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By analyzing military theories from Sun Tzu, Carl von Clausewitz, and Antoine Henri Jomini, this paper identifies six principles of operational-level intelligence analysis that can be used to guide operational-level intelligence organizations in war. The paper analyzes Napoleon's Danube Campaign in 1805 and Major General Hooker's Chancellorsville Campaign in 1863 as examples for analyzing the principles of intelligence and their effect on the outcome of the battles. The principles can be implemented by emphasizing better training over education, missionizing analytical teams, synchronizing efforts, and focusing on the delivery of information to enhance a commander's judgment.

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Fighting for Time: Military Intelligence and the Delivery of Decision Advantage

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Executive Summary

Title: Fighting for Time: Military Intelligence and the Delivery of Decision Advantage

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Thesis: Military intelligence, to be successful, must focus on speeding up analysis of enemy capabilities (i.e., location and strength) rather than overemphasizing the speculation often involved in predicting enemy intent.

Discussion: John Keegan, in his book *Intelligence in War*, argues that intelligence is not a necessary factor in gaining victory since history is void of any examples where foreknowledge of the enemy was the deciding factor in a battle. Keegan's argument runs contrary to the current doctrine that places a heavy emphasis on predicting enemy intent as a necessary condition for mitigating risk and ensuring victory. The contradiction highlights an age-old argument regarding the value of knowing the enemy's intent. By analyzing military theories from Sun Tzu, Carl von Clausewitz, and Antoine Henri Jomini, this paper identifies six principles of operational-level intelligence analysis that can be used to guide operational-level intelligence organizations in war. The paper analyzes Napoleon's Danube Campaign in 1805 and Major General Hooker's Chancellorsville Campaign in 1863 as examples for analyzing the principles of intelligence and their effect on the outcome of the battles. Finally, the principles of intelligence can be implemented by emphasizing better training over education, missionizing analytical teams, synchronizing efforts, and focusing on the delivery of information to enhance a commander's judgment.

Conclusion: The analysis indicates that both Keegan and current doctrine are right, as well as wrong, in their conclusions regarding the role of intelligence in warfare. The principles of operational-level intelligence analysis provide the necessary guidelines for shaping intelligence support to the commander by focusing on a clear and accurate depiction of enemy's location and strength. Therefore, this paper concludes that a faster re-orientation on an enemy's capabilities is a more direct route to victory than attempting to predict the enemy's intent.

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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Preface

Over the past eight years, I have been researching the topic of intelligence analysis to identify common characteristics amongst the military services as well as characterize the nature of the task. However, the more I researched, the more I discovered the lack of professional literature on the topic. While the intelligence community significantly increased the focus on intelligence analysis post 9/11, the lessons learned at the strategic and policy levels within the community do not necessarily apply to the tactical or operational levels. This paper is a follow-on to "Chasing Relevance: Building Actionable Intelligence Analysis" which I analyzed the available intelligence theories and combined them with Col John Boyd's OODA loop for decision-making. Whereas the previous paper was written from the intelligence perspective, this paper focuses on the military theorist's view of intelligence and how it is most valuable to them. The goal is to provide a complete picture of what provides the greatest probability of success for the employment of military intelligence analysis and how we can improve our current system.

I would like to thank Colonel Shane Hamilton for his mentorship and direction that initiated my writing efforts, Dr. Bill Gordon and Lieutenant Colonel Owen Nucci for their guidance during the writing process, and my wife Angela for her endless love and support.

INTRODUCTION

In short, most intelligence is false, and the effect of fear is to multiply lies and inaccuracies.
- Carl von Clausewitz[1]

In general, commanders expect too much of intelligence officers. However, this condition has been brought about primarily by G2's themselves, since they tend to give the impression that they can achieve that which so far has been impossible; that is, predict the future. All commanders should realize that no matter how wise, brilliant, or experienced their G2's may be, they can no more read the future with certainty then can the commander himself or anyone else.
- Col. Elias Carter Townsend, US Army[2]

Arguments over whether military intelligence forecasts should consider enemy capabilities or enemy intentions are probably as old as intelligence itself…For intelligence purposes, only one thing counts: capabilities.
- Brig.Gen. Oscar W. Koch, US Army[3]

A dilemma exists, and potentially has always existed, regarding the purpose and use of intelligence in warfare: How does intelligence affect military operations? According to John Keegan in his book *Intelligence in War*, the origins of all intelligence were to achieve a military advantage while averting the enemy's ability to do the same.[4] The problem is, he claims that the current argument of intelligence superiority being critical for success in war fails to be proven throughout history.[5] This seems to run contrary to current US Joint Doctrine, claiming, "Predictive…intelligence can mitigate the risks inherent in military operations and increase the likelihood of success."[6] A careful examination of the purpose of intelligence in warfare and how it contributed to success in battle is necessary to isolate the variables needed to maximize the effect of military intelligence. While the prominent school of thought continues to gravitate towards assessing enemy intent, this paper argues that a faster re-orientation on an enemy's capabilities (i.e., location and strength) is by far a more direct route to victory than merely predicting the enemy's intent.

The key to unlocking the dilemma is to identify the characteristics of operational-level military intelligence necessary for a commander to achieve victory. Since the

definition, and inevitably the purpose of intelligence is to "answer questions about an adversary for a decision maker,"[7] the purpose of military intelligence is to provide those answers in support of military operations. The two competing schools of thought, or theories of intelligence, used to deliver the answers to the decision maker focus on either enemy capabilities or intent. Capability-based intelligence, comprised of an enemy's location and strength, is "an action which one is able to perform" and determines what one can do, whereas intention or predictive-based intelligence is based on a "determination to act in a particular manner" and attempts to predict what an adversary plans to do.[8] Joint Doctrine advocates for predictive intelligence, claiming it is most useful when it both "focuses on the future and adversary intent" as well as being provided "in sufficient detail as to be actionable."[9]

Regardless of the type of intelligence utilized, Keegan argues that intelligence factors rarely determined the outcome of a battle and that intelligence is usually necessary, but not a sufficient condition of victory.[10] If Keegan is right, that "in combat willpower always counts for more than foreknowledge,"[11] then what besides the 'foreknowledge' provided by predicting enemy intent must be obtained to maximize the impact of military intelligence? The solution to the dilemma must first analyze military theory to identify how intelligence affects a commander's ability to make decisions involving an enemy and then analyze examples throughout history where the intelligence proved useful.

MILITARY THEORISTS' VIEWS ON INTELLIGENCE

If one wishes to accept battle, one needs only sufficient time to bring the units under arms. If one desires to avoid an engagement, one needs sufficient time to allow the main body to march off without becoming engaged.
- Helmuth Graf von Moltke[12]

Perfect Intelligence in war must of necessity be out-of-date and therefore cease to be perfect. We deal with partial and outmoded sources from which we attempt to compose an intelligible appreciation having regard to the rules of evidence and our soldierly training and which must be prepared constantly to revise as new evidence emerges. We deal not with the true but with the likely.
Speed is therefore the essence of the matter.
- E.T. Williams[13]

In order to win we should operate at a faster tempo or rhythm or, better yet, operate inside adversary's Observation-Orientation-Decision-Action time cycle or loop.
- Colonel John Boyd, US Air Force[14]

To subjectively analyze Keegan's claims, a review of military theorists' views must occur to identify the value of intelligence in war. While analyses of military theorists are readily available, the examination of intelligence therein usually focuses on types of information used in battle rather than how intelligence affects a commander's decisions. The scope of this analysis will therefore focus on intelligence provided to a commander at the operational level of war, which "links the tactical employment of forces to national strategic objectives."[15] An examination of intelligence supporting policy and strategic level decisions, such as those determining how and when to wage war, is beyond the scope of this paper.

This section analyzes the influential military theorists ranging from the 6th-century BC Chinese theorist Sun Tzu to the 19th-century theorists of the Napoleonic Era, Carl von Clausewitz and Antoine Henri Jomini, to determine how they valued intelligence. However, the analysis of the military theorists will assume that an understanding of terrain and its effects on the battlefield is necessary for victory for all military theorists. Additionally, the analysis of the theorists will not compare their methods for collecting information since they changed substantially over time.

