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ORIGINS OF MODERN AMERICAN OPERATIONAL ART

A Dissertation
Submitted to
The Temple University Graduate Board
In Partial Fulfillment
Of the Requirements for the Degree
DOCTOR OF PHILOSOPHY

By
Michael R. Matheny
May 2007

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ABSTRACT
THE ORIGINS OF MODERN AMERICAN OPERATIONAL ART
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May, 2007
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This dissertation examines the origins of modern American operational art from 1918 to1940. All modern armed forces recognize three levels of war: strategic, operational, and tactical. Historians have studied the strategic and tactical levels of war in painstaking detail, but they have been slow to consider the operational level of war. Operational art bridges the strategic and tactical levels of war by linking battles into campaigns that achieve strategic objectives in a theater of war. By the end of the nineteenth century, armies had grown too large to be destroyed in a single battle. Efforts to replicate the decisive battle of the Napoleonic era proved illusory during World War I and contributed to the wasteful tactics and ineffective generalship. Modern operational theory was born in the aftermath of World War I as military theorists and practitioners sought solutions to the formidable problems posed by technology and mass armies.

Many historians point to the German and Soviet armies of the interwar period as the developers of operational art. Scholars claim that the U.S. Army stagnated during that same period and entered World War II in a poor state of preparedness. By focusing on tactical doctrine or technology, these historians fail to appreciate the evolution of U.S. military thinking at the operational level of war. This dissertation argues that American operational thinking during the interwar years reached an advanced state of development and contributed significantly to the American art of war, particularly the United States Army's success against the Axis forces between 1941 and 1945.

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INTRODUCTION

There are only a handful of books dealing with the history of operational art.[1] Most military historians still view war within the framework of strategy and tactics. The scholars who have studied the operational level of war agree that it bridges strategy and tactics, but rarely agree on the nature of operational art — how commanders employ military force at this level. Canadian historian B. J. C. McKercher refers to operational art "as the practice of generals for achieving operational success."[2] Another Canadian, John English, refers to it as the "art of campaigning."[3] The real divergence of opinion, however, emerges over what constitutes operational art. How does operational art and theory differ from strategic or tactical theory? Richard W. Harrison argues that the employment of army groups, consecutive operations, and deep operations characterize Russian operational art.[4] The Israeli military historian Shimon Naveh equates operational art with maneuver warfare that succeeds by defeating the enemy's organization through shock rather than attrition.[5] These historians, and most others who study operational art, agree that the United States Army did not recognize operational art until the last decade

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[1] A search of the Army War College and U.S. Army Military History Institute databases revealed 131 titles dealing with operational art. There are 98 student papers, 17 contemporary theoretical works, and only 16 books by historians included in these collections. Most of the historical works are on Soviet operational art.

[2] B. J. C. McKercher and Michael A. Hennessy, ed., *The Operational Art: Developments in the Theories of War* (Westport, CT: Praeger Publishers, 1996), 1.

[3] John English, "The Operational Art: Developments in the Theories of War," in McKercher and Hennessy, *Operational Art*, 8.

[4] See Richard W. Harrison, *The Russian Way of War: Operational Art, 1904-1940* (Lawrence: University Press of Kansas, 2001), 152-216.

[5] See Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass, 1997), 7-23.

of the Cold War. As Russell F. Weigley notes, "U.S. and British military thought before World War II neglected the operational art to focus instead on strategy and tactics."[6] This dissertation will show that even if the American Army did not officially recognize operational art as a third level of war, it developed operational art during the interwar period of 1919-1940, and practiced it during World War II.

Most military historians point to the interwar period as a time of stagnation, which accounted for the U.S. Army's lack of preparedness for World War II. David E. Johnson examines innovation in the Army from 1917 to 1945 in *Fast Tanks and Heavy Bombers*. Johnson concludes that "the Army, in short, was responsible for its own unpreparedness. Tight budgets and an isolationist-minded Congress and public were powerful constraints, but the army would not have been ready even with adequate resources."[7] In *After the Trenches: The Transformation of U.S. Army Doctrine, 1918-1939*, William Odom agrees that the Army was unprepared for World War II because during the interwar period "it failed to develop viable doctrine during the ensuing period of extended peace."[8] These historians and others may be quite right to point to the failure of the U.S. Army to modernize or develop a sophisticated combined arms doctrine during the interwar period, but by focusing on tactical doctrine or technology they fail to appreciate the evolution of U.S. military thinking at the operational level of war. It was at this level, particularly in dealing with logistically supportable joint and combined phased operations, that senior American commanders did particularly well and laid a

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[6] Russell F. Weigley, "From the Normandy Beaches to the Falaise-Argentan Pocket," *Military Review* 70 (September 1990) : 45.

[7] David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army 1917-1945* (Ithaca, NY: Cornell University Press, 1998), 229.

[8] William O. Odom, *After the Trenches: The Transformation of U.S. Army Doctrine, 1918-1939* (College Station: Texas A& M University Press, 1999), 9.

foundation for their country's victory in World War II. The evidence for this maturing military thinking can best be found not in the published doctrine or the scholarly works of American officers, but in the Army's educational system. It was at the Command and General Staff School in Fort Leavenworth, Kansas, and at the Army War College then in Washington, D.C., that the rudimentary understanding of joint and combined operational art developed and was imparted to a generation of senior American officers.

Timothy K. Nenniger's *The Leavenworth Schools and the Old Army,* published in 1978, discusses the education and professionalism of the officer corps of the United States Army from 1881 to 1918. This is a groundbreaking study of the organization and the early influence of the Command and General Staff School up to 1918, but it does not cover the important interwar period as the army came to grips with the lessons of World War I. Likewise, T. R. Brereton's recent book, *Educating the U.S. Army: Arthur L. Wagner and Reform, 1875-1905,* covers a formative period in the history of the Leavenworth schools and even the first years of the Army War College, but it does not address the later development or influence of these schools. Harry P. Ball's *Of Responsible Command, A History of the U.S. Army War College* provides an excellent account of the organization and history of the college, but it does not detail the development of American military thought within the curriculum.

Historians who have studied military theory insist that operational art developed in Europe during the interwar period, not in the United States. These historians consider the German or Soviet armies as the innovators and greatest practitioners of operational art. John English points to the Prussian and later the German Army as the pioneers in developing operational art. In "The Operational Art: Developments in the Theories of

War," he traces operational concepts from Clausewitz through Helmuth von Moltke as the Germans attempted to come to grips with the needs of modern war.[9] Although English finds the roots of operational art in nineteenth-century Germany, real progress in this branch of military theory occurred during the interwar period. Certainly, this new conceptual framework was well in place by the end of the interwar period. In 1940, Colonel H. Foertsch of the General Staff described the German concept of operations, emphasizing it as the link between tactics and strategy.[10]

Jacob Kipp, David Glantz, and Shimon Naveh assert that the Soviet Army pioneered operational art and developed it to its highest formulation.[11] These historians cite Aleksandr A. Svechin, Mikhail Tukachevsky, and others for developing the theoretical foundation for operational art. As previously discussed, these Soviet military theorists were among the first to specifically analyze the third level of war.

American military leaders also pondered the lessons of the Great War. The changes in warfare and the need to move massive armies to achieve strategic aims were no less apparent to competent U. S. Army officers. Was there, then, no comparable development of American operational thought? Most historians, like John English, believe, "Contemporary American and British interest in the operational level of war and the activity known as operational art, of course, only dates back to the 1970s when the U.S. Army sparked a renaissance in military thinking in the aftermath of the Vietnam

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[9] See John English, "The Operational Art: Developments in the Theories of War," in McKercher and Hennessy, *Operational Art*, 8-14.

[10] Hermann Foertsch, *The Art of Modern Warfare* (New York: Veritas Press, 1940), 20.

[11] See Jacob Kipp, "Two Views of Warsaw: The Russian Civil War and Soviet Operational Art, 1920-1932," in McKercher and Hennessy, *Operational Art*; David M. Glantz, *The Nature of Soviet Operational Art* (Fort Leavenworth, KS: U.S. Army Combined Arms Center, 1985), and Shimon Naveh, *In Pursuit of Military Excellence.*

War."[12] There was, in fact, a good deal of operational thought and synthesis going on in American armed forces during the interwar period. At Fort Leavenworth and the Army War College, the curriculum, lecture notes, and even the doctrine indicated an increasing sophistication in American military thought. The Americans forged a framework for operational art during the interwar period based on experience, theory, and strategic requirements.

The experience of World War I greatly influenced the officer education system established in the United States in the postwar period. The Army reestablished the school system in 1919 to address many of the specific problems that emerged during the war. Foremost among these problems were handling large armies in the field and preparing the nation for war. The School of the Line and the General Staff School at Fort Leavenworth prepared officers to staff and command large units. The Army War College reemerged in 1919 as the General Staff College in Washington, D.C. This institution was to prepare officers for duty with the General Staff of the Army.

