Sherman and Nimitz: Executing Modern Information Operations

A Monograph

by

Major Ricky J. Nussio

United States Army

School of Advanced Military Studies

United States Army Command and General Staff College

Fort Leavenworth, Kansas

Second Term AY 00-01

Approved for Public Release; Distribution is Unlimited

REPORT DOCUMENTATION PAGE

1. REPORT DATE (DD-MM-YYYY)	2. REPORT TYPE	3. DATES COVERED (FROM - TO)
01-05-2001	monograph	xx-01-2001 to xx-05-2001

4. TITLE AND SUBTITLE Sherman and Nimitz: Executing Modern Information Operations Unclassified	**5a. CONTRACT NUMBER** **5b. GRANT NUMBER** **5c. PROGRAM ELEMENT NUMBER**
6. AUTHOR(S) Nussio, Ricky J. ;	**5d. PROJECT NUMBER** **5e. TASK NUMBER** **5f. WORK UNIT NUMBER**
7. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army Command & General Staff College School of Advanced Military Studies 1 Reynolds Ave. Fort Leavenworth , KS 66027	**8. PERFORMING ORGANIZATION REPORT NUMBER**
9. SPONSORING/MONITORING AGENCY NAME AND ADDRESS ,	**10. SPONSOR/MONITOR'S ACRONYM(S)** **11. SPONSOR/MONITOR'S REPORT NUMBER(S)**

12. DISTRIBUTION/AVAILABILITY STATEMENT
A
PUBLIC RELEASE

,

13. SUPPLEMENTARY NOTES

14. ABSTRACT
Information Operations has become a controversial subject in the US Army. Whether due to ignorance of actual employment techniques or reluctance to rely on non-tangible means, information operations are often only a ?check the block? consideration for military planners. Emerging US Army doctrine emphasizes the use of information operations, stating that in some situations they can be decisive operations. This monograph examines two historical examples of modern warfare for the possible application of modern information operation (IO) principles. The information operations principles found in Student Text 3-0, Operations (destined to become Field Manual 3-0, Operations), are used as evaluation criteria to determine if modern principles were applied in past campaign plans. Significant and relevant issues from these case studies suggest there are a variety of employment methods for information operations. The purpose of this monograph is to increase the knowledge, understanding and applications of IO concepts through the examination of two case studies of modern warfare. These case studies demonstrate that IO principles have been part of modern US military art since the mid nineteenth century. In studying past conflicts a greater understanding can be gained by future military planners of the use of IO.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
					Burgess, Ed burgesse@leavenworth.army.mil
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified	Public Release	47	19b. TELEPHONE NUMBER International Area Code Area Code Telephone Number 913 758-3171 DSN 585-3171

ABSTRACT

SHERMAN AND NIMITZ: EXAMPLES OF MODERN INFORMATION OPERATIONS by MAJ Ricky J. Nussio, USA, 47 pages.

Information Operations has become a controversial subject in the US Army. Whether due to ignorance of actual employment techniques or reluctance to rely on non-tangible means, information operations are often only a "check the block" consideration for military planners. Emerging US Army doctrine emphasizes the use of information operations, stating that in some situations they can be decisive operations.

This monograph examines two historical examples of modern warfare for the possible application of modern information operation (IO) principles. The information operations principles found in Student Text 3-0, *Operations* (destined to become Field Manual 3-0, *Operations*), are used as evaluation criteria to determine if modern principles were applied in past campaign plans. Significant and relevant issues from these case studies suggest there are a variety of employment methods for information operations.

The purpose of this monograph is to increase the knowledge, understanding and applications of IO concepts through the examination of two case studies of modern warfare. These case studies demonstrate that IO principles have been part of modern US military art since the mid nineteenth century. In studying past conflicts a greater understanding can be gained by future military planners of the use of IO.

TABLE OF CONTENTS

INTRODUCTION

During a briefing in February 2001, Colonel Robin Swan, Director of the School of Advanced Military Studies (SAMS), told the Advanced Military Studies Program (AMSP) students that the most difficult chapter to write for Student Text (ST) 3-0, *Operations*, had been Chapter Eleven on Information Operations (IO).[1] ST 3-0 is the latest revision of Field Manual (FM) 100-5, *Operations*, the United States Army's basic doctrinal manual. In developing new doctrinal principles for the Army, the writers of ST 3-0 found IO principles and concepts the most difficult portion of the manual to produce.

The term "information operation" is relatively new to the Army's lexicon of doctrine and strategies. The only doctrinal manual published by the Army devoted to IO is Field Manual (FM) 100-6, *Information Operations*, which is dated 1996. Though FM 100-6 is already five years old, it still presents many seemingly new and controversial concepts for US military forces to employ. Because of the many recent significant technological innovations in the areas of electronics, computers and telecommunications, many military planners consider IO to include only activities conducted using these technologies or using the electromagnetic spectrum.

The question arises as to whether the principles of IO are entirely new concepts or whether they have been applied in past military conflicts. Did IO play a role in General (GEN) William T. Sherman's "march to the sea" campaign during the US Civil War and Admiral (ADM) Chester W. Nimitz's Pacific campaign during World War II? The monograph will determine if the use of IO within these two historical examples

[1] Author's notes from SAMS Director's discussion with AMSP class on chapters nine and ten, 23 February 2001. The writing team responsible for ST 3-0 is part of SAMS and reports directly to COL Swan.

demonstrates that IO played a significant role in military operations long before the full exploitation of the electronic spectrum by military and communications technology.

In examining previous applications of IO as part of modern military operations, future military planners can increase their understanding of the potentially decisive benefits of IO. Because of their significance, it is imperative that military planners understand the principles of IO and incorporate them effectively into future campaigns to ensure the success of modern military operations. One way to gain experience and knowledge in synchronizing IO into military action is to study their successful application in past conflicts.

METHODOLOGY

The monograph will apply current IO principles to two historical case studies, GEN W. T. Sherman's "march to the sea" campaign (1864-65) during the US Civil War, and ADM C. W. Nimitz's Pacific campaign (1942-45) during WW II. The two case studies represent military campaigns executed at the low operational/high tactical level of warfare. The two campaigns were fought in significantly different timeframes, in different theaters, and with varied tactics and technologies. The separation of time, space, terrain, tactics, and technology suggests the existence of information operation concepts that span the joint spectrum of warfare and that are timeless in application. Examples of IO will be drawn from the two campaigns and compared to modern definitions outlined in ST 3-0. The evaluation criteria for the comparison will be the characteristics of IO as defined in Chapter Eleven, ST 3-0, *Operations*.

The initial task is to define the evaluation criteria used to examine the military actions conducted within the two case studies. In each case study, a brief historical summary will be presented to cover the campaign highlights and key events. Pertinent technological facts concerning the information environment of that particular case study's time period will also be covered. Finally, examples of IO will be identified in each case that meet the modern definitions found in ST 3-0.

ST 3-0 lists "information superiority" as the key principle of IO. Each case study will be examined to determine whether the principle of information superiority directly influenced the outcome of the respective campaign. Deception, operations security, physical destruction, psychological warfare, and information assurance are the other

evaluation criteria that will be examined in the same manner. A comparison will then be made of the two case studies in an effort to illustrate the early use of IO in the history of US military campaigns.

DEFINING INFORMATION OPERATIONS

ST 3-0, *Operations* is expected to be released by the Army as FM 3-0, the latest revision of FM 100-5, *Operations*. The intent of the new manual is to break away from the FM 100-5 doctrine that was designed to meet the challenges of the Cold War environment. The transition to FM 3-0 is a point of departure for basing the updated doctrine and tactics required by the new global security environment. The goal for FM 3-0 is to develop employment concepts for use within the US Army's transformation initiatives of the objective force described by the Chief of Staff of the US Army, GEN Eric Shinseki. ST 3-0, as the prototype for FM 3-0, recognizes the important role information plays within the new security environment.