Sun Tzu, *The Art of War*

More than any other writer on warfare, Sun Tzu is the most idealistic at incorporating knowledge of the adversary into military theory. His famous verse on intelligence, to know yourself and your enemy to be safe in every battle,[16] is a simple, yet prescriptive formula to plan for success in war.[17] The verse confirms that failure to obtain knowledge of either oneself or the enemy will result in defeat.[18] If knowledge of oneself is understood as 'operations' while knowledge of the enemy is 'intelligence,' then the verse identifies the immense value of intelligence yet limits its role to being co-equal with, and never surpassing, operations. However, simply relying on one verse from Sun Tzu fails to capture the full meaning of his work.[19]

For Sun Tzu, the study of victory in warfare encompassed everything from tactics, logistics, and economic costs, as well as the moral and practical state of the countries involved.[20] His holistic approach translated into a comprehensive view of intelligence that encompassed all levels of warfare,[21] and, as a consequence, advocated for "predict[ing] the enemy [in order] to overpower him and win."[22] Michael Handel, in his book *Masters of War: Classical Strategic Thought*, describes Sun Tzu's view of the role of intelligence:

> [He] optimistically assumes that good intelligence makes it possible to predict the outcome of a war or battle…His logic is simple and linear; good intelligence forms the basis for better planning, and the possibility of controlling events on the battlefield allows for the implementation of those plans, culminating in the achievement of victory.[23]

Sun Tzu regarded the development of a "true picture" of the enemy as the most valuable resource to a commander; the result of "always knowing the enemy's situation" through

the extensive use of spies.[24] This provides a commander the ability to know "when to attack and when to avoid battle" as a key component for ensuring victory.[25]

While Sun Tzu placed an excessive reliance on intelligence, he overestimated the value of planning in shaping the battlefield.[26] His inflated value for planning is directly related to his views that spies can gain all of the required information, which can mislead practitioners into believing that intelligence can solve all of the problems on the battlefield. Keegan argued against this exact type of logic. Additionally, it is impossible to predict with any degree of accuracy, since the more detailed a prediction, the higher likelihood of error.[27] This limits the utility of Sun Tzu's claims that one can predict an enemy to overpower them in battle, but it does not rule out the usefulness of understanding the enemy's political intent. Regardless of the limitations of his work, Sun Tzu still provides critical insight into the value of intelligence to a commander:

1. Knowledge of the enemy is co-equal, but not surpassing, the value of knowledge of one's self.
2. All levels of war require intelligence support.
3. The most valuable intelligence tool for a commander is a 'true picture' of the enemy.
4. Knowledge of political intent is useful since political objectives are the reason for war.

Carl von Clausewitz, *On War*

While Carl von Clausewitz shared similar views with Sun Tzu regarding the holistic nature of war,[28] such as the paradoxical trinity between the government, the people, and the military,[29] he differed significantly from Sun Tzu's idealistic view of intelligence. Clausewitz epitomized a soldier's distrust for intelligence, claiming that nearly all reports received about the enemy were mostly uncertain or simply false.[30] His

viewpoint, shaped by the massive amount of often-contradictory information received within war at the operational and tactical levels,[31] also resulted from the limited aperture of human collection capabilities at that time as well as the speed at which information traveled during the Napoleonic era:

> Unless the enemy is so close as to be in full view…knowledge of his position will be incomplete. It will be acquired from reconnaissance, patrols, prisoners' statements and spies, and it can never really be reliable for the simple reason that all such reports are always a little out of date, and the enemy may in the meantime have changed his position.[32]

Clausewitz also understood that all knowledge, when viewed through the "fog or moonlight" of war, seemed 'grotesque' and distorted;[33] that most intelligence was made worse by the effects of fear in battle, leading to incorrect assessments of relative strengths.[34] Clausewitz identified the difficulty of accurate recognition as "the most serious source of friction in war,"[35] thereby arguing: "the only situation a commander can know fully is his own; his opponent's he can know only from unreliable intelligence."[36] Therefore, he believed that obtaining the only sources of useful information were through "direct contact with the enemy" or through a "commander's direct observations."[37]

Even though Clausewitz distrusted intelligence, he identified multiple areas where intelligence about an enemy did present an advantage. First, he understood that certain conditions, such as forces on the defensive, presented a commander with information superiority over an aggressor due to the increased availability of information from their close contact with the local inhabitants.[38] Therefore, the increase in the available information presented an intelligence advantage. Second, Clausewitz identified the need for intelligence while planning at the outset of conflict to ascertain the political probability of an enemy pursuing the "absolute" form of war.[39] Strategic intelligence was

consequently a fundamental requirement for planning. Finally, Clausewitz advocated for understanding the adversary's "dominant characteristics" from which their center of gravity originates, their "hub of all power and movement, on which everything depends."[40] Knowing the 'dominant characteristics' of an enemy required an accurate identification of their capabilities, to include strengths and weaknesses.

Clausewitz's antagonistic view of intelligence offset his more pragmatic approach regarding the role of a commander's judgment on the battlefield.[41] Rather than a heavy emphasis on the enemy, he required a higher degree of judgment from a commander, guided by knowledge of men and affairs, common sense, and the laws of probability.[42] Since the destruction of the enemy's armed forces was his highest priority,[43] any lack of judgment, or "partial ignorance of a situation," was a delay towards the progress of the enemy's defeat.[44] In this context, Clausewitz revealed a significant variable: the time available for calculating probabilities during the circumstances of conflict.[45] As Clausewitz identified, the whole purpose of raising an army is to ensure they fight at the right time and place.[46] Therefore, accurate knowledge of the enemy assimilated faster than the pace of conflict maximizes the time available for effective judgment, thereby facilitating the proper positioning of all efforts against the enemy's power of resistance, or more precisely, "*the total means at his disposal* and *the strength of his will*."[47]

Even though Clausewitz marginalized the value of intelligence on the battlefield, a view shaped by the circumstances of his time, he indirectly identified how intelligence personnel could increase their value to a commander. The following principles are deduced from his work:

1. Due to the nature of warfare, intelligence if often unreliable. Once collected, essential facts must be consistently re-verified to maintain their credibility and

usefulness.

2. Accurate assessments of enemy strength, based on sound judgment and the laws of probability, reduce friction in war.

3. The timeliness of intelligence from a battlefield directly contributes to its accuracy, and consequentially, its value to a commander.

4. Accurate knowledge of the enemy assimilated faster than the pace of conflict maximizes the time available for effective judgment.

5. Determining enemy strengths and weaknesses is a prerequisite to identifying centers of gravity.

6. Strategic-level intelligence is necessary to shape the overall campaign plan.

Antoine Henri Jomini, *The Art of War*

Antoine Henri Jomini differed significantly from Clausewitz in his writing style, providing a more straightforward prescription for the use of intelligence.[48] In stark contrast to Clausewitz's distrust of intelligence in war, Jomini advocated the utilization of all means of collecting information; that even though the information may be contradictory or imperfect, the truth could be sifted through it.[49] He further argued that with enough intelligence, any event, entirely or in part, could be hypothesized and planned for within the limits of probability or possibility.[50] Therefore, Jomini implied that the commander must possess a staff that can analyze information, identify fact from inaccurate or deceptive reporting, and turn it into finished intelligence. Jomini also argued that a commander should be able to estimate the enemy's options and plan courses of action against them, thereby preventing unexpected ruin.[51] His claim implies that all enemy courses of action should be identified and weighed according to their relative probability, thereby enabling the planning of friendly courses of action to counter them.

Even with such a high emphasis on obtaining information on the enemy, Jomini cautiously warned that "perfect reliance" should never be placed on intelligence alone.[52]

Jomini filled a critical void left by Clausewitz by arguing that intelligence, regardless of how imperfect, is necessary for success. His writing is more scientific than theoretical and attempted to isolate warfare from political or social factors, which leaves multiple areas underdeveloped or missing altogether.[53] However, his description of intelligence, while lacking details or even depth, offers the following principles for application:

1. Intelligence analysts must use all-source information to identify the facts; single sources of information must be verified with additional sources.

2. Intelligence analysts must identify all courses of action available to an enemy and weigh them in order of probability.

Summary

The knowledge gained from analyzing Sun Tzu, Clausewitz, and Jomini is in how each theorist relates to the other. Sun Tzu's idealization of intelligence sharply contrasts Clausewitz's idealization of the commander, yet Jomini complements both by focusing on the principles of warfare for the practitioner. Therefore, the ideal form of military intelligence should be derived from the idealized and practical approaches of the three. The following six principles of operational-level intelligence analysis, in addition to the previously addressed assumption of knowledge of the operational environment, should guide the formation and application of military intelligence personnel and organizations:

- *Knowledge of the operational environment and its effects are foundational to sound intelligence analysis*.

1. Accurate orientations of the enemy's capabilities (location and strength) are the commander's most valuable tool to reduce friction.

2. The enemy's capabilities always change; therefore, the pace of intelligence must surpass the tempo of the conflict.

3. All available sources of information must be used to maintain an accurate picture of the enemy and must continually be cross-checked to verify its accuracy.