At Fort Leavenworth, majors or captains attended the School of the Line. This course devoted one year to the study of brigade and division operations. Selected officers then went on the General Staff School, which also had a one-year curriculum. In this second year, students studied corps and army operations. These two schools were combined in 1922 to form the Command and General Staff School, which remained at Fort Leavenworth. In the same year, the General Staff College in Washington, D.C., was redesignated as the Army War College. Initial research into the curricula of these

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[12] English, "Developments in the Theories of War," 16. Also see Richard M. Swain, "Filling the Void: Operational Art and the U.S. Army," in McKercher and Hennessy, *Operational Art,* and Naveh, *In Pursuit of Military Excellence.*

institutions during the interwar period suggests an increasingly sophisticated appreciation for the third level of war, operational art.

Key operational concepts such as phased operations, center of gravity, and lines of operation were became embedded in American institutions and doctrine. The sophistication of American interwar thought can be judged by the emphasis placed on theater structure, logistics, intelligence, joint, and combined warfare. The need to conduct and sustain large-scale operations was an evident strategic imperative. The Army's requirement to defend the Philippines, and the Navy's long anticipated war in the Pacific against the Japanese, mandated an understanding of modern expeditionary warfare. Operational art as taught and understood during the interwar years helped prepare the American armed forces for the great challenge that loomed just over the horizon, World War II.

The lessons that the American military learned between 1917 and 1945 were soon forgotten. The atomic bomb dominated military thought throughout most of the Cold War era. Large-unit operations no longer seemed possible in the face of atomic deterrence or destruction. Operational art had no place in the "new look" army of the 1950s. Only the bitter experience of Vietnam helped to launch a doctrinal renaissance, which led in 1982 to the rediscovery of operational art.[13] Now a center piece of American joint and service doctrine, modern American operational art is, however, rooted in an earlier renaissance, which occurred in the interwar years.

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[13] After World War II, the Army shifted its doctrinal focus from conventional to nuclear, to counterinsurgency and then back again to conventional operations. See Robert A. Doughty, *The Evolution of U.S. Army Tactical Doctrine, 1946-76*, Leavenworth Papers (Fort Leavenworth, KS: Combat Studies Institute, 1979), 1-18.

Method

In order to avoid the confusion over the various definitions and descriptions of operational art as the third level of war, this dissertation will use the current U.S. military doctrinal concepts as a basis of discussion. Currently, the military doctrine of the United States maintains that the operational level of war governs "the arrangement of battles and major operations to achieve military operational and strategic objectives."[14] At this level, commanders practice the operational art by integrating "ends, ways, and means across the levels of war."[15] At the heart of operational art is campaign planning. The campaign plan actually links tactics to strategy by determining where, when, how, and most importantly, to what purpose military forces will engage the enemy. The campaign plan must balance ends, ways, and means as it describes the employment of forces. In campaign planning current U.S. doctrine emphasizes several key theoretical concepts of operational design and operational functions. Among the key elements of operational design that can be traced back to the interwar period or even earlier are culmination, lines of operation, phasing operations, centers of gravity, and linking tactical, operational, and strategic objectives.

Culmination refers to the point at which the attacker's strength no longer exceeds that of the defender through the process of attrition or exhaustion. In campaign planning, the planner must be careful in offensive operations not to exceed the point of culmination. Line of operation is a very old nineteenth century concept that refers to the

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[14]U.S. Department of Defense, *Joint Publication 3.0 Doctrine for Joint Operations* (Washington, D.C.: U.S. Government Printing Office, 2006), IV-3.

[15] Ibid.

lines of approach to the enemy. Choosing the right lines of operation can be key to conducting and sustaining military operations. Since a single battle or major operation can rarely subdue a modern enemy, operations must be phased in a plan of campaign. Phasing recognized the futility of the decisive battle, the need to sequence and think through all military actions necessary to achieve the strategic aim. This was, perhaps the single most important innovation in military planning in the twentieth century. Finally, the concept of the center of gravity derives from Clausewitz and allows military planners to focus their efforts. The German military theorist defined the center of gravity as the "hub of all power and movement, on which everything depends. That is the point against which all our energies should be directed."[16]

The U.S. military currently recognizes several key functions of operational art. Among those that matured during the interwar years are maneuver, intelligence, sustainment (logistics), command and control.[17] Those few scholars that discuss operational art usually focus on maneuver, but operational art involves a great deal more than brilliant maneuvers that unhinge or quickly defeats the enemy. Competent operational artists must organize and sustain the force as well as employ it. Intelligence has steadily increased in importance over the last century as the ability to acquire and manipulate information has advanced. Understanding your enemy, the environment, and the ability to deceive the enemy are critical to the competent exercise of operational art. Perhaps most critical of all is the function of sustainment. The growth of logistics as a

[16] Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 595.

[17] *Doctrine for Joint Operations*, III-1.

staff function reflected its importance in operational art. This is particularly the case for expeditionary warfare of the kind the United States must conduct.

Finally, getting command and control right as a function of operational art can greatly increase or decrease the chances of success. Current U.S. doctrine mandates that the armed forces fight jointly, that is the Army, Navy, and Air Force fight as a joint team.[18] The very essence of modern operational art is finding the right way to combine air, sea, and landpower into effective combinations. Often the United States must also fight as a member of a coalition to achieve its strategic objectives. Planning for joint and combined operations is conducted on a much higher order of complexity and sophistication than planning for unilateral warmaking.

Modern American operational art was forged during the interwar period based on experience, theory, and strategic necessity. To examine the growth of American military thought during this period, this dissertation will examine the curricula of the senior military schools at Leavenworth and the Army War College. American officers did not write much about military theory. There were no prolific American military writers such as Liddell-Hart, J.F.C. Fuller, or other German or Soviet military thinkers. The faculty and students of the senior American military schools labored on in workman-like fashion to consider the problems and develop the solutions to modern warfare in order to meet the United States' specific strategic circumstances.

In order to understand the contribution of the interwar military education to the actual planning and conduct of campaigns and major operations in World War II, this dissertation will consider four case studies. In the European theater, OPERATION

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[18] U.S. Department of Defense, Joint Chiefs of Staff, *Joint Publication 1, Joint Warfare of the Armed Forces of the United States* (Washington, D.C.: U.S. Government Printing Office, 2000), i.

TORCH, the invasion of North Africa in 1942, and OPERATION OVERLORD, the invasion of France in 1944 are considered. OPERATION TORCH was the first major American operation and demonstrates the level of American planning at the beginning of the war. OPERATION OVERLORD was arguably the most important major operation of the war and demonstrates perhaps the peak of Allied and combined operations planning. In the Pacific, a campaign from the Southwest Pacific Theater and a major operation from the Central Pacific Ocean Area are considered. Gen. Douglas MacArthur's return to the Philippines in 1944 was the largest campaign in the Pacific war. Adm. Chester Nimitz's OPERATION ICEBERG, the invasion of Okinawa, was the last major operation of the war. ICEBERG, though controversial, represents the most developed American operational planning of the war. All case studies are examined from an operational rather than tactical perspective. Particular emphasis is placed on the planning for these operations in order to better understand the operational design and functions employed by American leaders and planners.

In order to highlight the connection between the senior military leaders' interwar education and their performance in World War II, officers mentioned in the case studies will include their military education. The following abbreviations will be used: General Staff School (GSS), Army War College (AWC), and the Naval War College (NWC).

The U.S. military contemplated modern war during the interwar period as it considered the lessons of World War I and their implications for future warfare. The development of a modern staff system and problem solving process made possible the American ability to project, sustain, and employ forces in major operations. Campaign planning linking those major operations into a series of phased military actions to achieve

strategic objectives in a theater of war was central to American operational art. The roots of modern American operational art, which used all these key concepts to achieve victory can be traced to the interwar period, 1919 to 1940.

CHAPTER 1

THE ROOTS OF OPERATIONAL ART

"Civilization begins, because the beginning of civilization is a military advantage." This assertion by Walter Bagehot overstates the case, but it does emphasize the close relationship between society and warfare.[1] As society evolves and becomes more complex, so does the warfare it wages. The art of war traditionally has two levels, strategy and tactics. Military strategy is the art of employing force to achieve political objectives.[2] Tactics is the art of placing and employing weapons and combat units on the battlefield. The evolution of strategy and tactics is determined by social organization, technology, the size of armies, and the scale of warfare. By the nineteenth century, western civilization was sufficiently complex in social organization and technology to increase greatly the size of armies and the scale of warfare. This led to the development of a third level of war, operational art.

For much of military history, it was the role of strategy to choose the time and place to bring the enemy to battle with sufficient force to assure victory. Tactics then delivered victory by correctly employing weapons and units to maximum advantage. By the end of the nineteenth century, armies became so large and the scale of war so vast that the traditional understanding of strategy and tactics no longer produced battlefield victories capable of yielding political results. Large armies of more than a million men could not be defeated in a single decisive battle. In order to secure strategic objectives, an

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[1] Quoted in Richard A. Preston and Sydney Wise, *Men in Arms* (New York: Holt, Rinehart and Winston, 1979), 15.