According to ST 3-0, information is considered one of the five basic elements of combat power. "Information…allows the commander to combine the [other] elements of combat power in new ways."[2] Modern information collection and management systems enhance the Common Operational Picture (COP), which in turn allows the friendly commander to make qualitatively better decisions faster than the enemy commander. This process of information management is not limited to just tactical intelligence, but is applicable at the operational and strategic level as well. IO covers a wide spectrum of the information environment that includes the perceptions, thoughts and will of the enemy commander, of friendly and enemy soldiers, as well as of the governments and

[2] Department of the Army, *Student Text 3-0, Operations*, (Fort Leavenworth, 2001), 4-10.

populations on both sides of the conflict. The method of targeting and influencing these seemingly intangible factors is explained as part of the evaluation criteria.

Chapter Eleven of ST 3-0 is devoted specifically to IO design in support of full spectrum military operations. IO are considered enabling operations, usually in the areas of shaping or sustaining, but can be the decisive action in some types of military operations.[3] An important consideration in determining how decisive IO is going to be is highlighted by ST 3-0 in the discussion on information environment. "The information environment is the aggregate of individuals, organizations, or systems that collect, process, or disseminate information; also included is the information itself."[4] These environmental elements are interdependent. The alteration of one element can unintentionally impact others.

ST 3-0 also discusses consideration of the influence military operations have on the civilian information environment. Military actions can have a direct or indirect impact on national policy. Commanders at the operational level must consider the diplomatic, political and social situation and conditions while pursuing their military end state. [5]

The first criteria and primary concept within the IO chapter in ST 3-0 is information superiority. Information superiority is defined in ST 3-0 as "…the operational advantage derived from the ability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same."[6] Information superiority allows the commander to make better decisions

[3] Department of the Army, 11-0.
[4] Ibid., 11-3.
[5] Ibid., 11-3.
[6] Ibid,. 11-1.

faster than his enemy, causing the enemy to have to deal with multiple problems simultaneously. This dilutes or eliminates the enemy commanders ability to solve the initial problem, giving the friendly commander the initiative in the area of operations.

There are two forms of IO, offensive and defensive. "Offensive information operations are the integrated use of assigned and supporting capabilities and activities . . . to affect enemy decision makers or to influence others to achieve or promote specific objectives."[7] Defensive IO simply protects friendly command and control systems while denying the enemy critical friendly information. The elements that make up offensive and defensive IO include: deception, operations security, physical destruction, psychological warfare, and information assurance. These elements will be the remaining evaluation criteria used in examining the two case studies.

ST 3-0 defines deception as military activities and measures designed to mislead adversaries by manipulation, distortion, or falsification. This includes the employment of friendly forces directed against specified targets or enemy forces. The purpose of deception operations is to influence the enemy's situational understanding and to lead him to act in a manner that favors friendly forces.[8]

Operations security (OPSEC) efforts are designed to deny enemy access to information critical to the success of friendly military operations.[9] Other than routine unit functions such as camouflage and tactical dispersion, OPSEC includes security measures such as covering forces or counter reconnaissance missions that prevent the

[7] Department of the Army, 11-16.
[8] Ibid., 11-17.
[9] Ibid.

enemy from gaining information on friendly forces. The commander must decide what critical resources and force dispositions he must protect, and then take deliberate measures to prevent the enemy from gathering information about those elements.

Physical destruction applies combat power against information-related targets, including information systems and command posts.[10] The destruction of systems dedicated to gathering or transmitting information prevents the enemy commander from receiving information to improve his situational awareness. Physical destruction of command posts also includes the targeting of key leaders to disrupt enemy chain of command structures.

The element of psychological warfare encompasses all planned military operations that try to influence the actions of foreign adversaries by conveying selected information and indicators. The objective is to create behaviors that support friendly national interests and the mission of US forces. Psychological operations can be directed toward civilians as well as military forces in an effort to erode popular support for a military cause. Targets can be selected for destruction/interdiction based on their psychological impact on the enemy forces or civilians. Psychological operations are closely linked with deception, physical destruction, and other IO principles to create a perception of reality that supports friendly objectives.

Information assurance activities are designed to protect and defend friendly information systems and maintain their continuity of operations. Threats to information assurance include: physical destruction, denial of service, and capture of assets.

[10] Department of the Army, 11-17-18.

successful information assurance provides the commander with an enhanced degree of confidence that his information systems are reliable and available.[11]

In summary, the evaluation criteria to be applied to the two historical case studies includes the employment of the following in the operations plans: gaining information superiority, deception, OPSEC, physical destruction, psychological warfare, and information assurance. These characteristics reflect the latest doctrinal thoughts concerning IO within US Army doctrine. Each criterion will reflect technological or historical nuances specific to the time period of the operation but, as will be shown, the underlying principles will remain constant.

[11] Department of the Army, 11-17.

SHERMAN'S MARCH TO THE SEA

With the benefit of historical hindsight, a casual observer may note that in September of 1864 the Union was well on its way to winning the Civil War. In 1863 GEN Ulysses Grant succeeded in regaining control of the Mississippi River and splitting the Confederacy in half. In the summer of 1864 GEN Sherman outmaneuvered GEN Joseph E. Johnston in northern Georgia and succeeded in capturing Atlanta by the fall. Yet the war was far from over. Along the eastern seacoast, GEN Robert E. Lee had forced a stalemate with the Army of the Potomac after three years of fighting. President Abraham Lincoln and his advisors were worried about the approaching fall elections and about the efforts of those who wanted an end to the war without re-unification of the Union.[12] The Democratic Party was closely monitoring the military situation in the summer of 1864 and developed a peace platform to oppose Lincoln. Some observers predicted a Democratic victory in the approaching elections.[13] Pressure was mounting on the Union leadership to deliver a final blow to the South that would end the war.

From the Southern perspective, in the late summer of 1864 there was still hope of victory and the desire to continue the fight against the Union. Southern leaders urged continued resistance and considered some type of negotiated settlement favorable to Southern terms. The desire to resist remained strong in many parts of the South that had not yet been directly affected by combat operations. Confederate GEN J. B. Hood

---

[12] Glatthaar, Joseph T, *The March to the Sea & Beyond*, (New York: New York University Press, 1986), 1-4.

[13] Hattaway, Herman & Jones, Archer, *How the North Won*, (Chicago: University of Illinois Press, 1991), 624.

summarized these intentions in a note he sent to GEN Sherman on September 12, 1864, following the capture of Atlanta. He wrote:

> You [GEN Sherman] say, "Let us fight it out like men." To this my reply is – for myself, and I believe for all the true men, women, and children, in my country – we will fight to the death! Better die a thousand deaths than submit to live under you or your Government and your Negro allies![14]

To combat this entrenched Southern will, Sherman recognized the need to directly assault the will of the Confederacy. "If the people raise a howl against my barbarity and cruelty, I will answer that war is war, and not popularity seeking. If they want peace, they and their relatives must stop the war."[15]

With the mission to break the Confederate will, Sherman began his famed "march to the sea" in November, 1864. Sherman ordered his acting quartermaster, Amos Beckwith, to send all sick and wounded personnel to the rear, beyond Chattanooga. The only supplies to be brought forward would be those that could be loaded upon trains, and nothing of value was to remain in Atlanta. In Sherman's own words, "I propose to abandon Atlanta, and the railroad back to Chattanooga, to sally forth to ruin Georgia and bring upon the sea-shore."[16]

Sherman commanded the Union Army of Tennessee, consisting of four corps totaling about 60,000 men. Sherman purposely broke his lines of communications (LOCs), both rail and telegraph, to conserve his fighting strength and to gain the initiative and freedom of movement. He expected to only move forward, never having the requirement to guard stationary LOCs. He divided his Army into two wings and planned

[14] Sherman, William T, *Memoirs of General William Tecumseh Sherman*, ed. Charles Royster, (New York: The Literary Classics of the United States of America, 1990), 598.
[15] Ibid., 585.
[16] Ibid., 634.

his route to march between Macon and Augusta aimed toward Savannah. At Savannah he would link with the Union Navy. Along the way Sherman's units would "…forage liberally on the country during the march,"[17] render rail lines unusable, and capture or destroy Southern military resources. The purpose was to deny the means and resources to continue further resistance not only to the Confederate military, but also to the civilian population. The capture of Savannah would also deny the South the use of one of their few remaining port cities as well as cut vital coastal railroad access.