4. An accurate orientation of the enemy's capabilities directly aids planning; it is a prerequisite for identifying centers of gravity and prioritizing an enemy's available courses of action.

5. Strategic-level intelligence must provide an estimate regarding the enemy's political intent or their objectives for the war; this is the only knowledge of enemy intent necessary to shape campaign planning at the operational level.

6. Intelligence enhances but is not a replacement for, sound judgment and decision-making by a commander.

Out of the six principles, the first three deal directly with time and tempo as directly contributing to the success of military operations. The next two identify how to use information and its value to operational planning. The last principle summarizes the three theorists views of warfare by reinforcing the axiom that "intelligence does not produce command decisions, [only] a commander does."[54]

An additional observation is worth noting regarding the use of surprise and deception. Between the three theorists, Sun Tzu's idealistic view of intelligence directly correlates to his favorable view of surprise and deception. He argued that deception be the weapon of choice and the basis for successful military operations while also believing in the ability to achieve surprise to attain victory.[55] This differs significantly from Clausewitz and Jomini whom both believed that surprise is hard to achieve and deception was unimportant and a waste of time.[56] While a complete analysis of both is beyond the scope of this paper, it is worth noting that the value placed on intelligence correlates to the value put on surprise and deception.

CASE STUDIES

Strategy is the art of making use of time and space. I am less chary of the latter than of the former; space we can recover, time never…I may lose a battle, but I shall never lose a minute…Time is the great element between weight and force.
- Napoleon Bonaparte[57]

War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty. A sensitive and discriminating judgment is called for; a skilled intelligence to scent out the truth.
- Carl von Clausewitz[58]

The two case studies selected for this analysis, Napoleon's Danube Campaign of 1805 against the Third Coalition and the American Civil War's Chancellorsville Campaign of 1863, closely represent the writings of Sun Tzu, Clausewitz, and Jomini since they occur at the point in history where the scale of war expanded significantly. However, the commanders during both campaigns had not yet developed or were just beginning to develop, intelligence organizations capable of handling the massive amount of information required to support military operations. Therefore, the analysis of each campaign will focus on whether each commander adhered to the six principles of operational-level intelligence previously identified. While sources and collection methods do account for success or failure in intelligence, and therefore cannot be ignored, they will only be analyzed in the case studies to the extent needed to determine their contributions to the application of the six principles.

The Danube Campaign

Napoleon Bonaparte's aggressive campaign against the Third Coalition in the summer of 1805 was a masterpiece of command and the use of intelligence. The third coalition, comprised of England, Austria, Russia, and Sweden, was busily constructing plans for an offensive against France to restore Europe to the regional balance before 1789.[59] Presented with threats from multiple directions, Napoleon focused his main effort

against the coalition's greatest potential strength by moving his *Grande Armée* of 210,000 troops to the Danube Front while positioning additional forces to cover his flanks.[60] His objective was to eliminate the merging of Austrian forces, under Archduke Ferdinand and General Mack, with Russian troops moving west.[61] The campaign succeeded with the surrender of Mack's Army of 30,000 personnel at Ulm on 20 October 1805 and the eventual defeat of the Russian and Austrian armies at Austerlitz on 2 December. The campaign resulted in the balance of power shifting decisively in France's favor positioning Napoleon's *Grande Armée* as the dominant force in Europe.[62]

Napoleon's use of intelligence is evident from the beginning of his campaign planning. When his *Grande Armée* set out on the campaign from Boulogne on the Danube in late August 1805, Napoleon's chief of staff already developed a map of the theater of war that encompassed intelligence gathered by the French ambassador at Dresden regarding Russian and Austrian forces.[63] Napoleon also sent senior officers on an extended two-week reconnaissance mission to gain all available information about the environment before he could complete his final plans in September. What he could not gain from reconnaissance, he learned by studying history, geography, politics, and even statistics.[64] His Statistical Bureau compiled strategic intelligence with information from every source of information available,[65] including an extensive network of spies who gained vital information on Russian and Austrian political intent.[66] Additionally, his Ministry of Foreign Affairs created intelligence products by analyzing diplomatic dispatches and foreign publications, which he compiled into a book of information about every army in Europe.[67]

Regardless of how much information he processed, Napoleon's ability to reorient faster than his adversaries was a critical strength. His General Staff compiled all observation reports from each corps' cavalry patrols and interrogation reports from captured enemy personnel.[68] The information kept Napoleon current on changes in Mack's movements and actions along the Danube. As the campaign progressed, his Chief of Staff compiled and annotated intelligence reports from reconnaissance and road surveys onto an operational-level map, enabling Napoleon to calculate daily march times for each of his seven *corps d'rméei*.[69] The map provided him with an actual orientation of his forces in time and space relative to his adversary. Napoleon's ability to maintain an effective orientation was in stark contrast to the planning efforts of the Third Coalition. The planning of the Austrians and Russians was riddled with inconsistencies and errors,[70] including the Austrian staff's failure to account for the ten-day difference between their Gregorian calendar and Russia's Julian calendar as well as defective chains of command,[71] which eliminated their ability to maneuver their combined forces against the French armies quickly.

Napoleon's ability to reorient faster than his adversaries enabled him to outmaneuver his opponents. His knowledge of Mack's mission to cover the approach for the Russian armies enabled him to pursue an aggressive march to cut their lines of communication and envelop the Austrian army, even though he lacked information regarding the timeline for the Russians' arrival. Meanwhile, Mack was operating in a "fool's paradise," the result of deception and faulty intelligence concerning Napoleon's intent and the position of his forces.[72] By 15 October, Napoleon completed his encirclement of the Austrian army and began his bombardment.[73] Two days later, after

losing multiple battles around Ulm, Mack petitioned for an eight-day armistice from Napoleon hoping Russian aid might arrive in time to save his army. Napoleon, armed with intelligence that the Russian army was still over 100 miles away, agreed to the terms.[74] However, on 20 October, five days ahead of schedule, Mack surrendered his army of over 30,000 personnel to Napoleon. [75] While an impressive victory in itself, Napoleon's campaign was only 26 days old and was only getting started.

The second portion of the Danube campaign was another race against time. Based on intelligence regarding the signing of the Potsdam Treaty between Tsar Alexander of Russia and Frederick William III of Prussia, Napoleon calculated he had only 12 weeks before 400,000 combined Prussian, Austrian, and Russian soldiers could converge against him on the Danube.[76] To minimize additional threats to his flanks, Napoleon decided to thrust into the heart of Austria and take their capital of Vienna.[77] For eight weeks, Napoleon's *corps d'rméeis* pushed towards Vienna on the heels of the Russians but failed to encircle them before they united with the Austrians.[78] After capturing the capital without a fight, Napoleon faced a critical problem: his troops were exhausted, two armies already plundered the resources along his line of retreat, and his enemy was growing stronger.[79] He decided on a course of action to lure the Russian and Austrian forces out of their camps on Olmütz to attack his forces.[80]

Napoleon's plan to lure the allied armies into battle at Austerlitz on 2 December 1805 was directly aided by the timely intelligence of the enemy's strengths and weaknesses. While the allied armies held a two to one force ratio advantage, they lacked an overall commander, preferring instead for each emperor to maintain command of their troops. Napoleon calculated that by tempting the allies with his smaller force, only

53,000 at the time while ordering a forced march of his remaining 22,000 men to the fight, he could defeat the 89,000 enemy soldiers by exploiting divisions within their forces.[81] The plan worked. Through a careful preparation of the battlefield near Austerlitz, and through feigning weakness by abandoning key terrain on the Pratzen Heights, Napoleon baited the allies into an attack separating the Austrian and Russian formations. His counterattacks against each force, aided by the timely arrival of his additional *corps d'rméei*, forced a complete route by the allies. The resulting armistice, signed at the Treaty of Pressburg on 26 December, removed Austria as a threat and destroyed the coalition's unity on Napoleon's eastern flank.

The Danube campaign clearly demonstrates Napoleon's use of all six principles of operational-level intelligence. The tempo of his intelligence, as well as his staff's ability incorporate multiple sources of information at all levels thereby orienting him on enemy strengths and weaknesses, allowed him to out-maneuver the Austrian and Russian armies at Ulm and Austerlitz. While critics argue he lacked a formalized intelligence organization, particularly in the lower echelons, to centralize the collection, collation, and analysis of information,[82] they fail to comprehend that Napoleon's intelligence support during the Danube Campaign provided him the answers needed, and at a tempo fast enough, to win decisive engagements against a larger adversary.