[2] Although there are many definitions of strategy, the use of force to achieve political objectives is common to most current definitions. See Colin S. Gray, *Modern Strategy* (New York: Oxford University Press, 1999), 1-3.

intermediate level of military operations developed to link a series of battles in a theater of war. By the beginning of the twentieth century, some military theorists and practitioners began to recognize operational art as the third level in the art of war. The development and significance of operational art can be seen by briefly tracing the evolution of strategy and tactics.

The strategy and tactics of classical warfare, which reflected the resources and military capability of the city states of ancient Greece, were fairly simple. The Greeks concentrated land forces into a single army, normally numbering no more than 12,000 warriors.[3] The army marched toward the enemy with the goal of either capturing territory or destroying the opposing army. Battles rarely lasted more than a single day and often proved decisive. In the centuries that followed, tactics and technology changed, but essentially the art of war still involved the concentration of forces into a single army to capture territory or destroy the opposing army. The rise of the nation state in the mid-seventeenth century brought significant changes. Geoffrey Parker argues that the West underwent a military revolution from 1500 to 1800 that allowed Europe to establish global empires. Parker maintains that the key elements of this military revolution were improvements in firepower, new types of fortifications, and an increase in the size of armies.[4] All these elements affected tactics and made European armies the most deadly in the world, but it was the dramatic increase in the size of armies that ultimately

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[3] Peter Connolly, *Greece and Rome at War* (London: Greenhill Books, 1998), 38-41.

[4] Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West 1500-1800* (London: Cambridge University Press, 1996), 24.

produced fundamental changes in the nature of strategy. The armies of the major European states increased tenfold between 1500 and 1700.[5]

By the end of the eighteenth century, the most powerful nation states of Europe could field not only a single large army, but several such forces. Constant warfare and its importance to the state encouraged military writers to develop and popularize their ideas on how these forces should be used. Throughout the centuries-long decline of classical warfare and the rise of the West, military strategy — to the extent it was practiced, simply intended to bring the army into a favorable position for battle. Battle was the means to secure victory. In the wake of the devastation of the Thirty Years War (1618-1648), strategy shifted to emphasize maneuver rather than battle. Maurice de Saxe, Marshal of France during the wars of Louis XIV, wrote, "I do not favor pitched battles, especially at the beginning of war. I am convinced that a skillful general could make war all his life without being forced into one."[6] How to accomplish this occupied many military writers during the period. Henry Lloyd, a British soldier of fortune, led a colorful life of military service with the French, Prussian, and Russian armies. His *History of the Late War in Germany* appeared in 1766. Lloyd was one of the writers who helped shift the interest of military theorists from the organization of armies to the conduct of operations.[7] His major contribution introduced the notion of the line of

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[5] In the case of Spain, Ferdinand and Isabella conquered Granada in 1492 with no more than 20,000 men. Their grandson, Charles V, commanded perhaps 100,000 against the Turks in Hungary in 1592. Charles VIII of France invaded Italy in 1494 with 18,000 men. By the time of the Battle of Malpaquet in 1709, Louis XIV of France fielded an army of 112,000 men. Ibid., 1, 24.

[6] Maurice de Saxe, *Reveries upon the Art of War*, trans. and ed. Thomas R. Phillips (Harrisburg, PA: Military Service Publishing Company, 1944), 121.

[7] Azar Gat, *A History of Military Thought from the Enlightenment to the Cold War* (London: Oxford University Press, 2001), 75.

operation. The line of operation prescribed the movement of the army from its base to its objective.

Heinrich von Bulow was another writer of the period who helped shape eighteenth-century strategy. Bulow's *The New Spirit of War*, written in 1799, was perhaps the best expression of the maneuver school. Adding the concept of base of operation to Lloyd's line of operation, Bulow argued, "The maneuvers of the field armies and the complex system of fortresses became the principal means of threatening the enemy's lines of operation while securing one's own, and replaced battle as the center of warfare."[8] The key to eighteenth century warfare was to maneuver across the enemy's line of operation separating him from his base, thereby placing him at such disadvantage that he yielded the ground or the political objective. Even before Bulow's book was published, however, Napoleonic warfare broke upon Europe and again wrought fundamental changes in the objectives, organization, and employment of armies.

Napoleon dominated European warfare for twenty years, and his legacy dominated it for another hundred years. Napoleon once again elevated battle as the means of victory. France fielded large armies swelled with conscripts and backed by the increasing resources of the state. Napoleon maneuvered his army to give battle in the most advantageous way; his object was nothing less than the destruction of the enemy army. Just as important, the organization of the larger armies into divisions and corps provided a new scope to how armies maneuvered to give battle. The French Army adopted the division as a tactical unit in 1795 and grouped divisions into corps four years later. The division consisted of infantry and artillery. Divisions grouped together

[8] Ibid., 82.

regiments and brigades into a force of 4,000 to 5,000 men. In turn, two to four divisions made up a corps. The corps also included a brigade or division of cavalry. The French Grand Army in 1799 consisted of seven corps.[9] The importance in these organizational innovations, largely required by the increased size of armies, meant that large forces could now be articulated. Armies could maneuver over broad areas to ease supply and route congestion. In addition, corps were powerful enough to conduct independent operations, but they remained an integral part of an assembled army, normally only a day's march from the main body.

The advantages of the corps system can be seen in the Jena Campaign of 1806. Alarmed by Napoleon's defeat of the Austrian and Russian armies of the Third Coalition in 1805, Frederick William III, King of Prussia, determined to make war on France in August 1806. Napoleon, never one to await events, concentrated his army in southern Germany and began his advance on Prussia in October. The French army of six corps moved in three parallel columns on a front of about thirty miles. Assuming the shape of a large square, French forces were prepared for a tactical concentration in any direction. Moving to the east of the Prussians, Napoleon concentrated four of his corps to attack what he believed was the main Prussian army, while sending two of his corps to move north and west to cut the enemy's line of retreat. The Prussian army grouped into two separate concentrations, had already begun to withdraw when it made contact with the French forces. Napoleon fell upon the smaller Prussian contingent with the main French army at Jena, while Marshal Louis-Nicholas Davout's corps of 26,000 French soldiers engaged the main Prussian army of 63,000 at Auerstadt. When the French First Corps,

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[9]Hew Strachan, *European Armies and the Conduct of War* (London: George Allen and Unwin, 1983), 43.

commanded by Marshal Jean-Baptiste Bernadotte, finally arrived on the battlefield to the rear of the enemy forces, the Prussian army disintegrated. In one of his most decisive campaigns, Napoleon's strategy for the deployment of his forces and their tactical arrangement on the battlefield led to the rout of the Prussian Army and the subsequent occupation of Berlin.

The Napoleonic Wars engaged every major power in Europe. The increased manpower and resources available to the nation states allowed them to raise several armies to conduct war simultaneously in different theaters. For example, as Napoleon planned the campaigns of 1805, he did not neglect his forces in Italy. In September 1805, Napoleon's Chief of Staff, Marshal Louis-Alexandre Berthier, summarized Napoleon's overall strategy in a letter to Gen. Gouvion Saint-Cyr, the commander of French forces in Italy, "The great blows will be struck in Germany, where the Emperor will go in person, and even if the operations of the Army of Italy are not successful, this must not influence your efforts because any success the enemy could obtain would only be of short duration. If the Emperor's operations are crowned with success, their first result will be to extricate the Army of Italy and send you the support you would need to throw coalition forces into the sea, recapture all of the country that you will have lost, and even to threaten Sicily."[10]

The need to coordinate operations in multiple theaters or even within a single theater certainly did not originate with the Napoleonic Wars. The requirement to coordinate forces at the strategic or tactical level is as old as the dispersion of force on the battlefield or within a theater of war. As the British learned during the American Revolution, coordinating forces from a great distance is never a simple task. For

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[10] Louis-Alexandre Berthier to Gouvion Saint-Cyr, 2 September 1805, in *Napoleon on the Art of War*, ed. and trans. Jay Luvaas (New York: Free Press, 1999), 90- 91.

example, in the British campaign plan for 1777, three forces were to act in concert to seize the Hudson Valley, splitting the colonies. Lt. Gen. John Burgoyne was to move south from Canada by way of Lake Champlain while Gen. Sir William Howe was to move north from New York joining Burgoyne at Albany. Col. Barry St. Leger was to sweep down the Mohawk Valley uniting with the other forces at Albany. This plan failed due to the inability of Lord George Germain, British Secretary of State for the Colonies, to coordinate these forces. General Howe's failure to cooperate with General Burgoyne helped to ensure Burgoyne's defeat at the Battle of Saratoga. The forces involved in the British campaign of 1777 were comparatively small. Coordinating large armies and fleets such as those developed in the Napoleonic Wars for a coherent strategic purpose was a problem of much greater magnitude.

The organization of armies into division and corps, as well as the size of armies and the scales of warfare assumed during the Napoleonic era, were new in European warfare. Napoleon's stunning success led his adversaries to copy his methods and stimulated a renewed interest in the art of war. Military writers and professional officers studied Napoleon's campaigns intensively. The lessons they drew influenced Western warfare for the next century. In fact, many of the concepts developed by the military theorists of the nineteenth century continue to influence the conduct of modern war.