Sherman's army moved about fifteen miles per day, reaching Savannah around December 10, 1864. At Savannah, Sherman reestablished contact with GEN Grant, providing him a summary of his actions over the past thirty days and reporting on the current state of the Army of Tennessee. Following a brief siege, Savannah surrendered and Sherman occupied the city. On December 22, Sherman sent President Lincoln a telegram that read: "I beg to present you as a Christmas-gift the city of Savannah, with one hundred and fifty heavy guns and plenty of ammunition, also about twenty-five thousand bales of cotton."[18]

Sherman departed Savannah in February, 1865, and headed towards Columbia, South Carolina, inflicting the same liberal foraging and destruction upon the state which had started the rebellion. He continued on toward Fayetteville, North Carolina, and fought the last major engagement of the Civil War near Bentonville. On April 26, 1865, Sherman accepted the surrender of Confederate GEN Johnston's Army near Durham, North Carolina.

[17] Sherman, 652.
[18] Ibid., 711.

GEN Sherman operated in a typical information environment for his time. During his Atlanta campaign, Sherman relied on the telegraph to contact GEN Grant, his superior commander.[19] The electric telegraph had been in use throughout the country since the 1840s with access available in many medium-sized towns.[20] As long as these lines were maintained, command and control was significantly enhanced. Eventually, portable telegraph systems, transported by wagon, were emplaced to gain access to wire communications at forward tactical field locations.[21] Most of Sherman's messages to his subordinate units were handwritten and sent by courier, some of which were copied verbatim into his memoirs.[22] Newspapers played an important role in keeping the local population informed of the current situation. In some cases, the Confederates tried to organize resistance to GEN Sherman's army by newspaper.[23]

Additionally, railroads served as vital lines of communications for both the Union and the Confederacy. Telegraph lines often followed railroads. The rail junctions tended to be urban centers that also served as logistic bases or industrial production facilities. Most of the major operations of the war were directed along rail lines or toward major rail junctions. The armies of both sides not only depended on the railroads for their supplies, but also sought to deny rail line use by their enemies.[24] It was along these rail lines of communications that Sherman planned his march to the sea.

---

[19] Sherman continuously refers to his use of telegraph communications to contact GEN Grant in his memoirs.
[20] Jones, Archer, *Civil War Command and Strategy: The Process of Victory and Defeat*, (New York: The Free Press, 1992), 39.
[21] Griffith, Paddy, *Battle in the Civil War*, (Surrey: Field Books, 1986), 10.
[22] Sherman included copies of his orders and correspondences into his memoirs as source documents to describe the events that occurred throughout the Civil War.
[23] Sherman copied three examples in his memoirs of orders from Confederate leaders published in newspapers to resist his advance. Sherman, 665-666.
[24] Gabel, Christopher R., *Railroad Generalship: Foundations of Civil War Strategy*, (Fort Leavenworth: Combat Studies Institute, 1997), 9-11.

Sherman's march to the sea was designed to execute the principle of information superiority, not only at the operational level by seizing the port of Savannah, but also at the tactical operations. In capturing Savannah, Sherman denied Confederate use of a key rail-sea communications center while reopening his own LOCs. At the tactical level, Sherman employed smaller units to execute information superiority missions.

During his march to the sea, Sherman decided his army would exist off the land. He maneuvered his forces along a distributed route, sometimes as wide as sixty miles, so his troops could liberally forage from the land. His foragers accomplished several tasks besides providing supplies for their units, including protection for the main body and denying information to the Confederates while collecting information for Sherman's Army. Operating as much as thirty miles from the main body, Sherman's foragers:

> . . . were notorious for seizing key towns or railroad junctions and holding them stoutly until reinforcements arrived or for picking up important information from locals on Confederate plans or whereabouts and riding through hostile territory to report the news at headquarters.[25]

Foragers employed information superiority in a crude sense by gaining information while simultaneously denying information to the enemy regarding friendly force dispositions.

Sherman used deception to confuse Confederate defenders and tie up Southern resources. He avoided the larger cities of Macon and Augusta, instead marching between them toward Milledgeville. While the Confederates prepared defenses around these important urban centers, Sherman drove between them, cutting the rail lines connecting them and avoiding engagement. Though the cities could not have adequately defended themselves against Sherman's army, the Confederates prepared for a siege that never happened, diverting scarce resources that would have been better employed elsewhere.

---

[25] Glattthaar, 121-123.

Sherman's deception led to an almost unopposed march to Savannah, his primary objective.[26]

Foragers provided OPSEC by creating space between the main body and overt Confederate intelligence gathering elements. In an effort to supply an army of 60,000, the foragers had to disperse across a wide area, far from the main body and other competing foragers. This daily presence of soldiers operating far from the main body provided additional security. One Missouri colonel insisted they were always in advance of the army and often "…more valuable than cavalry in protecting our front and flanks."[27]

The most obvious element of IO employed by Sherman was that of physical destruction. The Confederates estimated his railway engineer regiment destroyed or damaged about 138 miles of rail line between Atlanta and Savannah. Sherman's army permanently severed GEN Lee's LOCs connecting his army from subsistence and ordnance facilities in Georgia for the remainder of the war.[28] Additional informational targets included cutting telegraph lines and destroying telegraph stations throughout Georgia and the Carolinas. However, though Sherman's army destroyed significant portions of the Confederate infrastructure and capabilities to support the war effort, the greatest impact of his march was on the Confederate psyche.

Probably the most significant element of IO employed by GEN Sherman was his use of psychological warfare. Sherman had been exposed to the secessionist movement as a junior military officer while assigned in the South serving in cities such as

[26] Hattaway, 642.
[27] Glattthaar, 123.
[28] Hattaway, 655-656.

Charleston, South Carolina; Mobile, Alabama; and Alexandria, Louisiana. During these assignments Sherman had the opportunity to travel throughout the Southern states and made many close contacts with prominent and established Southern citizens.[29] Sherman knew the strong will and resilience of the Southerners and how much they were willing to resist the North in a war. Sherman even cautioned President Lincoln at the beginning of the war that the North underestimated the will of the South. Much to his dismay, Sherman felt the administration and the "nation did not recognize the seriousness of secession and was not making preparations to deal with it."[30]

In developing his concept for the march to the sea, Sherman linked the capture of designated military targets with the corresponding psychological outcome on the will of the Southern people. Sherman's concept of operation involved little planned combat, but instead focused on the destruction of infrastructure required for continued resistance. His aim was to physically divide the Confederate forces and wage a resource war against the citizens supporting the war effort. He wanted to leave a mental as well as a physical impression on the secessionists regarding the unsuitable results of continued resistance. He essentially intended to bring the war to them. Sherman stated:

> The objective was not only to destroy resources needed for the confederate military effort but also to 'illustrate the vulnerability of the South.' They don't know what war means; but when the rich planters . . . see their fences, corn, hogs, and sheep vanish before their eyes, they will have something more than a mean opinion of the Yanks.[31]

