing more than his adversary.⁶³ As a result Grant rolled south carelessly, grossly underestimating Confederate strength and morale.⁶⁴ Only Lee's ill health prevented Grant from suffering catastrophe – and he made up for that luck by hurling his information-challenged divisions against the rebel fortifications at Cold Harbor, a military and human disaster that made the attack at Fredericksburg look like a sensible military operation.

⁵⁸ Long, *Memoirs of U.S. Grant*, 391ff. Lee concluded that Grant had not profited from Hooker's Wilderness experience. Trudeau, *Bloody Roads*, 42. Grant responded to speculations about Lee's intentions with:

Oh, I am heartily tired of hearing about what is going to do. Some of you always seem to think he is suddenly going to turn a double somersault, and land in our rear and on both of our flanks at the same time. Go back to your command, and try to think what we are going to do ourselves, instead of what Lee is going to do.

Ibid., 113.

⁵⁹ Trudeau, *Bloody Roads*, 120.

⁶⁰ Elley, *Grant's Final Campaign*, 29. Both were hampered by the Wilderness's relative impenetrability to cavalry. McWhiney, *Battle in the Wilderness*, 45.

⁶¹ William D. Matter, "The Federal High Command at Spotsylvania," 29-60 in Gary W. Gallagher, ed., *The Spotsylvania Campaign* (Chapel Hill: University of North Carolina Press, 1998), 33, 37, 38. Matter here notes that Lee deliberately kept some of Stuart's cavalry brigades with him at all times - perhaps having learned from Gettysburg. Interestingly, Meade had sent spies to the Spotsylvania area 10 months earlier. William D. Henderson, *The Road to Bristoe Station: Campaigning With Lee and Meade, August 1 - October 20, 1863* (Lynchburg: H. E. Howard, 1987), 13.

⁶² Long, *Memoirs of U.S. Grant*, 418-19.

⁶³ Gary W. Gallagher, "'I Have to Make the Best of What I have: Robert E. Lee at Spotsylvania,'" 5-28 in Gallagher, *Spotsylvania Campaign*, 7; Trudeau, *Bloody Roads South*, 130, 166.

⁶⁴ His own memoirs reveal his lack of knowledge about Lee and his army, and he did not even have maps or guides for the roads. Long, *Memoirs of U.S. Grant*, 429-30.

Petersburg to Appomattox. Grant's next move, to Petersburg, worked because Lee did not know Grant's ultimate target. There were the usual tactical moves to confuse Lee, who was hampered once again by a lack of cavalry, but this time the Union got help from an unlikely source; the Confederacy. The maneuver took Grant across the boundary of two military districts. One belonged to Lee; the other to Beauregard; and coordination, such as it was, depended on Braxton Bragg. A less promising arrangement is unimaginable.⁶⁵ Only Union unawareness of the city's weakness saved it for the Confederacy.⁶⁶

As a result, the opposing armies settled in for a siege. Neither was likely to move; Grant was concerned about the possibility of Lee linking with another Confederate army or detaching units to operate against his rear – and Washington.⁶⁷ Despite some initial problems, the Union intelligence service allowed Grant and others to frustrate Lee's efforts to restore a war of maneuver.⁶⁸ During the long siege the opposing armies relied on deserters for information while concealing as best as possible their own weaknesses.⁶⁹

⁶⁵ Lee did not become aware until several days into the maneuver that the whole Army of the Potomac was moving. Various memoranda, June 9-14, 1864, Dowdey, *Papers of R. E. Lee*, 770-71, 777-78. For his lack of cavalry, see Feis, *Grant's Secret Service*, 215-16. Lee did not start to move south until a week into the maneuver. John Horn, *The Petersburg Campaign: June 1864 - April 1865* (Conshocken, PA: Combined Books, 1993), 60. Lee sent numerous requests for information to Beauregard but ignored the latter's warnings and was slow to reinforce him. Dowdey, *Papers of R. E. Lee*, 743, 784-87; Horn, *Petersburg Campaign*, 55; A. Wilson Greene, *Breaking the Backbone of the Rebellion: The Final Battles of the Petersburg Campaign* (Mason City, IA: Savas, 2000), 7.

⁶⁶ Petersburg could probably have been stormed on the 15th or 16th. Greene, *Breaking the Backbone*, 7-8; Horn, *Petersburg Campaign*, 56.

⁶⁷ Greene, *Breaking the Backbone*, 149-50. On the linkup possibility, the views of Grant and Lee were identical. *Ibid.*, 153.

⁶⁸ Jubal Early's northward movement to attack Washington was not noticed until 22 days after he had left Lee. Feis, *Grant's Secret Service*, 221-25, 232. However, when Lee attempted to send Kershaw's division to reinforce Early, intelligence followed it so well that Grant and his subordinate in the Shenandoah Valley, Sheridan, were able to attack alternately and force Kershaw to march and countermarch between Petersburg and the Shenandoah – without being able to fight in either. This directly contributed to Early's defeat and the failure of his lunge toward Washington. *Ibid.*, 242-49; Feis, "Neutralizing the Valley: The Role of Military Intelligence in the Defeat of Jubal Early's Army of the Valley, 1864-1865." *Civil War History* 1993 39(3): 199-215. The issue was moot by the spring of 1865, as Grant was reasonably confident that by then Lee was too weak to detach any more troops. Feis, *Grant's Secret Service*, 261.