Perhaps the best known and one of the most influential interpreters of Napoleonic warfare was Antoine Henri Jomini. Born in Switzerland in 1779, Jomini served as chief of staff to one of Napoleon's most famous corps commanders, Marshal Michel Ney. Eventually, Jomini deserted Napoleon's army and joined the Allies, serving as an aide and military advisor to Tsar Alexander of Russia. A long-lived and prolific military

author, Jomini published his most influential work, *The Summary of the Art of War*, in 1838. This book became immensely popular as military professionalism took hold in all the major armies of Europe. Ultimately, Jomini provided much of the vocabulary and many of the concepts for strategic theory in the nineteenth century. Building on the work of Lloyd and Bulow, he laid the foundation for European strategic theory that emphasized the base of operation, lines of operation, and lines of communication as the primary constructs for maneuvering of armies in the field. Significantly, all modern forces still use these terms today.

Jomini asserted that the art of war consisted of five elements: strategy, grand tactics, logistics, engineering, and minor tactics. He intentionally omitted engineering and minor tactics from this study, but in summarizing the relationship between the other key elements in the art of war, he asserted, "Strategy decides where to act; logistics brings the troops to this point; grand tactics decides the manner of execution and the employment of the troops." [11] His division of operations into strategy, grand tactics, and minor tactics is of particular interest. Jomini defined strategy as "the art of making war upon the map, and comprehends the whole theater of operations."[12] On the other hand, "Grand tactics is the art of making good combinations preliminary to battles, as well as during their progress."[13] Jomini's division of the art of war into strategy, grand tactics, and minor tactics clearly suggests three rather than two levels of war. The emerging third level of war describes the origin of operational art.

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[11] Baron de Jomini, *The Art of War*, trans. G. H. Mendell and W. P. Craighill (Philadelphia: J. B. Lippincott & Co., 1862), 69.

[12] Ibid., 2.

[13] Ibid., 178.

Jomini was not alone in discerning this new level of war. The other great military theorist of the nineteenth century, Carl von Clausewitz, also suggested an intervening level of war between strategy and tactics. Clausewitz entered the Prussian Army in 1792 as a twelve-year-old cadet. Within a year, he marched off to his first campaign in the War of the First Coalition against France, 1793-94. He saw much action during the Napoleonic Wars, eventually serving as a corps chief of staff in the final campaigns of 1814 and 1815. Following the Napoleonic Wars, Clausewitz rose to the rank of major general and served as the director of Prussia's War Academy. His major work, *On War*, written between 1824 and 1830, was described by Bernard Brodie as "not simply the greatest but the only truly great book on war."[14] Clausewitz gave the clearest understanding of the three levels of war when he wrote about time and space.[15] As he noted, " The concepts characteristic of time — war, campaign and battle — are parallel to those of space — country, theater of operations, and position — and so bear the same relation to our subject."[16] Clausewitz associated campaign and theater of operation with a third level of war. He defined campaign by suggesting, "It is true that the term campaign is often used to denote all military events occurring in the course of a calendar year in all theaters of operations, but normally and more accurately it denotes the events occurring in a single theater of war."[17] He also indicated, "By theater of operation we mean, strictly speaking, a sector of the total war area which has protected boundaries and

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[14] Bernard Brodie, "The Continuing Relevance of *On War*" in Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 53.

[15] Wallace P. Franz, "Two Letters on Strategy: Clausewitz' Contribution to the Operational Level of War" in *Clausewitz and Modern Strategy*, ed. Michael I. Handel (London: Frank Cass, 1986), 172.

[16] Clausewitz, *On War*, 379.

[17] Ibid., 281.

so a certain degree of independence."[18] Strategy for Clausewitz and for practically every military theorist and practitioner in the nineteenth and twentieth century was an inclusive term. It embraced both strategy at the highest level, what some would later call "grand strategy," and military strategy for the conduct of operations in a campaign within a theater of operation.[19] For the next century, theorists and soldiers struggled to find an appropriate way to differentiate between grand strategy, military strategy, and tactics.

Clausewitz defined strategy as "the use of engagement for the purpose of war. In other words, he (the general) will draft the plan of the war, and the aim will determine the series of actions intended to achieve it: he will, in fact, shape the individual campaigns and, within these, decide on the individual engagements." [20] Clausewitz used the term "engagements" to refer to battles. In an unfinished note presumably written in 1830, Clausewitz gave the best indication of how he used the word strategy to describe the operational level of war: "The theory of major operations (strategy as it is called) presents extraordinary difficulties, and it is fair to say that very few people have clear ideas about its details — that is, ideas which logically derive from basic necessities."[21]

Though they called it strategy, both Jomini and Clausewitz wrote a good deal about the operational level of war. Along with the tactical level, it was the operational level that most interested the new class of professional warriors. The Napoleonic era gave birth to a new military professionalism. Britain's Royal Military College was

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[18] Ibid., 280.

[19] J. F. C. Fuller, *The Foundations of the Science of War* (London: Hutchinson & Co., LTD., 1926), 108.

[20] Clausewitz, *On War*, 177.

[21] Carl von Clausewitz, "Unfinished Note, Presumably Written in 1830" in Clausewitz, *On War*, 70.

established in 1799; the United States Military Academy was founded in 1802, and the Prussian War Academy opened in 1810. Long-serving professional officers looked to military writers as well as their own experience to further codify and develop their craft. This increasing professionalism in the nineteenth century naturally focused on a more narrow interest in the employment of military forces in the field rather than the more encompassing considerations of grand strategy that might encroach on the prerogatives of their civilian or royal masters. Jomini became a dominant influence in the nineteenth century. His simple and prescriptive style was well suited to the needs of the new professional military institutions and their students. Riding the crest of interest in Napoleon and French military affairs, Jomini's *Art of War* was widely read and translated into several languages. Although Clausewitz was much more difficult to read, his influence would later rise with the prestige of Prussian arms following their success in the wars of German unification. The popularity and influence of both Jomini and Clausewitz, however, was due primarily to their ability to help others understand and deal with the growing complexity of war.

By the mid-nineteenth century the professionalization of the American officer corps was well underway.[22] In 1844, Henry Wager Halleck, a graduate of West Point, made an inspection tour of European fortifications. Two years later, he published *Elements of Military Art and Science*, a popular military text based on Jomini's *Art of War*. In 1862, Jomini's book was translated into English and became a text at West Point and other American military institutions for many years. During the Civil War, Halleck rose to become the Union Army's chief of staff in Washington, D.C. The Civil War was

[22] William B. Skelton, *An American Profession of Arms: The Army Officer Corps 1784-1861* (Lawrence: University Press of Kansas, 1996), xiii.

the first opportunity for Americans to employ mass armies on a grand Napoleonic scale. To employ these armies effectively, American officers learned through hard experience about the operational level of war.

The Anaconda Plan of 1861 established the North's initial grand strategy. Maj. Gen. Winfield Scott, Commanding General of the United States Army in 1861, recommended blockading the rebellious Southern states and splitting the Confederacy by seizing the line of the Mississippi Valley. Eventually, the Northern strategy settled on a direct advance to Richmond, the Confederate capital, and the destruction of Southern armies. The organization and employment of large armies in the field required a new level of sophistication in the conduct of operations — the emerging level of war between grand strategy and tactics.

By 1862 both the North and the South had organized their armies into corps, but of more significance was the organization and coordination of the armies in the field. The American Civil War saw several innovations in the development of operational art. The employment of several independent field armies distributed in the same theater of operations, the use of quasi-army group headquarters to control armies, the design of a distributed campaign plan, and deep strike operations all suggest a new and sophisticated level in the conduct of operations.[23]

In 1863, the North created the Military Division of the Mississippi under the command of Maj. Gen. Ulysses S. Grant. This headquarters functioned essentially as an army group headquarters responsible for the Army of the Tennessee under Maj. Gen. William T. Sherman, the Army of the Cumberland under Maj. Gen. George H. Thomas,

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[23] James J. Schneider, "The Loose Marble — and the Origins of Operational Art," *Parameters* 19 (March 1989): 90.

and later, the Army of the Ohio under Maj. Gen. John M. Schofield. These were independent armies within the same theater of war coordinated by a single commander for a common purpose. General Grant's campaign plan for 1864 presented an ideal example of the synchronization of forces for a common strategic purpose. In a letter to General Sherman, he expressed his intent "to work all parts of the army together, and toward a common center."[24] Rather than independently pursuing the destruction of an enemy army or the capture of territory in the various theaters of operations, the Northern high command had learned the value of synchronized operations.

In addition, the United States Army had begun in 1864 to employ large formations of cavalry in deep strike missions for operational objectives. Though both sides had sent their cavalry on such raids throughout the war, perhaps the most impressive was Maj. Gen. James H. Wilson's mounted thrust into Alabama and Georgia in 1865. General Sherman sent Wilson with a cavalry corps of more than 13,000 troops on a deep raid to deflect attention from Sherman's invasion of South Carolina.

By the end of the Civil War, the North was demonstrating considerable skill in the synchronization, command, and employment of large armies at the operational level of war. Nevertheless, most of this expertise passed with this generation of officers. The security needs of the reunited nation called for small and isolated garrisons to police the frontier. The professional army returned to constabulary duties and focused on small unit tactics rather than the study of the higher levels of war. Only the need to field large armies during World War I would again force American officers to think about the operational level of war, and by then, they would be learning from the European professionals.