Sherman's plan aimed to strike the seemingly safe areas of the South that had been spared the ravages of the war. Central Georgia and the Carolinas had seemed

---

[29] Hart, B. H. Liddel, *Sherman*, (New York: Da Capo Press, 1993), 62-63.
[30] Marszalek, John F., *Sherman: A Soldier's Passion for Order*, (New York: The Free Press, 1993), 141.
[31] Beringer, Richard E., Hattaway, Herman, Jones, Archer, & Still, William N. Jr., *Why the South Lost the Civil War,* (Athens: University of Georgia Press, 1986), 329.

impregnable up until 1864. Large-scale union operations in the heart of the South were intended to have a demoralizing effect upon the Confederates' will to resist.[32] "The possession of the Savannah River is more than fatal to the possibility of Southern independence. They may stand the fall of Richmond, but not all of Georgia."[33]

The use of foragers was part of the terror campaign behind the "march to the sea." As foragers stripped the local area of resources, they reinforced the idea of the destructive capability of the Federal Army and left a lasting impression on the people of the South. The purpose of the foraging activities, beyond satisfying Army support requirements, was to leave local residents with the idea that this type of destruction could come again as the result of any future attempts at secession. The aim was to suppress any ideas of future resistance by making the costs greater than any anticipated gains, costs not just to the army or government of the confederacy, but also to the people upon whom Confederate institutions derived their support. The campaign needed to be painful and to strike fear into the people of the South so they would never forget and never rise up in rebellion again.

Sherman tied the commencement of his operation with the November 1864 elections and Lincoln's reelection. Keeping President Lincoln in the White House signaled a continued commitment to the prosecution of the war by the northern people. This commitment tied the military objective into the political-informational realm that threatened Confederate President Jefferson Davis' promise of protection for all citizens

[32] Beringer, 329.
[33] Sherman, 589.

from Union attacks.[34] Sherman's march to the sea was "…aimed as much at the Confederate's morale as at her railroads and granaries."[35]

Sherman engaged in total war and aimed his efforts more at the population's will than at military targets. The effectiveness of his campaign can be measured in a variety of ways, but the most accurate method will be to examine his targets, the people of the Confederacy. Civil War historian Frank Vandiver commented: ". . . communities from Texas to Virginia swear that Sherman's army marched through them."[36] This statement is an indicator of the enormous psychological impact his campaign had throughout the South.

The true impact of Sherman's march was not in denying supplies to the Confederate forces. The main forces within the Confederate Army remained adequately supplied until the end of the war. The major effect was on the psychological attitude of Confederate political leaders and soldiers, and of the people of the South. The Confederacy had to be shown forcefully that continued resistance was futile and would exact a more severe toll than they were willing to pay.[37] Confederate President Davis suggested at the end of the war that the Confederate army could now move to the guerrilla stage, that "we have entered upon a new phase of the struggle."[38] The success of Sherman's campaign was demonstrated when neither the people nor the military leadership supported further resistance.

[34] Beringer, 435.
[35] Ibid., 329.
[36] Glatthaar, xiii.
[37] Beringer, 435-6.
[38] Hattaway, 675.

Sherman employed psychological warfare in his campaign plan by attacking the attitudes and will of the Southern people and soldiers. He had established a distinct target group as he marched toward the sea, that target being the people of the South. Sherman's actions caused desertions and an unwillingness to continue further resistance because of the destruction and hardship endured by the civilian population of the core secessionist states. In a one-month period in early 1865, GEN Lee lost almost ten percent of his army to desertion, most from Georgia and other states threatened by Sherman's raid.[39] The effectiveness of Sherman's march can be measured in the increase in Confederate soldiers from Richmond deserting to head home and protect their property and families in the line of Sherman's advance.[40]

The level of intensity of destruction was increased when Sherman's army reached South Carolina, the first state to secede from the Union and the first to initiate hostilities against the Union in the 1861 attack against Fort Sumter. South Carolina was viewed as the birthplace of the rebellion. Consequently, Union soldiers exacted a tougher toll on the inhabitants and their possessions. Some authors and historians consider it revenge by the Union, but Sherman's campaign plan called for destruction that was aimed at the source or inspiration for secession. If the rebellion had started there, then the lesson must be applied more harshly there than in other locations to reinforce Sherman's message to the people that the source of any resistance would face the most intense retribution.[41]

Sherman's campaign included efforts to protect and defend his communication systems, what ST 3-0 would refer to as information assurance. Sherman encountered

[39] Hattaway, 671.
[40] Williams, T. Harry, *McClellan, Sherman, and Grant*, (Chicago: Rutgers University Press, 1962), 75.
[41] Wheeler, Richard, *Sherman's March*, (New York: HarperCollins Publishers, 1978), 140.

significant difficulty during his campaign for Atlanta in maintaining his lines of communication. The continuous maneuvering by GEN Johnston and GEN Hood constantly threatened and, from time to time, cut his lines of communications.[42] The situation was more than just a logistical nuisance for Sherman. The constant attention he was forced to pay on his rearguard actions robbed him of the offensive initiative he wished to maintain. Furthermore, "Sherman noted that if he held his communications, he would 'lose a thousand men monthly,' without any appreciable results." [43]

In his next operation, the "march to the sea," Sherman sought to alleviate the information assurance burden by intentionally severing his LOCs. Though generally unthinkable to a military commander, Sherman's action actually protected his force by denying the enemy the ability to influence his decision-making cycle. Sherman stated,

> Hood can constantly break my road. I would infinitely prefer to make a wreck of the road and of the country from Chattanooga to Atlanta, including the latter city; send back all my wounded and unserviceable men, and with my effective army move through Georgia, smashing things to the sea. Hood may turn to Tennessee and Kentucky, but I believe he will be forced to follow me. Instead of being on the defensive, I will be on the offensive. Instead of my guessing at what he means to do, he will have to guess at my plans.[44]

Sherman's concept of operations gave him several benefits. First, he regained the initiative lost while remaining rather stationary around Atlanta. Second, and most importantly, he dictated the direction of his operation versus reacting to the enemy maneuvers and intentions. Sherman gained the initiative over Hood, imposing his own desires regardless of Hoods actions. The only way Hood could stop Sherman would be to overtake him from the rear. Severing his LOCs actually economized Sherman's force by

[42] Beringer, 325-6.
[43] Ibid., 329.
[44] Sherman, 629.

reducing requirements to protect extended LOCs, demonstrating that one way of protecting LOCs is by not having any.

Sherman clearly understood the link between his operational objectives and the political end state of the war. Sherman commented that his ". . . movement is not purely military or strategic, but will illustrate the vulnerability of the South."[45] His aim was to make an indelible mark upon the leadership and people of the South. Sherman's march to the sea was a deliberate attempt to influence the information environment of the South. ST 3-0 concurs with Sherman as it states the ". . . operational commanders consider more than the military conditions of the end state of a campaign. They consider the comprehensive diplomatic, political, and social aspects of it as well."[46]

Sherman is considered the first general to engage in modern warfare. He sought to end the war by defeating the will of the enemy rather than by attritting forces or denying resources. In a democracy, military power remains dependant on the strength of the popular will that is in turn dependant on economic and social security. By attacking the popular will at its foundation, Sherman effectively defeated the Confederate armies.[47]

[45] Hattaway, 641.
[46] Department of the Army, 11-3.
[47] Hart, 429-430.

NIMITZ'S PACIFIC CAMPAIGN

Following the Pearl Harbor raid and the subsequent relief of ADM H. Edward Kimmel, ADM Chester Nimitz was selected to lead half of the US forces in the Pacific Theater of Operations (PTO). The Japanese had successfully expanded their control into the Southern Pacific, seizing many allied possessions and territories and threatening to cut off the sea LOCs between Australia and the US. Though the military situation in the PTO was grave it was not beyond hope. Most of the essential military facilities such as dry docks and oil storage tanks at Pearl Harbor had not been damaged. None of the aircraft carriers in the fleet had been damaged and the US had successfully broken Japanese diplomatic and military codes.