The Chancellorsville Campaign

The Battle of Chancellorsville during the American Civil War provides another excellent example of how reorienting faster than the adversary can enable a commander to defeat a numerically superior force. Following the defeat of Major General Ambrose E. Burnside against General Robert E. Lee at the Battle of Fredericksburg in December

1862, Major General Joseph Hooker spent the winter and spring of 1863 rebuilding and reorganizing the Army of the Potomac to continue its march toward Richmond. After three revisions to his plans, Hooker's cavalry, a full corps less one battalion, set off on 27 April 1863 in a risky move to outmaneuver Lee's army entrenched at Fredericksburg and cut off his lines of communication. From 28-30 April, Hooker successfully crossed the Rappahannock River with three corps of infantry at Kelly's Ford and established his headquarters at Chancellorsville. As his forces moved out in three columns on 1 May, Hooker held no expectation, nor was he prepared, to risk a major battle to secure his main objectives that day.[83]

On the morning of 1 May, Lee, aware of Hooker's movements, ordered Lieutenant General Thomas "Stonewall" Jackson's Second Corps to attack and by 10:30 AM, Hooker's and Lee's forces were engaged on the Orange Turnpike between Chancellorsville and Fredericksburg. Hooker, realizing his three columns, which were separated by the dense wilderness, were at risk of being "whipped in detail" by the notoriously aggressive Jackson, ordered his forces to withdraw and occupy previous positions around Chancellorsville.[84] By that night all of Hooker's corps were back where they left earlier that morning. While Hooker prepared his positions for a defensive fight on his ground,[85] Lieutenant General J.E.B. Stuart continued his reconnaissance of the Union positions with his cavalry corps while Jackson probed the Union lines near the Hazel Grove. Their discoveries would shape Lee's plan for the following day.

Lee's decision to attack, aided by the accurate intelligence of Hooker's right flank and accurate knowledge of the road networks, was both bold and incredibly risky.[86] On the evening of 2 May, Jackson, having marched his forces all morning and afternoon,

attacked Hooker's right flank and achieved a near complete surprise. The resulting route of Major General Oliver Howard's Eleventh Corps and the total collapse of Hooker's right flank were slowed only by the approaching darkness and hastily reassembled defensive lines. The next morning, out of fear that the forces in the salient of Hazel Grove might be cut off, Hooker made one of his most fateful decisions of the campaign by ordering their complete withdrawal from the high ground.[87] This gift to Lee's artillery enabled them to shell Hooker's lines, as well as his headquarters in Chancellorsville. Following two days of fighting, including the stalled Union attack from Fredericksburg, Hooker ordered a complete withdrawal of all forces across the Rappahannock River during the night of 5 May providing the victory to Lee.[88]

Intelligence played a crucial role in the campaign for both Hooker and Lee, yet it was Hooker who enjoyed the greatest advantage before the battle. After taking command on 25 January 1863, Hooker's primary source of intelligence was the remnants of Allan Pinkerton's Secret Service. The Secret Service only reported raw intelligence to the commander and, because his agents lacked training in estimating the strength of combat units, estimates of strength were often grossly inflated.[89] Additionally, the Union Army had yet to compile any estimates on the strength of the Army of Northern Virginia.[90] Just ten days after he took command, Hooker looked to "organize and perfect a system for collecting information as speedily as possible."[91] Leading the effort was his new Deputy Provost Marshall, Colonel G.H. Sharpe, who would eventually lead the "separate and special" Bureau of Military Information (BMI) later established on 30 March 1863.[92] The only connection to Pinkerton's Secret Service was John Babcock, who remained with the Army of the Potomac and would be invaluable to Sharpe's BMI.[93] For the first time in

the war, the Army of the Potomac had an intelligence organization that coordinated and consolidated all-source intelligence to provide an accurate picture of the enemy.[94]

While both Hooker and Lee were able to build a picture of the other's army, Hooker's orientation of Lee's capabilities was far more accurate. Even though Hooker's strategic assessment of Lee's intent proved disastrously false, believing he would retreat to Richmond or the Shenandoah Valley once Union forces crossed the Rappahannock,[95] he possessed a remarkable understanding of Lee's capabilities. Between the first all-source report compiled on 15 March to just before the beginning of the campaign,[96] Sharpe's BMI continually refined their estimates enabling Hooker to know "almost as much about Robert E. Lee's army as Lee himself knew."[97] Conversely, Lee's secret service overestimated the Army of the Potomac's strength to be more than 150,000, which Lee assumed was much closer to being only a two to one advantage.[98] Since Lee knew Union enlistments were coming due and felt he had no more to worry about Hooker than his predecessors, he incorrectly assumed that any attack would be against his current fortifications.[99] Lee's overconfidence in his assessment of Hooker's intent left him unprepared to meet the threat from the Army of the Potomac.[100] While both generals held accurate estimates of enemy strength, their confidence in their estimates of intent left them vulnerable to surprise.

With a few exceptions, Hooker and Lee utilized the same collection methods with varying levels of success. Both armies gained intelligence from the adversary's newspapers and the keen eyes of their signal corps, yet only the Union possessed the capability to employ observation balloons.[101] While both used spies and scouts, Hooker's BMI relied more heavily on civilian spies, detectives, and deserters whereas Lee

preferred the use of scouts from his cavalry.[102] This preference in collection methods initially favored Hooker's BMI, since their detailed estimates enabled Hooker to refine his plan a third time by mid-April.[103] However, the lack of cavalry available for scouting proved disastrous for Hooker and gave Lee the decisive advantage of a faster reorientation once the fighting commenced.

While Hooker enjoyed the initial advantage, Lee's use of intelligence during the battle shifted the initiative squarely into his favor. Even though Hooker had an understanding of the road network around Chancellorsville, thanks to the work of his topographical engineers during planning,[104] he was completely unprepared for the dense thicket that made it nearly impossible to maneuver outside of the narrow roads.[105] Because Hooker tasked his cavalry to maneuver south against Lee's lines of communication, he was blindfolded in battle since he lacked the scouts required to gather intelligence on Lee's location.[106] Hooker still possessed his observation balloons, but they were of limited use in Fredericksburg with only six to eight miles of visibility.[107] Additionally, when reports were generated from the aerial observers, they did not reach Hooker in time due to significant problems with the telegraph lines.[108] With virtually no intelligence arriving regarding Lee's location, Hooker mistakenly thought the lack of intelligence meant nothing had changed on the morning of 1 May.[109]

Hooker most likely decided to withdraw his forces from their initial contact with the Confederates based on his orientation of the enemy's strength. Armed with the BMI's orders of battle and reports concerning the movement of Jackson's corps against the Union center, numbering 33,500 to as high as 48,000 infantry, Hooker likely possessed the clearest picture of anyone on the battlefield.[110] Since Hooker only had 30,000 men

employed south of the Rappahannock separated by the dense wilderness into three separate columns, Jackson could engage any one of them with a significant advantage in strength.[111] Following the withdrawal to Chancellorsville, Sharp and the BMI spent the night consolidating reporting and, by the morning of 2 May, produced an accurate estimate of the strength of Lee's forces but were unable to provide specific locations.[112] Without cavalry to scout the enemy forces, Hooker lacked the ability to develop an accurate orientation of Lee's army as it maneuvered towards his right flank.

As Lee assessed the situation he faced on the evening of 1 May, he was aided by the timely reconnaissance of his generals and his staff. After reconnoitering his right flank and determining it lacked a suitable opening, he decided to attack on his left.[113] However, he needed two critical pieces of intelligence to carry out the attack: "the location of Hooker's right flank, and a hidden way to reach that flank."[114] After receiving reports regarding the location of Hooker's flank, the Union's position of strength at Hazel Grove, and Stuart confirming control of all roads by Confederate forces, Lee only needed a guide to lead Jackson's corps to Hooker's right undetected.[115] Jackson's chaplain, Reverend Beverly Tucker Lacy, was from the area and, knowing the terrain well, guided Jackson's corps through the wilderness the following morning.[116] Even though the Union forces on Hazel Grove observed the movement of Jackson's forces toward their right flank, Hooker's lack of cavalry hindered his ability to reorient to the threat Jackson presented until it was too late.[117]

Following Jackson's attack on 2 May, Hooker re-established his defensive positions and began assessing his situation. However, he still lacked the ability to locate the enemy beyond his picket lines. With his forces in the salient of Hazel Grove, and

unable to determine where Lee might strike next, Hooker made the decision to abandon the key terrain. He most likely based the decision off of a worst case assessment: an attack cutting off Hazel Grove timed with an attack to his rear would leave him "between two fires and liable for capture."[118] Therefore, since Hooker was unable to determine the location of Lee's forces, he abandoned the critical terrain that significantly contributed to his defeat.