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[24] Ibid., 92.

The German wars of unification again saw the collision of massive armies. The success of the Prussian Army was built upon the professional expertise of Helmuth von Moltke. Moltke was born in Denmark in 1800 and served in the Danish Army until joining the Prussian service in 1822. His career in the Prussian Army was unspectacular until a series of staff appointments brought him into close contact with the royal family. In 1857, Moltke was appointed chief of the Prussian General Staff, and in the next fifteen years he guided the Prussian Army through a spectacular series of victories. In the Austro-Prussian War (1866), Moltke coordinated the deployment of three Prussian armies, concentrating the entire force on the battlefield of Koniggratz, decisively defeating the Austrian Army. In the Franco-Prussian War (1870-71), he coordinated the deployment and operation of three armies consisting of over 309,000 troops. In a series of battles culminating in the Battle of Sedan in September 1870, the Prussians and their German allies defeated the French Army and brought down the French government. Continued French resistance led to the siege of Paris, but ultimately the Germans prevailed and the war ended with the proclamation of the German Empire at Versailles on January 18, 1871.

The key element in Moltke's conduct of operations was his ability efficiently to mobilize and concentrate large number of troops. The Prussians made the most of the new technology, particularly, railroads and the telegraph. But it was in the development of "the first deep-future oriented war planning system" that gave Prussians the critical advantage.[25] The Prussian general staff under Moltke's supervision became an extremely capable and efficient organization for the planning and execution of the mobilization and

[25] Arden Bucholz, *Moltke, Schlieffen and Prussian War Planning* (Oxford: Berg Publishers, Inc., 1991), 9.

deployment of mass armies. When combined with Moltke's competent generalship, these advantages overwhelmed the French.

Moltke described strategy as a "system of expedients."[26] He noted that "strategy governs the movements of the army for the planned battle; the manner of execution is the province of tactics."[27] Moltke used the term operations to describe the movement and deployment of troops prior to the decisive battle[28] In fact, Lt. Gen. Hugo Freytag-Loringhoven noted, "In the German Army, then, starting in the general staff, the employment of the term 'strategic' has fallen more and more into disuse. We replace it, as a rule, by the term 'operations' and thereby define more simply and clearly the difference from everything that is referred to as tactical."[29] At the heart of Moltke's operational system was the pursuit of the decisive battle. In his "Instructions for Large Unit Commanders" written in 1869, Moltke observed that, "War must attain the goal of the government's policy by force of arms. The battle is the great means to break the will of the opponent. This intent is the basis of all large and small engagements."[30] The main features of Moltke's operational art were the linking of mobilization to campaign planning, the ability to move and concentrate large armies for decisive battle.

European armies noted the lessons of the German Wars of Unification, specifically, the importance of mobilization, the continuing relevance of the decisive

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[26] *Moltke on the Art of War: Selected Writings*, ed. Daniel J. Hughes, trans. Harry Bell and Daniel J. Hughes (Novato, CA: Presidio Press, 1993), 47.

[27] Ibid., 125.

[28] John A. English, *Marching Through Chaos: The Descent of Armies in Theory and Practice* (Westport, CT: Praeger Publishers, 1996), 56.

[29] Baron von Fretag-Loringhoven *Generalship in the World War* (Berlin: E. S. Mittler & Sohn, 1920), 34. Translated from the German at the Army War College, Washington, D.C., August 1934.

[30] Moltke, "Instructions for Large Unit Commanders," in Moltke, *On the Art of War*, 214.

battle, and, most important, the need for even bigger armies. By 1914, the armies arrayed for the initial clashes of World War I totaled 3.3 million men. Through four bloody years, the armies' conducted operations aimed at achieving the decisive battle. The very size of the armies precluded their defeat in a single battle. Only the slow process of attrition proved capable of providing victory through the exhaustion of the enemy's resources and national will. As soon as the Great War came to an end, military thinkers began to ponder the new lessons of warfare. In the aftermath of the Great War, the professionals began to understand more completely the impact of the expanded battlefield, industrialization, and mass armies. In this process, the nature of modern operational art became more clearly defined in a new framework for the art of war.

In 1926, the British military theorist J. F. C. Fuller expressed a modern view of the three levels of war by dividing the art of war into grand strategy, grand tactics, and tactics. He wrote that "grand strategy secures the political object by directing all war-like resources — moral resources — moral, physical, and material — towards wining the war."[31] The duty of the grand tactician is to take "over the forces as they are distributed and arrange them according to the resistance they are likely to meet."[32] His fellow countryman and theorist, B. H. Liddell Hart, retained the use of the word strategy to describe operations, but he further refined grand strategy as "the policy governing its employment and combining it with other weapons: economic, political, psychological."[33]

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[31] Fuller, *Foundations of the Science of War*, 108.

[32] Ibid., 107.

[33] B. H. Liddell Hart, *Strategy of the Indirect Approach* (London: Faber and Faber LTD, 1941), 31.

Modern operational art found its clearest expression among Soviet theorists. The Soviet Army struggled not only with the lessons of World War I, but also with those of the Russian Civil War. The Soviet concepts of operational art evolved from the thinking of several men, A. A. Svechin and M. N. Tukhachevsky foremost among them. In 1923, Svechin proposed that operational art was the "totality of maneuvers and battles in a given part of a theater of military action directed toward the achievement of the common goal, set as final in the given period of the campaign."[34] Further, he established the relationship between operations, tactics, and strategy, "tactics makes the steps from which operational leaps are assembled; strategy points the way."[35]

Tukachevsky's analysis of World War I led him to many key operational concepts. He recognized that technology expanded the battlefield requiring successive and deep operations.[36] In order to penetrate enemy forces, particularly with forces arrayed in a continuous front, a series of battles combined with operations that would strike deeply throughout the enemy's positions would be necessary. In fact, the concept of deep operations was the greatest achievement of Soviet interwar operational art. With the onset of Stalin's purges in 1936, however, innovative Soviet military thinking came to an abrupt halt.[37]

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[34] Jacob Kipp, *Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936* (Fort Leavenworth, KS: Command and General Staff College, 1987), 17.

[35]Quoted in David Glantz, *Soviet Military Operational Art: In Pursuit of Deep Battle* (London: Frank Cass, 1991), 23.

[36] For Tukhachevsky's views on successive and deep operations, see *New Problems in Warfare*, Art of War Colloquium, a text prepared by the Department of Doctrine, Planning and Operations at the U.S. Army War College (Carlisle Barracks, PA: U.S. Army War College, 1983), 4-6, 16, 17, 42-44.

[37] David Glantz, "The Nature of Operational Art," *Parameters* 15 (Spring 1985) : 6, 7.

As war clouds gathered in the late thirties, there emerged a fairly clear theoretical understanding of three levels of war. Strategy or grand strategy dominated the highest direction of war and embraced how the nation would organize and employ all its resources. The Germans classified the level below strategy as pertaining to operations. Likewise, Soviet theoreticians believed that the operational level of war involved the linking of major operations or battles to achieve strategic objectives. Since the beginning of military history, the understanding of the term tactics has been constant. Strategy, however, has had several meanings. Beginning with the introduction of large armies in Europe in the eighteenth century, strategy has also been used to describe not only the higher direction of war, but the conduct of large-unit operations in the field. Not until 1982 did the United States Army officially designate the third level of war as the operational level. Long before the United States appreciated the concept, however, its forces conducted large-unit operations with mass armies in both the nineteenth and twentieth centuries. The roots of American operational art may be traced to the large-unit operations of the Civil War, but modern American operational art dealing with mass industrial armies supported by airpower and mechanization was developed, like the European armies, in the interwar period.

By the end of the nineteenth century, the art of war could be divided into strategic art, operational art, and tactical art. Strategic art at the highest level has not changed much over the centuries. The Periclean strategy of defense, relying on maritime strength, was as appropriate to Athens in the Peloponnesian War as to England in 1940, when Britain held out alone against Germany in the hope of American intervention. Tactical and operational art, on the other hand, are much more influenced by technology and

military organization. Tactics, in fact, is how technology in the form of weapons can best be employed on the battlefield. Operational art, on the other hand, changes more slowly, evolving along with major shifts caused by technology combining with advances in doctrine, theory, and military organization. Operational art is best defined as the use of force to achieve strategic objectives in a theater of operations or a theater of war. As the nature of the force and the means to employ it changes, so too does operational art. The maneuver and coordination of armies for a coherent strategic purpose evolved over the course of the nineteenth and twentieth centuries. Decisive battle, linking mobilization to deployment, and broad lateral maneuver by corps or armies were all techniques of early operational art.