⁶⁹ The Confederacy naturally knew the terrain much better and took full advantage. Knowing that opposing infantry were receiving several days' rations at once was always a sure sign of an impending attack. Horn, *Petersburg Campaign*, 79, 189-95, 247. Offensives required moving infantry out of their fortified positions, a move which had to be concealed carefully. Greene, *Breaking the Backbone*, 266. Lee canceled one attack because so many deserters had entered Union lines, exposing the plan. Feis, *Grant's Secret Service*, 254.

Grant, Virginia, and Information. The possession and use of information was critical in this last campaign, but not always to the victorious decision maker. Grant downplayed the need to know what Lee was thinking and initially underutilized his intelligence information.⁷⁰ He believed that initiative could be a substitute for knowledge.⁷¹ His personal evaluations of intelligence were sometimes all too prone to fit his preconceptions.⁷² After six weeks he had lost 60,000 men and almost the war. In some ways, however, he emphasized intelligence as much or more than Lee or his predecessors.⁷³ Initial problems led him to adapt and become a better consumer of information. Once he properly appreciated the capacity of the BMI he made it part of his own headquarters. His decisions became more and more tied to information, and he was finally able to defeat Lee.⁷⁴ By the end of the war, Grant in some ways understood

Information and its (mis)use played a critical role in the most infamous engagement of the siege, the Battle of the Crater. Confederates knew that the Union was digging the mine, but failed to prepare adequately. On the other hand, the Union failed to consider that its digging might be noticed, and, even more seriously, seemed unaware of how close Confederate reinforcements were stationed. Horn, *Petersburg Campaign*, 108-19.

⁷⁰ Grant failed to use the BMI to its fullest extent while fighting from the Rapidan to Petersburg. Feis, *Grant's Secret Service*, 200.

⁷¹ In the words of one officer, "Grant never gave himself any concern in regard to an enemy he could not see, while a concealed foe was more dreadful to Sherman than one in full view." McWhiney, *Battle in the Wilderness*, 23. Sherman confirmed this, saying about Grant, "He don't care a damn for what the enemy does out of his sight, but it scares me like hell!" Feis, *Grant's Secret Service*, 10. In the beginning of the campaign, Grant gave little thought to Lee's intentions or potential actions. He strongly believed that initiative could shift the burden of uncertainty to the enemy (showing he was not influenced by Jomini's dictum, *supra*). *Ibid.*, 205, 209, 267. Grant's position was succinct: "The art of war is simple enough. Find out where your enemy is. Get at him as soon as you can. Strike him as hard as you can and as often as you can, and keep moving on." *Ibid.*, 268. Intelligence was indispensable to him he trusted only his own eyes. Reardon, "From Antietam to the Argonne," 295.

⁷² Long, *Memoirs of U. S. Grant*, 539; Feis, *Strategic Intelligence*, 200, 211.

⁷³ Grant did try build a map database, although the information that he received was inadequate. Elley, *Grant's Final Campaign*, 25-26; Feis, *Grant's Secret Service*, 206. He also smoothed the flow of information and analysis within the army. Elley, *Grant's Final Campaign*, iii. He also suffered problems due to press leaks. Randall, "The Newspaper Problem," 310.

⁷⁴ Feis, "Finding the Enemy: The Role of Military Intelligence in the Campaigns of Ulysses S. Grant, 1861-1865" (Ph.D. Dissertation: Ohio State University, 1997), ii; Feis, *Grant's Secret Service*, 235. The role of the BMI in the final outcome of the war has been called "essential." Elley, *Grant's Final Campaign*, 35. Grant rewarded his most important spy with the position of postmaster in Richmond. Feis, *Grant's Secret Service*, 240. The BMI considered many interesting contingencies. Knowing that the Confederacy was contemplating the use of blacks, the BMI was making plans to disrupt this. *Ibid.*, 260-61.

Lee better than the other way around.⁷⁵

Conclusion

The purpose of this paper has been to discuss the influence of information on decision-making. It has not been to argue that information was the essential or primary element in the outcome of the war. Ultimately we hope to build a model for the study of military history based on economic principles; not because there is anything wrong with how military history has been studied, but rather because we can always learn something from examining things with a new set of lenses.

One final observation. The generals of the Civil War by and large knew each other. They were, for the most part, from the same culture, and had had the same military education. Their methods, strategies and tactics were inevitably similar. In a sense, perhaps they had too much information about each other (however subconsciously) to be able to inflict decisive defeats. The key to the successes of Grant and Sherman may be that they thought differently - and therefore fought differently. Lee seemed to develop astonishing information about his adversaries. Was it a coincidence that he suffered his worst defeat facing a general about whose army leadership he could know nothing?

⁷⁵ Lee did not understand that Grant was not really aiming at Richmond - but Grant did understand that Lee was completely committed to defending Richmond. Horn, *Petersburg Campaign*, 246.