Principles of Operational-level Intelligence Demonstrated in the Chancellorsville Campaign		(+) Enhancing; (0) Neutral; (-) Degrading			
		Planning (Mar – 30 Apr)		**During Battle (1-5 May)**	
		Hooker	**Lee**	**Hooker**	**Lee**
*	Knowledge of the operational environment and its effects are foundational to sound intelligence analysis.	**0**	**0**	**-**	**+**
1	Accurate orientations of the enemy's capabilities (location and strength) are the commander's most valuable tool to reduce friction.	**+**	**0**	**0**	**+**
2	The enemy's capabilities always change; therefore, the pace of intelligence must surpass the tempo of the conflict.	**+**	**0**	**-**	**+**
3	All available sources of information must be used to maintain an accurate picture of the enemy and must constantly be cross-checked to verify its accuracy.	**+**	**0**	**+**	**+**
4	An accurate orientation of the enemy's capabilities directly aids planning; it is a prerequisite for identifying centers of gravity and prioritizing an enemy's available courses of action.	**+**	**-**	**-**	**+**
5	Strategic-level intelligence must provide an estimate regarding the enemy's political intent or their objectives for the war; this is the only knowledge of enemy intent necessary to shape campaign planning at the operational level.	**-**	**-**	**0**	**0**
6	Intelligence enhances but is not a replacement for, sound judgment and decision-making by a commander.	**+**	**-**	**-**	**+**
Totals:		**+4**	**-3**	**-3**	**+6**

Table 1. Summary of Principles of Operational-level Intelligence in the Chancellorsville Campaign

The Chancellorsville campaign provides a comprehensive picture of how the principles of operational-level intelligence enhance the planning and execution of a

campaign. During the planning phase, Hooker possessed a distinct advantage by utilizing five of the six principles to his advantage. His only failure was his incorrect assessment of Lee's intent, which later surprised him as the battle commenced. Meanwhile, Lee overcame his intelligence deficiencies in the weeks leading up to the battle, including being surprised by Hooker's aggressiveness, and utilized all of the principles to defeat Hooker masterfully. Table 1 compares the effects of the principles to both Hooker and Lee before and during the battle. When combined, the successes from both generals provide a complete picture of how intelligence can enhance the decision making of a commander during planning and execution.

A VISION FOR OPERATIONAL-LEVEL INTELLIGENCE ANALYSIS

Everything in war is very simple, but the simplest thing is difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war.
- Carl von Clausewitz[119]

War and warfare do not always change in an evolutionary linear fashion. Surprise is not merely possible, or even probable, it is certain.
- Colin S. Gray[120]

To apply the principles of operational-level intelligence consistently between Napoleonic, Civil War, and modern eras, it is important to understand the differences in how information was collected and analyzed. During the Napoleonic Campaigns and the Civil War, most of the information was gathered and interpreted by the cavalry or scouts. When information was reported to the commander, he alone often conducted the analysis to derive the changes in enemy capabilities. While Napoleon and Hooker both enjoyed the benefits of intelligence organizations analyzing and summarizing intelligence for their consumption, they still relied on scouts and cavalry to provide updates as a battle progressed.

Understanding the requirements of an effective scout, or cavalry officer, is a critical link for understanding how to integrate the principles of operational-level intelligence analysis in today's environment. Field Marshal Helmuth Graf von Moltke, the famous Prussian military officer, best summarized this requirement in 1869:

> It is necessary to use trained and well-mounted officers with sharp and ready eyes. It is a question of coming quickly to a point that allows a broad view, using rapid judgment, many times in flight, to survey the recognizable details of the enemy situation, the state of his bivouac, his strength, direction of march, and so forth, and then immediately sending clear, complete, and, above all, reliable reports.[121]

Moltke later expanded on this observation, arguing further that cavalry officers "must possess quick perception and judgment and must be well trained in reading maps and comparing them with the terrain so as to be able to form a clear picture from brief observations of the enemy."[122] The cavalry officer, embodied with "cleverness and skill" and a "quick perception," [123] was required to provide assessments with very little observation since skirmishers and enemy cavalry often limited the time and opportunity to gather information. Moltke described the cavalry officer as someone capable of accurately collecting information, analyzing its significance, and sending a clear and reliable assessment of the enemy's location and strength.

Even though the scale of modern warfare necessitates the separation of collection and analysis functions, intelligence analysts are still required to collect information, though not directly from the enemy. Whether it is through stacks of printed reports or searching through an electronic database, analysts must still possess 'cleverness and skill' with a 'quick perception' to cull the information needed to assess changes in enemy location and strength. Today's analysts are collectors of information that is already collected and must perfect the skills required to find the relevant information. Therefore,

since the requirements of an effective cavalry officer still apply to today's intelligence analyst, the principles of operational-level intelligence analysis can be applied to historical and modern eras equally.

Training Intelligence Analysts

Training intelligence analysts to operate in the modern environment should begin with the fundamental elements that will produce the cleverness, skill, and a quick perception needed to deliver the principles of operational-level intelligence analysis. The first, and perhaps most important skill, is to develop geospatial competencies to understand the terrain and its effect on the operational environment. This includes tasks such as reading maps, utilizing different coordinate formats and datums, and accessing information from databases utilizing geospatial data. This skillset is a prerequisite for determining the location of an adversary and is used in all aspects of operational-level intelligence. Next, analysts must understand how to assess the strength of their adversary by analyzing force compositions, doctrine, tactics, weapon systems, logistics, and the long list of other factors utilized in providing an accurate orientation of the enemy's strengths and weaknesses. Not only are strengths and weaknesses critical for an understanding of the enemy's capabilities, but they are also a building block for the center of gravity analysis used in planning.

It is not enough for operational-level intelligence analysts to simply analyze the location and strength of the adversary; they must also be able to identify changes in location and strength fast enough to affect planning and ongoing operations. Analysts must learn how to identify trends and changes in normal behavior to provide a quicker re-orientation for the commander. Therefore, analysts must learn how to database activity,

establish trends in behavior, identify deviations from normal trends, and isolate the reason for the deviation to determine if a change in strength occurred. For example, an analyst investigates a decrease in an enemy's normal training routines and identifies the cause as a shortage of resources. The logistical weakness is identified and included in the latest estimates of the enemy for future plans. Without an established trend of normal activity, the analyst may never have identified the changes in behavior nor investigated their cause.

While the types and quantity of data collected today are significantly larger and more diverse, the basic skill sets of the intelligence analyst are the same as the cavalry officer conducting reconnaissance. The goal of intelligence training, when framed within Moltke's requirements for cavalry officers, is essentially the same:

> It is necessary to use trained and [skilled intelligence analysts] with sharp and ready eyes. It is a question of [collecting] quickly [all relevant information], using rapid judgment, many times in [time-constrained environments], to [identify] the recognizable [changes] of the enemy situation, [his location], his strength, [trends], and so forth, and then immediately [write] clear, complete, and, above all, reliable [assessments].[124]

Determining the location and strength of an enemy, establishing and identifying changes in trends, and depicting them in a common format are the core competencies of the military intelligence analyst. Just as an infantryman must master marksmanship or a pilot must master flying an airplane before they can hope to be effective in combat, so too must an intelligence analyst master their fundamentals. They are essential to fulfilling the first principle of operational-level intelligence analysis: *Accurate orientations of the enemy's capabilities (location and strength) are the commander's most valuable tool to reduce friction.*

Missionizing Intelligence Analysis

Building intelligence analysts experienced in determining the changes in enemy capabilities is important, but if the analysts are not capable of keeping pace with the tempo of conflict, their efforts are wasted. Two problems exist in speeding up the pace of intelligence analysis: the ability of analysts to find the right information and the duplication of effort amongst intelligence organizations. While the volume of information collected makes it hard for a single analyst to sift through all relevant information necessary to answer an assigned question, multiple analysts de-conflicting and coordinating their efforts can dramatically shorten the time required to sift through massive databases. Additionally, developing the right tools and techniques to find information faster, along with proficiency in gathering the information, will further expedite the process.

Adopting techniques used in collection management can significantly improve the methods for collecting information. While collection assets are usually tasked independently, they are often coordinated to collect different types of intelligence against the same target. Analysts, when working as a team, can adopt the same principle by dividing the labor and focusing on different databases or sources. Additionally, a team of analysts scouring multiple databases can utilize the collection technique of cross-cueing, whereby information from one asset identifies an area of interest and is used to cue the collection from the remaining platforms. When employed by an analytical team, this enables them to quickly isolate the critical variables, such as the location or signature of a target, necessary for finding the required information within the massive amount of data available. Therefore, designated information coordinators can enable cross-cueing by

recording info upon discovery, pushing it to each analyst, and summarizing the results for products or additional analysis.