Modern operational art emerging at the end of the interwar period was characterized by successive and deep operations, synchronizing major operations and battles, and combining new forces, such as airpower. The American Army's performance in World War II involved all of these characteristics of modern operational art. Like their European counterparts, officers in the U.S. Army studied the lessons of World War I. In 1918, the United States sent more than two million troops to Europe. By the end of the war, the Americans had organized two armies and were in the process of forming an army group headquarters. As in the past, the peacetime American Army experienced significant reductions, but unlike the army after the Civil War, the officers of the 1920s and 1930s continued to think about and study modern war. The origins of modern American operational art can be found in the military educational institutions of the interwar period. The lessons and instruction of the American military educational institutions of this period are rooted in the experience of World War I.

CHAPTER 2

THE TRANSFORMATION OF WAR: THE DEVELOPMENT OF OPERATIONAL ART IN THE AMERICAN ARMY PRIOR TO 1919

One historian has said that the First World War lies like a giant scar dividing our world from that which existed before 1914.[1] This was true not only for the general political, social, and economic development of Western Europe, but warfare as well. The face of war by 1918 was very different from the expectations and initial conditions of 1914. Another historian suggests that a battalion commander who marched off to war in August 1914 would barely recognize the routine of combat by 1918. The employment of aircraft and tanks, the dominance of the machine gun and artillery, and the conditions of prolonged trench warfare were completely foreign to his prewar training and education. By contrast, the battalion commander of 1918 would recognize the key features of combat some twenty years later in 1939. Massive European armies would still be engaged with merely better models of the technology introduced in World War I.[2] This transformation was achieved as the great European powers struggled to find new solutions to the military problems confronting them in the Great War. For the Americans, who came late to this titanic struggle, it meant a wrenching transformation from an army that was little more than a nineteenth-century frontier constabulary to a modern military capable of challenging European armies on their own soil.

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[1] Michael Howard, *Studies in War and Peace*, (New York: Viking Press, 1970), 99.

[2] Williamson Murray and Macgregor Knox, "Thinking About Revolutions in Warfare," in *The Dynamics of Military Revolution 1300-2050*, ed. Williamson Murray and Macgregor Knox (Cambridge, UK: Cambridge University Press, 2001), 11.

Theory and Practice

Theory and practice in the U. S. Army before World War I were shaped by the requirement to police newly acquired overseas possessions, European military trends, and a growing sense of professionalism. Altogether, the Army's small size and its frontier and colonial missions slowed its progress in moving toward a modern conception of warfare. The reduction of the U.S. Army after 1865 was dramatic. At the height of the war in 1865 federal troops numbered over 1,000,000 officers and men, but within a year, shed of its volunteers, the Army counted only 57,000 regulars. The regular Army continued to shrink. By 1877, Congress reduced it to 24,000 officers and men, and it rarely rose above 27,000 total troops until the outbreak of the Spanish-American War.[3] Until the end of the nineteenth century, this small army was scattered in small posts and absorbed in constabulary duties on the frontier. After 1898, the Army helped secure America's newly acquired overseas possessions. Despite its small size, a growing sense of professionalism spurred military thought.

In the last quarter of the nineteenth century, an increasing sense of professionalism gripped the American officer corps.[4] Journals, professional associations, and, most importantly, a postgraduate school system sharpened American military professionalism. For practically all of its existence, the American Army had served as a frontier constabulary. With the close of the frontier in 1890, various officers debated the

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[3] Russell F. Weigley, *History of the United States Army*, rev. ed. (Bloomington: Indiana University Press, 1984), 598.

[4] "The growth of armies has kept pace with that of civil business and the armies of today must be handled by the same methods that are pursued by great commercial corporations." Captain W. D. Connor, Lecture on Organization and Duties of the Staff, November 23, 1904 Infantry and Cavalry School, United States Military History Institute Collection, File UB 220. Also see Allan R. Millett, *The General: Robert L. Bullard and Officership in the United States Army 1881-1925* (Westport, CT: Greenwood Press, 1975), 3-10.

Army's mission in their new professional journals. They found a partial answer in the requirement to garrison and defend the new overseas possessions as a result of the Spanish-American War. Shifting from a frontier constabulary to a colonial army required thinking about defending American possessions from modern foreign armies of potential aggressors. By 1899, the Secretary of War, Elihu Root, determined, "That the real object of having an Army is to provide for war."[5] Budgetary restraints and a traditional distrust of the military in peacetime hampered efforts to prepare the Army for modern warfare at the end of the nineteenth century and the start of the twentieth.[6] Yet if the Army could not maintain a large modern force, it could modernize the thinking of its officer corps through education and follow the latest military trends in the most advanced European armies.

There were many technological advances at the end of the nineteenth century that caught the eye of the military professionals. Certainly the importance of railroads, machine guns, quick firing rifles and artillery were among the most important, but perhaps just as important were the organizational changes necessary to manage the growing complexity of modern armies. British historian Michael Howard notes that "the greatest military innovation of the nineteenth century was not technological, but rather the organizational institution of the general staff."[7] National general staffs and field

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[5] *The Report of the Secretary of War for 1899* in *Five Years of the War Department Reports Following the War with Spain, 1899-1903* (Washington, D.C.: Government Printing Office, 1904), 58.

[6] As late as 1898, congressional debates on permanent expansion of the regular army reflected prejudice against the regular army. "One congressman struck the chords that pointed out that citizen soldiers were more idealistic and an all-round better sort than Regular Army 'hirelings,' and, above all, they 'do not menace our liberties.' " Edward M. Coffman, *The Regulars: The American Army 1898-1941* (Cambridge, MA: Harvard University Press, 2004), 5.

[7] Michael Howard, *War in European History* (London: Oxford University Press, 1976), 100.

staffs both developed in response to the increasing challenges of waging war in the nineteenth and early twentieth century. Competent staffs were crucial to the evolution of modern operational art. Moving, sustaining, and coordinating large armies in a theater of operation was complicated by the need to conduct joint and combined operations that integrated the new technologies. The Prussians led the way with the creation of a national general staff in 1806 that evolved over the years into the Great German General Staff, a model much studied by other European nations. After 1814, the Prussians established a General Staff in Berlin and distributed other staff officers to the field staffs in corps and divisional commands. In July 1828, the Prussian Army issued directions for the organization and responsibilities of the field staffs.

As the Prussian General Bronsart von Schellendorff observed, it was clear by the late nineteenth century that "the enormous numerical strength of modern armies, and the way they must be organized to meet the constantly changing requirements of war, render necessary great differences in carrying out the details of military operations. Consequently, the higher leaders and commanders require a regular staff of specially selected and trained officers."[8] Educating staff officers for large modern armies became a focus of military education in the nineteenth century. An imperial order on November 21, 1872, placed the Prussian *Kriegsakademie* under the Chief of Staff, and consequently the college was "regarded, to a certain extent, as a training establishment or school for the General Staff."[9]

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[8] Gen. Bronsart von Schellendorff, *The Duties of the General Staff*. 4th ed., trans. for the General Staff (London: Harrison and Sons, 1905), 2.

[9] Ibid., 42.

All the major powers of Europe recognized the need to educate and train officers not only to lead the ever larger armies, but to manage them. The British Staff College opened in 1858, and twenty years later the French established the Ecole Superieure de Gurerre after the failure of French arms in the Franco-Prussian War of 1870. In America, the development of the national and field staffs, along with institutions to supply them, with trained officers evolved more slowly down to the country's entry into World War I

From 1869 to 1883, Gen. William Tecumseh Sherman reigned as a dominating figure in the "Old Army." Sherman believed in small staffs and had little use for a chief of staff.[10] In 1881, however, Sherman directed the establishment of the School of Application for Infantry and Cavalry at Fort Leavenworth, Kansas. In its early years this school aimed at training and educating company grade officers for routine duty with troops. Following the apparent problems in military administration during the war with Spain, the War Department implemented significant reforms. Elihu Root, a successful New York lawyer, became Secretary of War in August 1899 and during his tenure instituted important and long-lasting reforms. Among these reforms were the creation of a national general staff, replacement of the Commanding General with a Chief of Staff to direct the national staff, and the establishment of a postgraduate military education system. This system included a General Service and Staff School at Fort Leavenworth and an Army War College in Washington, D.C.

In 1907, the Army renamed the Infantry and Cavalry School the General Service and Staff School. First year students studied troop leading and worked practical problems in brigade and division operations. The faculty then selected about half of the

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[10]Gen. William T. Sherman, *Memoirs of General W. T. Sherman* (1885; reprint, New York: Literary Classics of the United States, Inc., 1990), 2: 893.

students to go on to the second year in the staff course. In the staff course, the curriculum focused on general staff duties and corps operations. Competition for selection to the staff course was intense and considered an honor.[11] At the top of the postgraduate military system was the Army War College. The Army War College located in Washington, D.C., opened its doors to students in 1904. Its purpose was to become "a postgraduate course for the study of the greater problems of military science and national defense."[12]

Practice in the United States Army prior to its entry into World War I was driven by the requirement to police the new overseas possessions gained in the war with Spain. Until 1908, twenty percent or more of the army served in the Philippines.[13] The rest of the Army drilled and maintained itself in small stateside garrisons. The Punitive Expedition in 1916 focused the Army on Mexico while some of the largest battles in history were fought in France. Strategic theory, on the other hand, received little mention in the professional journals. From 1889 to 1905, only three articles dealing with strategic theory appeared in the monthly *United Service Journal*. There were discussions of the strategic and tactical lessons from the Boer and Russo-Japanese Wars, but these articles offered little beyond a conventional analysis of lines of operation and observations on the relative power of offensive versus defensive operations.