Nimitz began immediate planning to execute War Plan Orange; the contingency plan developed over thirty years by the US to counter possible Japanese aggression in the Pacific. The campaign plan involved a three-phase operation. Phase one would be to halt Japanese expansion and seize outer perimeter islands in the western PTO for use as staging bases. In phase two, US forces would seize the major islands groups in the far west to isolate Japan. Phase three involved actual operations against the Japanese home islands. Nimitz followed the conceptual framework of the war plan, occasionally choosing to select some different target islands and objectives based upon the tactical and operational situation.[48]

[48] Miller, Edward S, *War Plan Orange*, (Annapolis: Naval Institute Press, 1991), 337-339.

Nimitz's first major engagement was to halt the Japanese advance on New Guinea by preventing their seizure of Port Moresby. This effort resulted in the naval battle of the Coral Sea in May 1942. Shortly afterward Nimitz directed his carrier forces in the critical battle off Midway Island in June 1942. This engagement marked the apex of Japanese expansion and the US transition to the offense for the remainder of the war in the PTO. Nimitz then began seizing island groups, first in the Solomon Islands chain (Guadalcanal), then the Gilberts (Tarawa), the Marshals (Kwajalein), the Marianas (Saipan), and finally the islands off Japan itself (Iwo Jima and Okinawa).

Of major significance to the information environment of Nimitz's time was the use of cipher codes. Successful attempts to break the Japanese code system date back to the 1921 Naval Conference held to discuss surface ship limitations in the post World War I world.[49] Through the years leading to World War II, the US devoted significant resources into breaking Japanese diplomatic and military codes, including language training in Japan. Throughout the 1920's and 1930's, some of Nimitz's future intelligence leaders gained their expertise in Japan.[50]

The effort to decipher Japanese codes led to several nicknames for the process. The Japanese diplomatic signals were encoded on a machine that was eventually called "Purple". The raw data acquired through deciphering transmissions from the Purple machine was referred to as " Magic". The intelligence gained from processing the Japanese message traffic was referred to as "Ultra" intelligence, not be confused with the

[49] Lewin, Ronald, *The American Magic: Codes, Ciphers, and the Defeat of Japan*, (New York: Random House, 1982), 21-23.
[50] Ibid., 28.

Ultra intelligence gained from the German enigma machine in the European theater of operations. [51]

The Pearl Harbor intelligence unit was called Fleet Radio Unit Pacific (FRUPAC). It was a subordinate unit of the Washington, DC-based OP-20-G, a unit of the Office of Naval Intelligence that specialized in cipher intercept and decoding. FRUPAC had set to work on breaking the Japanese Navy (JN) code known as JN25.[52] The intelligence units trying to break the code rarely deciphered entire messages. They gained most of the translation of the message from knowledge of the enemy's order of battle, direction finding of the transmission source, and previous intelligence. One of Nimitz's intelligence staff officers estimated at best his intelligence unit deciphered, on average, about fifteen percent of any message.[53]

Two individuals stood out amongst the many others who served in the intelligence gathering organizations: Lieutenant Commander Joseph J. Rochefort, the leader at FRUPAC and Fleet Intelligence Officer Commander Edwin Layton. They had met each other while stationed in Japan in 1929 as part of the US Navy program to study the Japanese language and customs, and had remained close friends.[54] Layton had impressed Nimitz with his knowledge of not only the Japanese language, but also of the Japanese psyche and decision-making process. Nimitz instructed Layton to always think and act as Admiral Nagano, the Chief of Japan's Naval Staff, and "...as such, keep Nimitz informed of the Japanese Navy's strategic concepts, plans and operations."[55]

---

[51] Paret, Peter, Ed., *Makers of Modern Strategy*, (Princeton: Princeton University Press, 1986), 729.
[52] The codes were numbered starting with JN1 after the first code was broken in the 1920s. Subsequent numbers followed when the Japanese changed the code and it was broken. Lewin, 85.
[53] Ibid., 89-90.
[54] Potter, E. B, *Nimitz*, (Annapolis: Naval Institute Press, 1976), 79.
[55] Ibid., 79-80.

During the battle of Midway, Nimitz confidently relied on the information warriors on his staff. At a time when many underestimated or questioned the value of FRUPAC, Nimitz demonstrated his faith in their ability to intercept and accurately decode Japanese information and future intentions. One of Nimitz's peers, GEN MacArthur, was skeptical of the accuracy of the intercepted information. Others were concerned the Japanese were using the information to draw US forces into battle at the Japanese time and place of choice. However, Nimitz had already demonstrated his willingness to rely on new technology based on his exposure to the value of the submarine, a relatively new and technologically advanced weapon system.

Nimitz had started his career as a submarine officer. He understood and recognized the impact a new technology may have on the battlefield and was therefore more willing to rely on things with which he may have been unfamiliar. He trusted the intercepts and the authenticity of the information produced while GEN MacArthur often ignored the intercepts or dismissed their importance.[56] Nimitz trusted the FRUPAC technology and personnel with the same confidence he had as an early submarine officer.

Nimitz demonstrated the operational advantage of information superiority through his application of intelligence gained through FRUPAC. The indicators provided that led to the Battle of the Coral Sea strengthened Nimitz's belief in his intelligence apparatus at Pearl Harbor. FRUPAC estimated Japanese intentions that in May 1942, the Japanese would strike at Port Moresby with the intention of basing aircraft and ships there to strike Australia and sever the sea LOCs with the US. FRUPAC linked together several partially decoded messages, made some calculated deductions, and presented their findings to

[56] Lewin, 176-181.

Nimitz. Nimitz believed in his staff and ". . . one must therefore recognize Nimitz's nerve, and good sense, in allowing Rochefort's assessments and indicators to guide his dispositions. . . much credit must also be given to the sound judgment of Fleet Intelligence Officer Edwin Layton."[57]

For the Battle of Coral Sea, Nimitz had all the information he needed to make a qualitatively better decision than the Japanese. He knew he could only bring two of his aircraft carriers to bear against the Japanese invasion forces; his other two carriers were recovering from the Doolittle raid on Tokyo. He knew the Japanese were about to land at Port Moresby and had two heavy and one light aircraft carriers. Nimitz skillfully positioned his two available carriers to respond to the Japanese force and was able to sink one carrier and damage another. Nimitz's surface forces suffered about the same losses in shipping, thus making the battle appear to be a tactical draw. However, from an operational view, the Japanese postponed and eventually cancelled the landings at Port Moresby, ending their attempts to sever the LOCs between the US and Australia for the remainder of the war.[58]

During an intelligence update on 24 May, Nimitz pressed Layton for details concerning the Japanese attack on Midway. Layton responded ". . . the carriers will probably attack Midway on the morning of the 4th of June . . . from the northwest on bearing 325 degrees and they will be sighted at about 175 miles from Midway. . . ."[59] Some of Layton's predictions were very accurate. When the initial sighting of the Japanese carriers was reported from a reconnaissance aircraft on 4 June on bearing 320

[57] Lewin, 93.
[58] Potter, 93.
[59] Prados, John, *Combined Fleet Decoded*, (New York: Random House, 1995), 321-322.

degrees at a distance of 180 miles, Nimitz remarked to Layton he was "…only five miles, five degrees, and five minutes off."[60]