While information is required, the purpose of conducting analysis is always to answer questions. Analytical teams also require a leader to reduce the problem into manageable questions, plan the analytical strategy, and utilize critical thinking to guide the team around analytical pitfalls as well as identify potential indications of deception from the enemy. The analytical teams, when working as part of a larger coordinated plan, create cumulative results in a time-dominated environment. The result, as summarized in Figure 1, is an organization of mission-oriented analytical teams, focused on identifying changes in enemy capabilities within a specific timeframe.

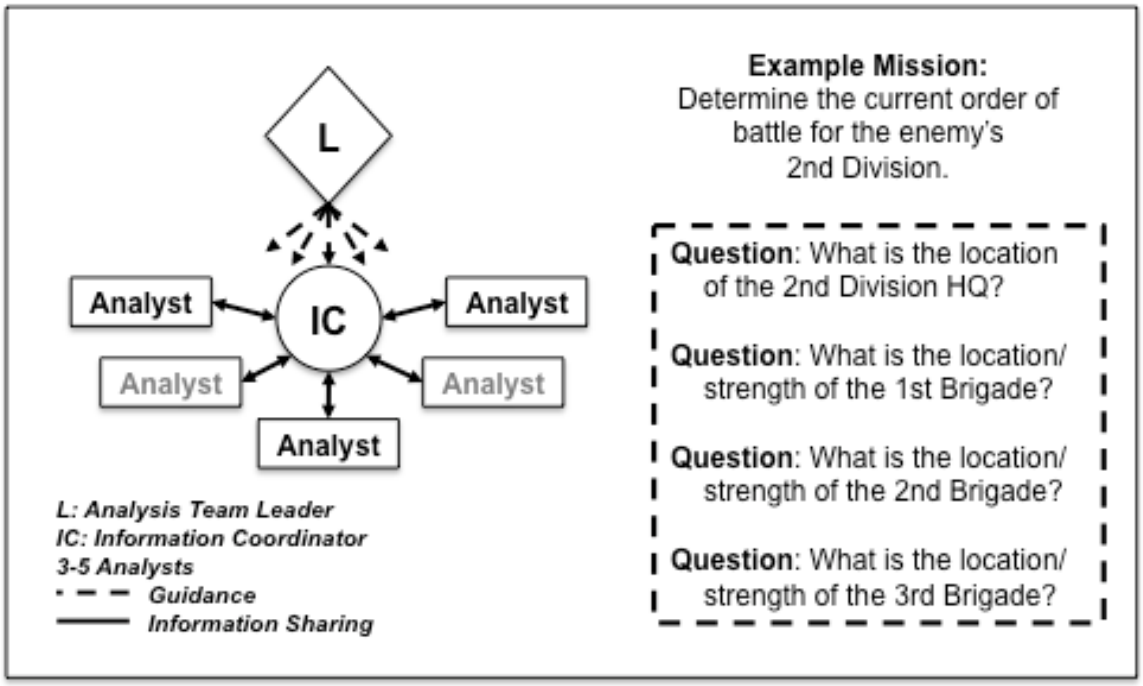

Figure 1. Intelligence Analysis Teams

Another practice utilized in intelligence collection is developing synchronization matrices to sequence collection missions in time and space. Since the leaders of analysis must be able to identify and prioritize a commander's questions, schedule teams to

conduct analysis, and deliver the products within the timelines required, synchronization matrixes enable them to sequence their teams in time while coordinating with other organizations for additional analytical support. Assigning missions to analytical teams aligns their effects to a commander's operational or campaign objectives and, when sequenced with operations, ensures the intelligence is continuously updated to keep pace with the tempo of the conflict. This guarantees that the intelligence required for critical decisions is available when needed, as depicted in Figure 2, as well as eliminates duplication of effort across multiple organizations when employed within an entire theater or command. Missionizing intelligence analysis fulfills the second principle of operational-level intelligence analysis: *The enemy's capabilities always change; therefore, the pace of intelligence must surpass the tempo of the conflict*.

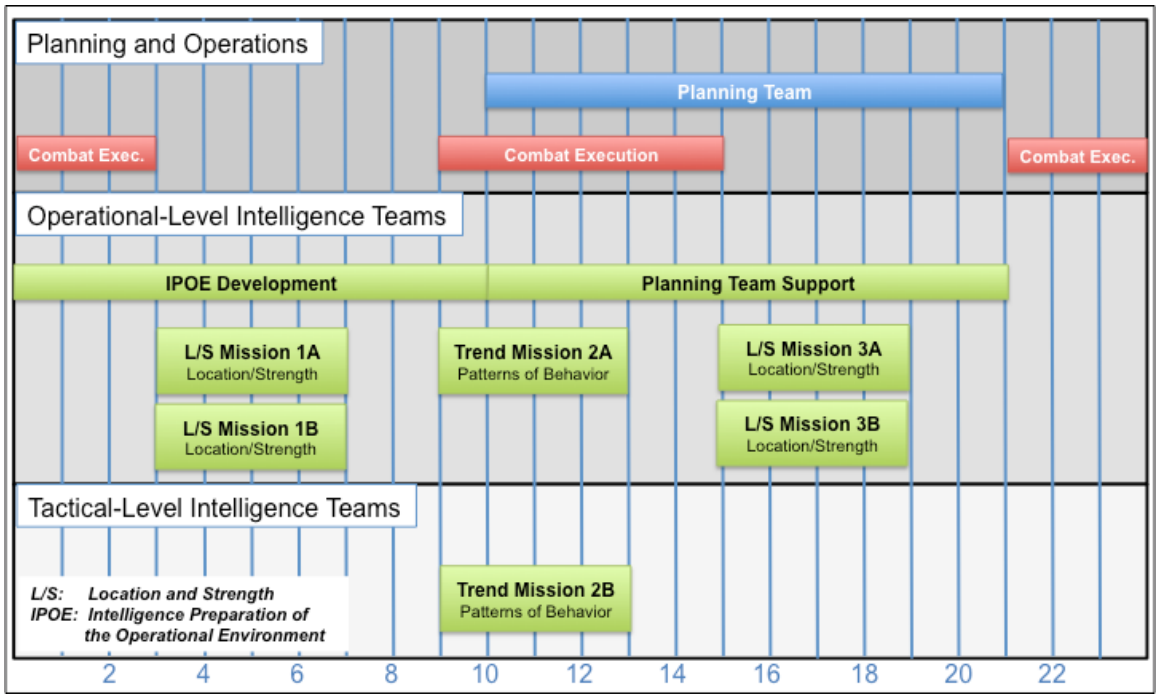

Figure 2. Analysis Synchronization Matrix

Focusing Analytical Effort

If analytical teams are tasked with the mission to answer questions within a specific timeframe, then their time becomes a valuable commodity and must be focused towards understanding the enemy's capabilities. While current doctrine argues that commanders "require and expect timely intelligence estimates that accurately identify adversary intentions,"[125] analyzing the enemy's intent is best left to the strategic level of conflict where the pace of change is less dynamic.[126] Instead, the capabilities of the enemy "must be projected into the future" by showing what the enemy is capable of achieving giving their current location and strength.[127] This is not the same as predicting intent, since listing enemy capabilities to effect friendly courses of action only focuses on what is achievable and not the capability that is most likely to occur. Aiming for precision in determining most likely enemy courses of action becomes increasingly similar to predicting probable intent.[128] However, focusing on capabilities does not alleviate the need for operational-level intelligence analysts from utilizing assessments of intent. Instead, leaders of analysis must request the necessary analysis from relevant organizations and utilize their assessments to enhance their understanding of the enemy or to identify when the assessed intent does not match the enemy's capabilities. When assessments of capabilities and intent fail to agree or diverge in their estimates, analysts must utilize all sources available to identify the reason for the variations or to determine if the enemy is actively deceiving them.[129]

In addition to coordinating assessments of the enemy's intent, leaders must also coordinate other areas of analysis that they lack either the time or expertise to analyze effectively.[130] The purpose is not to burden other organizations with undesirable work;

rather, it is to maintain the continuous focus on identifying changes in enemy capabilities to aid the commander's ability to make timely decisions. The focus on utilizing external support and all available sources of information fulfills two of the principles for operational-level intelligence analysis: *All available sources of information must be used to maintain an accurate picture of the enemy and must constantly be cross-checked to verify its accuracy;* and *Strategic-level intelligence must provide an estimate regarding the enemy's political intent or their objectives for the war; this is the only knowledge of enemy intent necessary to shape campaign planning at the operational level*.