The Army's new postgraduate military schools gave more attention to theory. American military thought before World War I focused on tactics and closely followed

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[11] Timothy K. Nenninger, *The Leavenworth Schools and the Old Army: Education, Professionalism, and the Officer Corps of the United States Army, 1881-1918* (Westport, CT: Greenwood Press, 1978), 85.

[12] *Report of the Secretary of War for 1901*, in *Five Years of War Department Reports,* 162.

[13] Coffman, *The Regulars*, 55.

trends and developments in Europe, particularly Germany. Likewise, the American understanding of military strategy or operational art followed European thought. The dominant operational paradigm in the nineteenth century was the pursuit of the decisive battle.[14] Driven by the image of Napoleonic warfare, the Moltkean examples of Koniggratz and Sedan, and the increasing geostrategic need for quick victory, European military professionals in the decades before 1914 still believed in the possibility of smashing enemy armies in battle. Some historians argue that European professionals did grasp many of the implications of the changing nature of warfare. Advances in weapons lethality and the potential of railroads to support and move the new mass armies suggested the expansion of the single battle of annihilation into decisive combat throughout the theater of operations. Field Marshal Alfred von Schlieffen, Chief of the German General Staff from 1891 to 1905, referred to this concept as the *Gesamtschlacht*, the total battle. Schlieffen, the architect of the German plan to invade France in 1914, viewed combat throughout the theater of operations as part of one battle.[15] Germany's geostrategic dilemma of a two-front war against Russia and France still required that the expanded battle in either theater must be decisive to achieve quick victory. European operational art then at the end of the nineteenth century consisted of maneuvering the army or armies in the theater of operation so that the conditions for decisive battle could be favorably achieved. To the extent that the theory of large-unit operations and theater

[14] Brian Bond, *The Pursuit of Victory from Napoleon to Saddam Hussein* (Oxford: Oxford University Press, 1996), 3.

[15] See Antulio J. Echevarria II, *After Clausewitz: German Military Thinkers before the Great War* (Lawrence: University Press of Kansas, 2000), 182-212.

strategy was studied at all in the U. S. Army at the beginning of the new century, it was studied in the postgraduate school system.

Two of the most influential figures in the development of the Leavenworth Schools were Col. Arthur L. Wagner and Maj. Eben Swift. Wagner graduated from West Point in 1875 and served in several campaigns against the Sioux and Ute Indians. In 1886, he joined the faculty of the Infantry and Cavalry School and with some interruptions over the next seven years helped to shape the curriculum. As head of the Military Art Department, strategy and tactics were his main concerns. Although chiefly focused on tactics, he gave some thought to the higher levels of war. In a lecture on strategy given to officers of the regular army and National Guard gathered for maneuvers at West Point, Kentucky, in 1904, he declared, "The art of war is broadly divided into the two subjects of strategy and tactics. Strategy is the art of moving an army in the theater of operations, with a view to placing it in such a position, relative to the enemy, as to increase the probability of victory, increase the consequences of victory or lessen the consequences of defeat."[16] Wagner went on to quote Jomini, Clausewitz, and a host of other European theorists.

Wagner's concept of strategy derived from a noted English military educator and author, Sir Edward Bruce Hamley. Hamley was the first professor of military history at the newly established British Army Staff College, teaching there from 1859 to 1865. The new military staff colleges needed texts, and these were often provided by the faculty. In this case, Hamley published *The Operations of War* in 1866, which became the sole

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[16] Arthur L. Wagner, *Strategy: A Lecture Delivered by Colonel Arthur L. Wagner, to the Officers of the Regular Army and National Guard at the Maneuvers at West Point, Kentucky, and at Fort Riley, Kansas, 1903* (Kansas City, MO: Hudson-Kimberly Publishing Co., 1904), 3-5.

official text for the British Staff College until 1894. For the next half century it served as a standard text in staff colleges around the world.[17] The need for texts in English secured it a place in the curriculum of both the United States Military Academy and the Leavenworth schools for many years. Hamley's approach to military strategy was essentially Jomininan. He illustrated lines of operations and communication, and interior and exterior lines from Napoleonic and modern campaigns. The text stressed the importance of logistics and maneuver rather than battle in waging short, decisive campaigns.

The American concept of operational art prior to World War I was a mixture of Jomini and Clausewitz as distilled from European texts and articles reflected and reflections on the Civil War experience. Wagner co-authored a text on strategy that drew heavily upon Hamley's work but included more American campaigns. Assisted by Eben Swift, Wagner wrote *Strategical Operations, Illustrated by Great Campaigns in Europe and America*, which was published in 1897. The authors admitted that "the basis of this work is that portion of Hamley's *Operation of War* relating to the subject of strategy. Some of the descriptions of campaigns are taken verbatim from Hamley; others are revised and rewritten either wholly or in part, and others again are entirely new."[18] As evident in Wagner's text, the American concept of military strategy was the movement of armies in a theater of operations. Still, Wagner does differ from Hamley in his emphasis on battle. Wagner insisted that "the enemy's main army is always the true objective, but

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[17] *Operations of War* went through seven editions, the last published in 1922. It was still the main text at the Indian Staff College just prior to World War I. Hew Strahan, *European Armies and the Conduct of War* (London: Unwin & Hyman, 1983), 68.

[18] Arthur L. Wagner, Eben Swift, J. T. Dickman, and A. L. Miles, *Strategical Operations: Illustrated by Great Campaigns in Europe and America* (Leavenworth, KS: United States Army Infantry and Cavalry School, 1897), preface.

there will often be intermediate objectives as necessary steps in reaching the ultimate objective."[19] Wagner also wrote another Leavenworth text, *Organization and Tactics*. This text also reaffirmed that "all strategical operations must terminate in battle."[20] Wagner read Clausewitz and shared his views on the importance of battle. One historian even described Wagner as an "early American disciple of Clausewitz."[21] The exposure of American military thought to Clausewitz became even more important in the interwar years.

American military thought continued to be heavily influenced by trends in Europe, but one of the more original American works from this period is John Bigelow's *The Principles of Strategy* published in 1891. Bigelow's purpose was to "discuss the subject of strategy in the light of American warfare, and thus furnish instruction for Americans, not only in the theory of this subject, but also in the military history and geography of their own country."[22] Bigelow used examples from the Civil War to describe political, regular, and tactical strategy. The author differentiated political and regular strategy based on the objectives. Bigelow used Sherman's Atlanta Campaign to illustrate political strategy which aims at the destruction or coercion of the opposing government as the military objective. Regular strategy has the enemy army as its objective and employs Jominian geometry and theory to get at it. This is certainly a more accurate reflection not only of the American Civil War experience, but recognition of the

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[19] Wagner, *Strategy*, 43.

[20] Arthur L. Wagner, *Organization and Tactics* (Kansas City, MO: Hudson-Kimberly, 1897), 1.

[21] T. R. Bererton, *Educating the Army: Arthur L. Wagner and Reform, 1875-1905* (Lincoln: University of Nebraska Press, 2000), 121.

[22] John Bigelow, *The Principles of Strategy*, (Philadelphia: J.B. Lipppencott Company, 1894), 6.

increasing trend toward total war in the late nineteenth century. In any event, foreign conceptions of warfare continued to dominate not only the theory of war but how officers were educated and trained.

The Leavenworth schools prior to the First World War also set the methods and provided many of the tools for officer education. While serving as Wagner's primary assistant in the Department of Military Art, Eben Swift introduced the applicatory method of instruction in 1894. Swift adopted this method of instruction from the Germans. This approach included war gaming, staff rides, and map exercises. In addition, Swift introduced German troop-leading procedures including standard methods of issuing orders, such as the five-paragraph field order.[23] German influence increased at Leavenworth when Wagner's text on *Organization and Tactics* was replaced in 1907 by Albert Buddecke's *Tactical Decisions and Orders*, Otto F. Griepenkerl's *Letters on Applied Tactics*, and von Schellendorff's *Duties of the General* Staff.[24] Despite the evolution in tactics and operations over the years, these methods of instruction proved enduring. In fact, these methods remain the foundation of military instruction in the United States Army and have been extended to embrace the operational as well as the tactical levels of war. The problem with the Army's initial use of the applicatory method, however, was its preoccupation with practice rather than theory. Undoubtedly, the overriding concern was the need to train staff officers in the practical matters of

[23] Nenninger, *The Leavenworth Schools*, 46, 47.

[24] Brereton, *Educating the Army*, 121.

management, but this did not leave much room for a systematic study of modern land warfare.[25]

In the last quarter of the nineteenth century and up to World War I the Leavenworth Schools varied their focus from time to time, but in the main they concentrated on tactics and the production of competent staff officers. Conducting and managing division and corps operations was the extent of large-unit study. There was no coherent view of large-unit or army operations beyond the Jominian legacy of battlefield geometry. The army conceived military strategy as the movement of an army in a theater of operation to achieve favorable conditions for decisive battle. Although logistics was understood as an important, indeed, critical aspect of army operations, the Leavenworth Schools developed no concept of phased operations or linking battles to achieve strategic objectives. Americans, like their European counterparts, still looked to the decisive battle as the means of achieving strategic success.