Additionally, the use of Ultra and Magic Summaries to guide US submarines against Japanese shipping produced dramatic effects. Nimitz was an early advocate and visionary when describing the potential of the submarine. In 1912 he said: "The steady development of the torpedo together with the gradual improvement in and the size, motive power and speed of submarine craft of the near future will result in a most dangerous offensive weapon."[61] However, the submarine could only be an effective weapon when guided by good intelligence, the vital information that focused its attack. Since the ocean was too vast and the targets too small to focus a directed submarine effort against Japanese shipping, information superiority was critical to successful submarine operations. Without information superiority, the US would have required an improbable number of submarines to maintain effective patrol stations. The information gained from the Ultra and Magic Summaries sometimes listed the names, cargoes, and type of escorts, routes and even the expected daily noontime positions. This critical information enabled naval planners to launch scarce submarines with limited range capabilities to specific intercept points, often to guaranteed targets.[62]

In one of the islands campaigns, information superiority played a key role with decoded messages being used to aim Nimitz's operations at a specific enemy weakness. Following the first resisted amphibious assault of the war on Tarawa, Nimitz sought to

[60] Potter, 114.
[61] Lewin, 218.
[62] Ibid., 224-225.

locate his next target at a relatively undefended island.[63] In a strategy session concerning the assault on the Marshall Islands, Nimitz asked for recommendations from his top commanders. From a geographic standpoint, Kwajalein Atoll dominated the region. Air reconnaissance indicated the Japanese had built airfields and strengthened their defenses. All his Navy and Marine subordinate commanders recommended other targets, specifically reorienting to the Outer Islands. But Ultra intelligence reports indicated the Japanese were sending reinforcements from Kwajalein to the perimeter islands. Using daily personnel reports, Layton was able to confirm Kwajalein's relative weakness compared to the surrounding islands. Against the recommendations of his subordinates and armed with a confirmed enemy order of battle, Nimitz ordered the assault and seized the island with relatively few losses.[64]

Following the Battle of Coral Sea, Nimitz employed deception techniques to guarantee success in the battle of Midway. With the Japanese believing they had sunk the carriers *Lexington* and *Yorktown* in the Coral Sea, Nimitz sent his two other carriers, the *Hornet* and *Enterprise*, toward the Solomon Islands to lead the Japanese to believe all remaining US aircraft carriers were in the South Pacific.[65] In the Japanese minds, this situation opened up the Central Pacific to their invasion force headed to Midway.[66] Nimitz reinforced this deception through electronic means. In early June he had a US cruiser in the Coral Sea to continue broadcasts on ". . . frequencies normally assigned to

[63] Nimitz was criticized by military and civilian leaders because of the high casualty rate suffered by US Marines during the amphibious assault of Tarawa.
[64] Lewin, 194-196.
[65] The Hornet and Enterprise were returning from the Doolittle raid and were unavailable for the Coral Sea action. Once in the Solomon area, the carriers went back to Pearl Harbor to prepare for the Midway engagement.
[66] Potter, 94.

carrier air groups. . .” to make the Japanese believe that the US carriers *Hornet* and *Enterprise* were still operating in the South Pacific.[67]

To successfully carry out the deception involving the location of US carriers, OPSEC was vital in allowing Nimitz to prevent the Japanese from detecting his carrier force as it left Pearl Harbor. FRUPAC identified a refueling point that Japanese reconnaissance seaplanes had been using to extend the range of their air patrols from the Marshall Islands. The Japanese would dispatch tanker-submarines to a rendezvous point called French Frigate Shoals. The planes would refuel and continue their reconnaissance toward Pearl Harbor. Nimitz ordered the area to be patrolled, denying Japanese access to the site for refueling, and thus denying reconnaissance information about the departure of his carrier task forces from Pearl Harbor. Additionally, Nimitz ensured his carriers left port before the Japanese submarine screen for the Midway invasion fleet was able to reach positions off the Hawaiian Islands.[68]

Nimitz considered physical destruction of information-related targets, to include the elimination of key Japanese leaders. On April 13, 1943, Allied radio intelligence intercepted a message carrying the travel itinerary of Admiral Yamamoto. The detail in the message listed flight and ground schedules and included what type of fighter escort would be provided. Major Red Lasswell of FRUPAC broke the coded message. The decision of what to do with the information was left to Admiral Nimitz. Nimitz consulted Layton as to what the ramifications would be if Yamamoto were removed. They considered that he might be replaced with a better commander, and Nimitz felt familiar with Yamamoto as his opponent. Layton felt nobody could adequately replace

[67] Potter, 108.
[68] Ibid., 109.

Yamamoto, and based on this opinion Nimitz gave Admiral Halsey the authority to carry out the intercept of Yamamoto's aircraft. On 18 April, a flight of P-38 fighters with specially selected pilots and equipped with long-range fuel tanks shot down Yamamoto's aircraft, killing one of Japan's top naval leaders.[69]

While he did not conceive the operation, Nimitz supported the Doolittle raid on Japan for its psychological effect on the Japanese people and for its boost to US morale. Nimitz's subordinate, ADM William "Bull" Halsey, was assigned the task of carrying out this risky mission. The *USS Hornet* would carry sixteen B-25 medium bombers close enough for them to strike Japan and fly to China. After launching the aircraft, the ship would return to Pearl Harbor. Another carrier, the *Enterprise,* would provide air cover as the *Hornet* carried only the bombers. Nimitz weighed the risk involved and chose to proceed with the operation.

The residual effect of the raid was more psychological than tactical. Though only minor damage was inflicted on Tokyo by the bombing, it was the first time the Japanese homeland and people had been attacked. Doolittle's raid struck directly at the Japanese psyche by bringing dishonor to the Japanese Navy. Aircraft launched from US carriers the Imperial Navy should have destroyed at Pearl Harbor had attacked the Japanese Empire. The raid forced the conservative Japanese naval planners to accelerate their timetables in their efforts to destroy the US carriers.[70] This led to increased communications between stations to rearrange timetables and ship schedules, leading to increased intercepts by US intelligence.[71]

---

[69] Prados, 459-460.
[70] Lewin, 96.
[71] Prados, 293-294.

Nimitz employed information assurance by limiting the number of people who knew about the ability to break and decode JN 25. When distributing the intelligence to the fleet, the information was scrubbed to prevent any potential interpretation that the US was reading the Japanese codes. The island of Midway provides an example of how carefully coded information was confirmed. In their message traffic, the Japanese had stated AF was their primary target for an attack. To guarantee the accuracy of the deciphering of the Japanese code, and to substantiate the conjecture that AF was the code name for Midway Island, FRUPAC dispatched a false report that a Midway Island freshwater pump had broken. In subsequent message traffic the Japanese reported AF's freshwater pump was broken, confirming FRUPAC had positively identified the Japanese main objective.[72]

To further safeguard the knowledge that the US had broken Japanese codes, Nimitz sent a task force to meet the Japanese deception assault on the Aleutians Islands. He sent a small unit of cruisers and destroyers under ADM Robert A. Theobald to oppose the Japanese landings that had turned up in the Ultra intelligence. The Japanese landings were meant to draw US naval resources away from Midway. Though intelligence indicated it was a deception attempt, Nimitz had to react to the Japanese assault to avoid the Japanese becoming suspicious the US was reading their message traffic.[73]

ADM Nimitz fully embraced and exploited IO. He capitalized on the intelligence gained through the code breakers, giving him unquestionable information superiority and confidence that his transmissions were secure. The following statement emphasizes the accuracy of Nimitz's information superiority: ". . . errors about the state of the Japanese .

[72] Freshwater was necessary to make concrete that would be used to repair runways.
[73] Potter, 99.

. .were most likely to occur if the Americans themselves had miscalculated." [74] There were times when Nimitz knew more about the Japanese than they knew of themselves.