Delivering Intelligence Analysis

While the core function of operational-level intelligence analysis is to constantly identify changes in the enemy's capabilities, the effort is useless unless it is focused and delivered when needed. The planning of operations or campaigns requires a tailored approach to analyzing an enemy within a complex problem, but should not be treated as the primary mission of operational-level intelligence organizations, as depicted in Figure 2. The intelligence analysts tasked with supporting planning teams should be trained to preemptively answer the specific types of questions necessary for planning as early as possible, such as conducting intelligence preparation of the operational environment, listing courses of action based on capabilities, and delivering the information necessary for conducting center of gravity analysis. Since the strength of an enemy's military often provides the "source of power that provides moral or physical strength, freedom of action, or will to act,"[131] accurate and timely depictions of enemy capabilities will always be the foundation for the center of gravity analysis. Therefore, while it is important to deliver tailored intelligence, analysts must consistently analyze the enemy's capabilities

throughout the planning process to fulfill the fifth principle of operational-level intelligence analysis: *An accurate orientation of the enemy's capabilities directly aids planning; it is a prerequisite for identifying centers of gravity and prioritizing an enemy's available courses of action.*

Commanders also require tailored intelligence to support their decisions, but the delivery of the intelligence must not become the primary role of the organization at the expense of conducting analysis. Without the timely identification of changes in enemy capabilities, a commander will fall into the same trap as General Hooker at Chancellorsville by having a solid understanding of his enemy, but unable to orient himself on how the enemy is maneuvering to defeat him. Commanders require an assessment of risk to make sound decisions.[132] Therefore, analysts delivering intelligence to a commander must understand how to represent the risk of the enemy's capabilities in relation to the commander's forces. Analysts must also realize that their work supports but does not direct the commander, since the sixth and final principle of operational-level intelligence analysis states: *Intelligence enhances but is not a replacement for, sound judgment and decision-making by a commander*.

CONCLUSION

The "intention of the enemy having thus been discovered by some vague occult process, our former teachings concluded that the enemy would execute a maneuver suitable for carrying out this intention. All that one had to do was to place one's self in the enemy's boots and determine what one would do in like circumstances – hence "the most probable enemy action!" Now, knowing exactly what the enemy is going to do, the commander has little difficulty in arriving at a clear-cut decision for his own maneuver. The only hitch in the whole proceedings is that nine times out of ten, the enemy will execute a totally different maneuver than the one which we have so logically evolved as his most probable one!
- Colonel Edwin E. Schwein[133]

The analysis of military theorists clearly demonstrates the role of intelligence analysis in war, yet Clausewitz's argument that the only sources of useful information are

obtained through “direct contact with the enemy” or through a “commander’s direct observations” is still unresolved.[134] Since Clausewitz never observed warfare with the aid of modern intelligence collection technology, his conclusions are permanently skewed by the collection methods available during his lifetime. Regardless of these limitations, an important lesson can be learned from his statement. If intelligence is to be useful, it must be presented in a way that is easily understood by the commander and it must be so trustworthy that it is as if the assessments were the commander’s own observations. Therefore, while current near-real-time intelligence can provide an instantaneous picture, the commander’s intelligence analysis organization must be the eyes and ears of the command that carefully observes changes in the enemy’s location and strength. By missionizing intelligence analysis teams and synchronizing their effects, operational-level intelligence organizations can build the necessary framework to provide a clear, accurate, and timely picture for commanders thereby providing them the best opportunity for sound judgment and faster decision making against an adversary.

Finally, the question regarding the significance of military intelligence in warfare can be answered in light of the analysis conducted. While John Keegan’s argument that intelligence rarely determined the outcome of a battle contradicts the current doctrine’s claim that predictive intelligence can increase the likelihood of success, the analysis of military theorists identifies that both Keegan and current doctrine are right, as well as wrong, in their conclusions. Keegan was correct in stating, “willpower always counts for more than foreknowledge,”[135] but his error was in emphasizing ‘foreknowledge' in his analysis. Keegan is also wrong in claiming that history fails to prove that intelligence superiority is critical for success since both Napoleon's Danube Campaign and the

Chancellorsville Campaign demonstrated the crucial role intelligence played in securing victory. Meanwhile, current intelligence doctrine is correct in claiming that intelligence can mitigate risk and increase the likelihood of success, but it is wrong in placing emphasis on ‘predictive' intelligence rather than a timely and accurate depiction of enemy capabilities. As the principles of operational-level intelligence analysis indicate, knowledge of the enemy's capabilities matters most in combat. Therefore, in light of the analysis conducted, this paper concludes that a faster re-orientation on an enemy’s capabilities is by far a more direct route to victory than merely predicting the enemy’s intent.

[1] Carl von Clausewitz, Bernard Brodie, and Rosalie West, *On War*, ed. Michael Howard and Peter Paret (United States: Princeton University Press, 1989), 117.
[2] Elias Carter Townsend, *RISKS: The Key to Combat Intelligence* (Harrisburg, PA: The Military Service Publishing Company, 1955), 2.
[3] Oscar W Koch and Robert G Hays, *G-2: Intelligence for Patton* (New York, NY, United States: Schiffer Publishing, 2004), 55-56.
[4] John Keegan, *Intelligence in War: Knowledge of the Enemy from Napoleon to Al-Quaeda*. (New York: Alfred A. Knopf, 2003), 4.
[5] Keegan, *Intelligence in War,* 334.
[6] US Department of Defense, *Joint Intelligence*. JP 2-0. (Washington DC: Headquarters Department of Defense, October 22, 2013), I-2.
[7] John Minear, "Chasing Relevance: Building Actionable Intelligence Analysis." *The Mitchell Forum* (2016), 2. http://www.mitchellaerospacepower.org/the-mitchell-forum.
[8] Townsend, *RISKS: The Key to Combat Intelligence,* 22.
[9] US Department of Defense, *Joint Intelligence*. JP 2-0, II-9.
[10] Keegan, *Intelligence in War,* 334.
[11] Ibid., 25.
[12] Daniel J. Hughes, Harry Bell, Gunther E. Rothenberg, and Helmuth von Moltke Graf. *Moltke on the Art of War: Selected Writings*. (Palo Alto, CA: Presidio Press, 1993), 255.
[13] E.T. Williams, 'The Use of Ultra by the Army', WO 208-3575. Memorandum, c. 1945, quoted in J. Ferris and M. I. Handel. 1995. "Clausewitz, Intelligence, Uncertainty and the Art of Command in Military Operations," *Intelligence and National Security.* 10 (1): 1, 41-42.
[14] Frans P. Osinga, *Science, Strategy and War: The Strategic Theory of John Boyd*. (London: Routledge, 2007), 141.
[15] US Department of Defense, *Joint Operations*. JP 3-0. (Washington DC: Headquarters Department of Defense, January 17, 2017), I-13.
[16] Gary Gagliardi and Sun Tzu, *Sun Tzu's the Art of War: Plus the Ancient Chinese Revealed* (Seattle, WA: Clearbridge Publishing, 2007), 39.
[17] Ibid. The complete translation of the verse is: "Know yourself and know your enemy. You will be safe in every battle. You may know yourself but not know your enemy. You will then lose a battle for every one you win. You may know neither yourself nor your enemy. You will then lose every battle."
[18] Ibid.
[19] Derek M. C. Yuen and Sunzi. *Deciphering Sun Tzu: How to Read 'The Art of War*.' (New York: Oxford University Press, 2014), 14-27. Understanding Sun Tzu's work also requires an appreciation for the difference between Chinese and Western strategic thought. Overall, Chinese grand-strategy merged politics with warfare holistically, employing all possible powers against an adversary, while also systemically dealing with nothing in isolation and fully appreciative of relationships and context. Their approach employed both strategy, utilizing a plan to achieve the desired aim, and stratagem, utilizing a plan to outwit an opponent. Additionally, the Chinese, through the dialectic and dynamic nature of yin and yang, viewed everything as "interconnected,