GEN George C. Marshall, US Army Chief of Staff, emphasized the importance of the Midway code intercepts on the operation. With the precise knowledge of the Japanese Fleet's intentions and location "…we were able to concentrate our limited forces to meet their naval advance on Midway, when otherwise we almost certainly would have been some 3,000 miles out of place."[75] In the Battle of Midway, a smaller US Naval force defeated a larger Japanese naval force. "Midway was won by the narrowest of margins – ten bombs in ten minutes – but it was not an accidental victory. It was rooted in sound intelligence."[76] The margin of victory in the Pacific was provided by Nimitz's exploitation of the information environment.

[74] Lewin, 262.
[75] Ibid., 10.
[76] Overy, Richard, *Why the Allies Won*, (New York: W. W. Norton & Company, 1995), 43.

COMPARISON AND ANALYSIS

GEN Sherman's "march to the sea" and ADM Nimitz's Pacific campaign bear some significant similarities. Both were designed along or against communications lines of operations, suggesting that campaign design in modern warfare must incorporate the targeting and protection of communications. This requirement becomes even more emphatic as rapid advances in information technology change the way a commander must fight. The two case studies also indicate the potential decisiveness of IO in a military campaign.

In both campaigns, IO played a prominent role. While the South was in a deteriorating military situation in 1864, the strategic/political situation was uncertain. Overtures were being made by the Confederate leadership to negotiate a settlement without reunification of the Union. Sherman sought to deliver a final blow to the Confederacy and its secessionists. While Sherman's march is credited with destroying many valuable resources, it was the psychological impact in the information environment that produced the most dramatic effects. Sherman's march increased the desertion rate, magnified President Davis' hollow promises of protection, and further eroded the will of the Southern population, ultimately leading to the collapse of the Confederacy.

Nimitz's "miracle at Midway" was not luck. By exploiting the elements of information operations, including information superiority, deception, OPSEC, and information assurance, Nimitz won a decisive victory in his pacific campaign. He set the stage for Midway at Coral Sea, checking the Japanese advance on Port Moresby and

deceiving the Japanese into believing all remaining US carriers were in the South Pacific. He then struck the Japanese main effort at Midway, sending a smaller force to engage the Japanese feint in the Aleutians. Nimitz was able to concentrate his naval forces in time and space by skillfully exploiting the information superiority he had achieved over the Japanese. Nimitz was able to adroitly employ information superiority to achieve temporary numerical equality in forces and eventually numerical superiority in the PTO.

While it is difficult to examine either case study and prove definitively that IO was the decisive element in the campaign, the fact remains that IO played a prominent role in decisive operations for both campaigns. In each case study the commanders were personally involved in the selection of targets for their military operations. Sherman and Nimitz personally analyzed targets and how their destruction or seizure would impact the information environment. The final analysis of both commanders included not only the tactical benefits of stated objectives, but also the effect a selected target would have on the operational and strategic situation, as well as on the overall end state of the campaign.

In his personal analysis of the strength of the Confederacy, Sherman understood the link between Confederate combat power and the Southern population's support for the war. Without the support of the people for continued resistance against the Union, the war would end. Sherman identified Southern support for the war effort as the Confederate center of gravity and decided to leverage physical and psychological means against the Southern will to resist. In denying resources to the Southern populace and threatening their security, Sherman reduced their ability and their will to resist.

Sherman used intangible means, psychological warfare, to leverage directly against the enemy's center of gravity, the will of the Southern people. His target was

something intangible, as was the means he employed to attack it. While he denied them tangible items, such as their food supplies, animals, and infrastructure, the intended effect was upon their psyche.

Sherman selected Savannah as the primary objective of his march to the sea for various reasons and to deliver multiple effects. In the march toward Savannah, Sherman could cut several key rail and communications lines in the South. The loss of Savannah, in the heart of the Confederacy, not only dealt a severe psychological blow to the Confederacy, but also denied it the use of one of their few remaining international ports. The loss directly impacted the strategic/political situation as the British saw the loss of Savannah as a critical blow to the Confederacy.[77] On the other hand, Sherman could use the port facilities to reopen his lines of communication with the Union and prepare for future operations into the Carolinas. The seizure of Savannah accomplished simultaneous and sequential information objectives for Sherman.

Nimitz also used IO principles to evaluate and select targets. Nimitz became personally involved in the attack on Yamamoto's aircraft. He had to take into account the impact of Yamamoto's removal from the information environment. As an enemy commander, Nimitz felt he knew the way Yamamoto thought and was worried how his death would influence the Japanese Navy's decision cycle. A new commander may alter objectives or change plans, significantly altering future US operations in the PTO. Nimitz even consulted his higher commander, ADM Earnest J. King, concerning the

[77] Wheeler, 121, 142-143.

possible consequences. Based on an assessment provided by his intelligence officer that the overall impact would benefit his own operations, Nimitz ordered the strike that killed his opponent.

Sherman and Nimitz's campaigns appear to be designed along similar lines of operations. From a conceptual point of view, both were directed against enemy lines of communication. Sherman aimed his operation along the rail lines between Atlanta and Savannah. His initial objective was an important seaport that linked the Confederacy with international lines of communications, namely British. Nimitz methodically seized critical sea communication nodes, mainly archipelagos throughout the Southern Pacific. From these he extended his operational reach while at the same time denying the Japanese the ability to contact and support their isolated bases.

Nimitz identified the Japanese center of gravity to be their main carrier division. Nimitz was able to direct his numerically inferior force to the correct place in time and space and defeat a superior force through the skillful use of information superiority. His superior situational awareness gave him the ability to leverage his limited combat power directly against the Japanese center of gravity.

One of military history's greatest theorists, Baron Antoine Henri de Jomini, postulated that military campaigns, or grand strategies, should be directed along logical lines of operations. Jomini's conceptual strategic model included decisive points that lay sequentially upon the lines of operations. Jomini emphasized the importance of directing the mass of one's forces against the decisive points. As these decisive points were achieved or secured, one would naturally be successful in the advance toward the final objective. This objective was usually located at the end of a logical line of operation.

Both Sherman and Nimitz designed their campaigns along Jomini's logical lines of operations. By using IO principles they were able to achieve their decisive points along these lines of operations. The comparison and analysis of these two case studies indicate IO are enablers to decisive operations.

IMPLICATIONS AND FINDINGS

The comparison of these two campaigns leads to several significant observations concerning IO in future combat. These historical examples suggest that IO can be decisive in warfare. Information operations have been part of modern warfare regardless of the state of technological development of the time period. The fact that the elements of IO were present in these historical case studies suggests that IO have always been a part of successful modern warfare. While 21st Century military forces may prosecute IO differently, the principles for success remain the same.

Combat operations must integrate IO to be successful. Target evaluations must include consideration of the effect destruction or interdiction will have on the information system of the enemy's organization. Targets, identified and selected during mission analysis and development of target lists, are normally integrated into operations during targeting boards or by identifying targets/objectives during war gaming and then assigned as tasks to subordinate units. Incorporating IO into this process is essential to ensuring the IO targets selected by the staff and approved by the commander are appropriately serviced resulting in the desired effect upon the enemy.

History has changed how the citizens of a nation at war permit the citizens of other nations to become targets. Sherman instituted the total war concept, making civilian resources and the popular will legitimate and viable targets. By WW II, during Nimitz's Pacific campaign, civilians themselves had become legitimate targets. Tolerance of the western world toward the intentional or even unintentional killing of

civilians is rapidly diminishing. However, even economic embargos have a residual effect upon civilians as demonstrated in the current sanctions and blockade against Iraq. Whether it is the best policy or not, the current international community appears able to stomach only the "soft" targeting of a nation's will to resist, which makes IO even more critical to the successful execution of military operations. Consideration of the effect on the information environment and campaign end state during target selection are of significant importance.

Nimitz willingly embraced new technologies including radar, code intercepts, and the submarine. One author commented that "radar became essential at sea and aloft; Nimitz considered it [radar] as revolutionary as the steam engine. . . Information technology made the Orange [War] Plan work better."[78] With the ability to accurately predict Japanese intentions through the use of deciphered intercepts, Nimitz was able to initially economize and safely concentrate his naval forces to neutralize Japanese strength at Midway. Once the balance of power was relatively equal in the Pacific, Nimitz used information superiority to seize islands and slowly win a naval battle of attrition. Japanese industry could not match US industrial ability in the production of ships.

US military planners should look to incorporate new information technologies into future operations. While the commander or planner may not be familiar with the actual technology, he or she must understand the capabilities, products and/or results the new technology could provide. Nimitz relied on information and intelligence specialists to provide him the knowledge he needed to visualize, describe and then direct his operations against the Japanese. It is unlikely he fully understood the technical details of

[78] Miller, 349-350.

radar, of deciphering messages, or of intercepting radio signals, but Nimitz used the products of these technologies to gain information superiority over the Japanese.

Simultaneity of action is a concept not limited to simply engaging multiple military targets at once. The concept can be extended to having simultaneous objectives assigned to each target. As seen in Sherman's march to the sea against the operational military target of the port of Savannah, the operation simultaneously attacked the strategic will of the Southern population. Nimitz ordered the attack that killed Yamamoto not only for the military effect of removing an important commander but also the psychological blow it would have on the command system and the minds of the Japanese sailors. Simultaneous targeting should take into consideration the informational impact of each selected target to achieve maximum benefit. This informational analysis is crucial to efficient targeting.

The fact that many examples of IO existed in modern military campaigns of the 1800's and 1900's begs one to question whether ST 3-0 is propagating new doctrine or merely incorporating proven concepts. ST 3-0 contains many of Jomini's conceptual ideas from his *Summary of the Art of War,* as well as from Clauswitz's *On War*. It follows that the basic principles of information warfare have remained fundamentally the same in modern times. The US Army's search for improved methods to prosecute information warfare in ST 3-0 appears to have resulted in doctrine that actually codifies old concepts already proven in battle. In the final analysis, the future wars will be directed at influencing the will of future opponents through the means of information operations.

CONCLUSION

The comparison of the two case studies suggests there are elements of information warfare that are timeless in their application. Sherman and Nimitz were two commanders separated by time, space, terrain, tactics and types of forces. Yet they both utilized similar principles and conceptual frameworks of information operations to attack their opponents. Their decisive military actions were based upon or incorporated elements of modern IO.

Sherman fully exploited the effects of psychological warfare on the Confederate population. In conducting military operations throughout Georgia and the Carolinas, Sherman eliminated the will of the citizens of those states to support the war. By depriving the Southern populace of resources and forcing them to endure the severe hardships of war, the people no longer had any incentive to resist. Additionally, Sherman's movement through the Southern states eroded the confidence of the Confederate soldiers at the front. One out of every ten of Lee's soldiers either deserted to protect his family back home or simply became unwilling to risk his life for a cause beyond hope. Sherman marched virtually unopposed in the heart of the Confederacy and eventually exacted retribution on the state that had started the rebellion, South Carolina.

Nimitz's exploitation of information superiority over the Japanese in the Pacific campaign directly contributed to his victory. In his first two engagements at Coral Sea and Midway, Nimitz was able to economize and concentrate his smaller naval forces because of his superior knowledge of the tactical and operational situation in the PTO.

These two engagements equalized the naval balance of power in the Pacific, enabling Nimitz to focus on offensive operations aimed at reducing Japanese presence throughout his area of operation.

IO was a decisive component in the campaigns presented in each case study. By capitalizing on the benefits of psychological warfare and information superiority, Sherman and Nimitz were able to achieve decisive results in their respective campaigns. Sherman forced the South into capitulation through psychological warfare, and Nimitz eliminated Japanese naval power in a campaign of naval attrition through enhanced situational awareness.

In examining these historical examples, future military planners can gain an appreciation for the importance of synchronizing IO into military campaigns. The plans and actions of GEN Sherman and ADM Nimitz provide real applications of IO in target selection to capitalize on the residual effects that their action would have on the tactical, operational, and even political/strategic environment.

BIBLIOGRAPHY

Books

Beringer, Richard E., Hattaway, Herman, Jones, Archer, & Still, William N. Jr. *Why the South Lost the Civil War*. Athens: University of Georgia Press, 1986.

Corbett, Julian S. *Some Principles of Maritime Strategy*. Annapolis: Naval Institute Press, 1911.

Davis, Burke. *Sherman's March*. New York: Random House, 1980.

Donald, David. Ed. *Why the North Won the Civil War*. New York: Collier Books, 1960.

Fellman, Michael. *Citizen Sherman*. New York: Random House, 1995.

Glatthaar, Joseph T. *The March to the Sea and Beyond*. New York: New York University Press, 1986.

Griffith, Paddy. *Battle in the Civil War*. Surrey: Field Books, 1986.

Hart, B. H. Liddel. *Sherman*. New York: Da Capo Press, 1993.

Hattaway, Herman & Jones, Archer. *How the North Won*. Chicago: University of Illinois Press, 1991.

Hirshson, Stanley P. *The White Tecumseh.* New York: John Wiley & Sons, Inc.,1997.

Hoyt, Edwin. *How They Won the War in the Pacific: Nimitz and His Admirals*. New York: Walbright and Talley, 1970.

Jones, Archer. *Civil War Command and Strategy: The Process of Victory and Defeat*. New York: The Free Press, 1992.

Keegan, John. *The Price of Admiralty.* New York: Penguin Books, 1988.

Lane, Mills. Ed. *Marching Through Georgia.* Savannah: The Beehive Press, 1974.

Lewin, Ronald. *The American Magic: Codes, Ciphers, and the Defeat of Japan*. New York: Random House, 1982.

Marszalek, John F. *Sherman: A Soldier's Passion for Order*. New York: The Free Press, 1993.

Miles, Jim. *To the Sea*. Nashville: Rutledge Hill Press, 1989.

Miller, Edward S. *War Plan Orange*. Annapolis: Naval Institute Press, 1991.

Natkiel, Richard. *Atlas of World War II*. New York: Bison Books, 1985.

Overy, Richard. *Why the Allies Won*. New York: W. W. Norton & Company, 1995.

Paret, Peter, Ed. *Makers of Modern Strategy*. Princeton: Princeton University Press, 1986.

Potter, E. B. *Nimitz.* Annapolis: Naval Institute Press, 1976.

Prados, John. *Combined Fleet Decoded*. New York: Random House, 1995.

Sherman, William T. *Memoirs of General William Tecumseh Sherman,* ed. Charles Royster. New York: The Literary Classics of the United States of America, 1990.

Spector, Ronald H. Ed. *Listening to the Enemy.* Wilmington: Scholarly Resources, Inc., 1988.

Wheeler, Richard. *Sherman's March*. New York: HarperCollins Publishers, 1978.

Weigley, Russell F. *The American Way of War*. Bloomington: Indiana University Press, 1977.

Williams, T. Harry. *McClellan, Sherman, and Grant.* Chicago: Rutgers University Press, 1962.

Government Publications

Department of the Army. Field Manual 100-6 *Information Operations*. Washington DC: Government Printing Office, 1996.

_____. Student Text 3-0 *Operations*. Fort Leavenworth: US Army Command and General Staff College, 2001.

Gabel, Christopher R. *Railroad Generalship: Foundations of Civil War Strategy*. Fort Leavenworth: Combat Studies Institute,1997.

Shanahan, Edward P. *Atlanta Campaign Staff Ride Briefing Book*. Office of the Command Historian, US Army Reserve Command, 1995.