interpenetrating, and interdependent." These relationships clearly demonstrate the Chinese relationship between the 'straightforward' governance of politics and the 'crafty' nature of warfare.
[20] Ibid., 14.
[21] Michael I. Handel, *Masters of War: Classical Strategic Thought*. 3rd ed. (London: Frank Cass Publishers, 2000), 252.
[22] Gagliardi and Sun Tzu, *Sun Tzu's the Art of War*, 109.
[23] Handel, *Masters of War,* 236.
[24] Gagliardi and Sun Tzu, *Sun Tzu's the Art of War,* 146-147. Although Gagliardi uses the English translation "spies," the original text "specifically means a between space, as we might say a go-between or a channel of information." This clarifies the role of 'spies' as collectors of information.
[25] Ibid., 39.
[26] Handel, *Masters of War,* 252.
[27] Colin S. Gray. *Another Bloody Century: Future Warfare*. (London: Cassell Reference, 2007), 39.
[28] Yuen and Sunzi. *Deciphering Sun Tzu*, 27.
[29] Clausewitz, Brodie, and West, *On War*, 89.
[30] Ibid., 117.
[31] Ibid.
[32] Ibid., 273.
[33] Ibid., 140.
[34] Ibid., 84.
[35] Ibid., 117.
[36] Ibid., 84.
[37] Handel, *Masters of War,* 251.
[38] Clausewitz, Brodie, and West, *On War*, 373.
[39] Ibid., 584.
[40] Ibid., 595-596.
[41] The analysis in this paper only identifies the intelligence factors that affect a commander's judgment. John Ferris and Michael I. Handel, in their article "Clausewitz, Intelligence, Uncertainty and the Art of Command in Military Operations" dated January 1995, analyze the psychological characteristics of a good commander, as identified by Clausewitz, and the effect of intelligence on factors such as character, boldness, and determination.
[42] Clausewitz, Brodie, and West, *On War*, 117.
[43] Ibid., 99.
[44] Ibid., 85.
[45] Ibid.
[46] Ibid., 95.
[47] Ibid., 77.
[48] Victor M. Rosello Jr., "The Origins of Operational Intelligence." (Monograph, School of Advanced Military Studies, US Army Command and General Staff College, 1989). http://stinet.dtic.mil. Jomini never utilizes the word 'intelligence' in his work. Instead, he used 'reconnaissance' and 'enemy movements' to describe intelligence.

[49] Baron De Jomini, *The Art of War*. Translated by G. H. Mendel and W. P. Craig Hill. (Westport, Connecticut: Greenwood Press, 1862), 250.
[50] Ibid.
[51] Ibid.
[52] Ibid.
[53] Rosello, "The Origins of Operational Intelligence," 9.
[54] J. Ferris and M. I. Handel. 1995. "Clausewitz, Intelligence, Uncertainty and the Art of Command in Military Operations." *Intelligence and National Security.* (10 (1): 1), 11.
[55] Handel, *Masters of War,* 253.
[56] Ibid.
[57] *Correspondance de Napoléon I^ier* (Paris: 1858), Vol. XVIII, No. 14707, p. 218 as quoted in David G. Chandler, *Campaigns of Napoleon: The Mind and Method of History's Greatest Soldier*. (New York: Weidenfeld and Nicolson, 1973), 149.
[58] Clausewitz, 101.
[59] David G. Chandler, *Campaigns of Napoleon: The Mind and Method of History's Greatest Soldier*. (New York: Weidenfeld and Nicolson, 1973), 382.
[60] Ibid., 384.
[61] Ibid., 384-385.
[62] Peter Paret. "Napoleon and the Revolution in War." in *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler,* ed. Edward Mead Earle (Princeton: Princeton University Press, 1943), 123.
[63] Jay Luvaas. "Napoleon's Use of Intelligence: The Jena Campaign of 1805." in *Leaders and Intelligence,* ed. Michael I. Handel (London: Frank Cass & Co., 1989), 43.
[64] Luvaas, "Napoleon's Use of Intelligence," 41.
[65] Rosello, "The Origins of Operational Intelligence," 19.
[66] Luvaas, "Napoleon's Use of Intelligence," 44.
[67] Ibid., 43.
[68] Rosello, "The Origins of Operational Intelligence," 19.
[69] Chandler, *Campaigns of Napoleon*, 385.
[70] Ibid., 383.
[71] Ibid., 382.
[72] Ibid., 397.
[73] Ibid., 400.
[74] Ibid.
[75] Ibid., 402.
[76] Ibid., 403.
[77] Ibid.
[78] Ibid., 408.
[79] Ibid., 410.
[80] Ibid.
[81] Ibid.
[82] Rosello, "The Origins of Operational Intelligence," 21.
[83] Stephen W. Sears. *Chancellorsville*. (New York: Houghton Mifflin Co., 1996.), 202.
[84] Ibid., 211-212.
[85] Ibid., 224.
[86] Ibid., 232.

[87] Ibid., 312.
[88] Ibid., 492-501. The victory came at a high cost for Lee; 13,460 casualties, or approximately 21% of his forces, compared to 17,304 Union casualties, or approximately 13% of their forces.
[89] Ibid., 69.
[90] Harold W. Nelson, Jay Luvaas, and Army War College, (US), *The U.S. Army War College Guide to the Battles of Chancellorsville & Fredericksburg*. 1st ed. (Carlisle, PA: South Mountain Press, 1988), 300.
[91] Sears, *Chancellorsville*, 69.
[92] Nelson, Luvaas, and Army War College, *The U.S. Army War College Guide*, 300-301.
[93] Sears, *Chancellorsville*, 69.
[94] Ibid., 70.
[95] Nelson, Luvaas, and Army War College, *The U.S. Army War College Guide*, 311.
[96] Sears, *Chancellorsville*, 102. According to a visitor to Hooker's headquarters on 22 April, Hooker knew "all that is necessary to know in regard to the enemy, every regiment and brigade, division, etc., all their latest arrivals and departures, etc., all collated, compared from many sources, and fully confirmed. The secret service of Gen. Hooker is far superior to anything that has ever been here before."
Ibid., 151. The info was so accurate that by the end of April, "the B.M.I.'s latest count of Lee's infantry came to 54,600, just 1,600 short of its actual numbers. In estimating Lee's artillery at 243 guns, the B.M.I. over counted by just 23."
[97] Sears, *Chancellorsville,* 102.
[98] Ibid., 112-113.
[99] Ibid., 113.
[100] Ibid., 113-114.
[101] Ibid., 101.
[102] Nelson, Luvaas, and Army War College, *The U.S. Army War College Guide*, 302-303. The terms 'spies' and 'scouts' were often used interchangeably. Spies were "individuals located permanently within enemy lines or territory who were actively involved in collecting information valuable to their military leaders…Scouts were organized under a chief who direct their movements, and their duties were to serve as couriers between the network of spies and their military leaders…Scouts became 'the real eyes and ears of the army' as they probed forward as far as the enemy picket line and then used their trained powers of observation to find out what was happening on the other side."
[103] Sears, *Chancellorsville,* 130.
[104] Ibid., 100.
[105] Ibid., 201.
[106] Nelson, Luvaas, and Army War College, *The U.S. Army War College Guide*, 307.
[107] Ibid., 309.
[108] Sears, *Chancellorsville,* 201.
[109] Ibid., 202.
[110] Ibid., 212.
[111] Ibid.
[112] Ibid. 227-228.
[113] Ibid., 232.
[114] Ibid.

[115] Ibid.
[116] Ibid.
[117] Sears, *Chancellorsville*, 245. Hooker sent a dispatch to General Howard, commander of the Eleventh Corps situated on Hooker's right flank, warning of Jackson's movement to his right and ordered pickets to move out to "obtain timely information of their approach."
Bradford A. Wineman, *The Chancellorsville Campaign*. (Washington DC: Center Of Military History, 2013), 26. http://www.history.army.mil/html/books/075/75-9/CMH_Pub_75-9.pdf. Feeling that his actions were enough to protect his line, "he chose to take no further action until he had a better understanding of Lee's intentions."
[118] Sears, *Chancellorsville*, 312-313.
[119] Clausewitz, Brodie, and West, *On War*, 119.
[120] Gray, *Another Bloody Century*, 25.
[121] Hughes et. al., *Moltke on the Art of War*, 197.
[122] Ibid., 253.
[123] Ibid., 251.
[124] Ibid., 197.
[125] US Department of Defense, *Joint Intelligence*. JP 2-0, II-9.
[126] Minear, "Chasing Relevance," 3.
[127] Edwin Schwein, *Combat Intelligence: Its Acquisition and Transmission*. (Washington DC: The Infantry Journal, Inc., 1936), 8.
[128] Ibid., 10.
[129] The logic does not advocate the need for analysts to always agree on all assessments; rather, analysts should investigate the reasons why strategic level assessments of intent do not line up with their understanding of the enemy's capabilities.
[130] For example, the National Geospatial-Intelligence Agency should be utilized to the maximum extent possible to provide graphics and information relating to understanding the operational environment while the Defense Intelligence Agency should be tasked with providing background data on an enemy force to gain a greater understanding of their doctrine and tactics.
[131] US Department of Defense, *Joint Planning*. JP 5-0. (Washington DC: Headquarters Department of Defense, August 11, 2011), III-22.
[132] Townsend, *RISKS: The Key to Combat Intelligence*, 9.
[133] Schwein, *Combat Intelligence*, 10.
[134] Handel, *Masters of War*, 251.
[135] Keegan, *Intelligence in War*, 25.

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