At the upper tier of the postgraduate system was the Army War College. At first, the Army did not intend to make the War College a military or service school, but a place where "problems involving military questions will be solved by groups of officers, offensive and defensive plans will be worked out in a comprehensive way."[26] The War College functioned as a division of the General Staff. There selected officers learned by working on real world problems and plans. By 1890, both the Army and the Navy began to study and develop plans for potential conflict with Great Britain.[27] Since the

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[25] Harry P. Ball, *Of Responsible Command: A History of the U.S. Army War College*, 2nd ed. (Carlisle Barracks, PA: Alumni Association of the United States Army War College, 1994), 141.

[26] Brig. General William Carter, "The Training of Officers," *United Services Journal* 2 (1902), 341.

[27] Steven T. Ross, *American War Plans: 1890-1939* (London: Frank Cass, 2002), 8.

establishment of the Naval War College in 1885, it had been closely involved with the Department of the Navy in war planning. Likewise, the Army War College was charged with assisting the General Staff in studying contemporary strategic problems in which the officers selected to the War College served as both students and apprentices to the General Staff.

Both Arthur Wagner and Eben Swift served in the War College much as they had at the Leavenworth Schools. Wagner served as a director of the War College for its first session in 1904. Death cut short his service in 1905. Eben Swift arrived in 1906 fresh from the General Service and Staff School and he brought with him the applicatory method of instruction. Swift, Maj. Gen. J. Franklin Bell (Chief of Staff from 1906 to 1910), and Maj. Gen. William Wotherspoon (President of the Army War College from 1909 to1912), all served in senior positions in the Leavenworth schools. Together they changed the course of instruction at the War College to reflect the Leavenworth model with its increased emphasis on tactics, map problems, and staff rides. As General Wotherspoon remarked in his opening address to the War College class of 1911, the "course corresponds closely to that pursued in the Staff College at Leavenworth, and in Germany, which is the great model."[28] After 1908, the War College became more focused on instruction and less a functioning adjunct to the General Staff. There were, however, significant differences between the Army War College and the Staff School.

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[28] Army War College Session 1910-1911 Record of Work in Four Volumes, U. S. Army Military Research Institute, Carlisle Barracks, PA (hereafter cited as USAMHI), 1:11.

Unlike the Leavenworth schools, the War College was always intended to work closely with the Navy in the study of war planning and strategic problems.[29] Both colleges exchanged students and faculty, and, on occasion, participated in joint studies. By 1917, the Army War College listed three naval officers and eleven Marine officers among its graduates. Eventually, all the naval officers and seven of the Marines achieved flag rank.[30] The need to protect overseas possessions underscored the requirement for service cooperation in projecting American power. The War College recognized this need. As a memorandum drafted in late October 1909 put it: "The important subject of joint operations between the Army and Navy in oversea expeditions is discussed and studied in a series of lectures and practical problems involving the embarkation of expeditionary forces."[31]

On top of everything else, the War College worked with real war plans. Prior to 1890, American war planning usually began with the initiation of hostilities. The example of the German General Staff suggested the need for future or contingency war planning in modern warfare. Although the Army and Navy began developing such plans in the 1890's, the Spanish-American War demonstrated the need for joint cooperation in planning as well as execution. To meet this need, the Joint Board was organized in 1903 "for the purpose of conferring upon, discussing and reaching common conclusions

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[29] "Another function which is now performed to a very slight degree, and which is of very great importance, should be performed by the proposed War College acting in cooperation with the existing Naval War College, that is the union of the Army and Navy in the collection and utilization of information, studying and formulating plans for defense and attack, and the testing and selection of material of war." War Department, "The Report for 1899" in *Five Years of the War Department Reports*, 66.

[30] Ball, *Of Responsible Command*, 116.

[31] U. S Army War College, Memorandum for AWC Course for 1909-1910, 30 Oct 1909, USAMHI.

regarding all matters calling for the cooperation of the two services."[32] The following year, the Joint Board approved a common list of designations for potential adversaries to be used in war planning. These designations referred to potential enemies by color: Red — Great Britain, Black — Germany, Orange — Japan, Green — Mexico. Gradually, this convention resulted in the color plans which dominated American war planning up to World War II. In the prewar period Orange, Red, and Green were the most frequently studied and exercised war plans at the War College.

The War College intended to prepare officers for "the higher duties of command" by studying "the tactical and strategical handling of troops, with special reference to those including and larger than a division." In actual fact, however, students received little instruction in large-unit operations. The prewar army lacked a permanent corps structure. The land forces were divided into the mobile army and the coast artillery. The division became the basis of organization for the mobile army. When needed, divisions could be grouped into field armies. If several field armies operated in the same theater of war, they might be organized into armies.[33] The War College maintained a tactical focus down to World War I.[34] The list of map problems for the 1909-1910 course consisted of 34 division operations, five army operations, eight overseas operations, and five strategic

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[32] General Orders No. 107, 20 July 1903 listed as an appendix to the "Report for 1903," in *Five Years of the War Department Reports*, 334.

[33] U. S. War Department, *Field Service Regulations, United States Army 1914* (Washington, D. C.: Government Printing Office, 1914), 10.

[34] In a lecture at First Army Headquarters, AEF on December 18, 1918 Brigadier General Hugh A. Drum, Chief of Staff, First Army observed, "Prior to this war, our military students have limited their thoughts to divisions. In fact, at home, in the beginning of our organizations for this war, the same mistake was made, the authorities did not seem to grasp the composition of an Army and could not expand their view to a larger unit than a division." Drum Papers, Box 14, USAMHI.

problems. The same list indicated that only nine of the 61 map problems dealt with matters of supply.[35]

The exercises specifically designated as strategic map maneuvers, such as Problem Number 17 for the 1914-15 course, normally involved a field army consisting of four divisions. The problem consisted of concentrating this corps-sized force and then conducting a movement to contact with the enemy, followed by a battle.[36] Virtually all of the strategic map problems and exercises of the prewar period involved only field armies with four or fewer divisions, no evidence of phasing, just concentration, movement, and battle. There was also little attention paid to matters of supply. The map problems required students to perform a mission analysis, consisting of a statement of the mission, comparison of enemy and friendly forces, development of courses of action and then proposing a decision on the proper course of action. In the last course before America entered the Great War which was conducted in 1916, the map problem dealing with the Red War Plan suggested the limited scale of American exercises. In this case, the problem called for the Army to field 196,000 men and 472 guns in seven divisions to seize key points in Canada.[37] By comparison, the British and French actually committed 750,000 men in three armies to the First Battle of the Somme, which raged from June to November that same year. The War College course did not change much in the last decade before America's entry into the Great War. Although the War College sponsored

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[35]"Army War College (hereafter referred to as AWC Course of 1909-1910 Assignment of Map Problems, Map Maneuvers, and Rides, Officers of the Permanent Personnel" in "Outline of Course," USAMHI.

[36] Record of Map Maneuver 17, April 12-29, 1915, USAMHI.

[37] "AWC Curriculum for 1916-17, Part I Problems and Exercises," USAMHI.

lectures by American observers to the European conflict, its map problems and exercises continued to focus on American war plans and current tactical doctrine.

After witnessing three years of slaughter from afar, America was still unprepared for modern war, certainly in terms of equipment, training, and in the education of its small officer corps.[38] The American Army had made great progress in the decades before the war. The War Department established a national general staff and created a military educational system including a staff college and a war college, all of which spoke to a greater sense of professionalism in the officer corps. Unfortunately, the military education system focused almost exclusively on immediate American strategic and tactical requirements rather than a wider consideration of modern warfare. Without great peacetime armies to exercise, and with only fading memories of the Civil War and the more recent expeditionary experience, the officer corps depended upon European conceptions of modern war.

Even though the Europeans proved capable of managing, moving, and sustaining vast armies, their conception of modern war failed to accomplish strategic decision. The Europeans studied and even conducted large-unit exercises prior to 1914, and they still got it all wrong. The United States Army had a long way to go to even conceive of the scale of modern war. At both the Leavenworth Schools and the War College, concepts of large unit operations — armies and army groups, operational or strategic theory were little studied or exercised. The applicatory method embraced at both schools emphasized

[38] George C. Marshall, who served as the G-3 of the First Army, wrote after the war, "No one of us had a definite conception of the character of the war, and certainly none of us understood the method in which the staffs of the Allied armies functioned. In light of later experience, some of the questions asked and ideas proposed now seem ludicrous. Today it is inconceivable that we should have found ourselves committed to a war while yet in such a complete state of unpreparedness." George C. Marshall, *Memoirs of My Service in the World War 1917-1918* (Boston: Houghton Mifflin Company, 1976), 8.

the practical and was best applied to the tactical level of war. Nevertheless, the U. S. Army had made a good beginning. The War College recognized the need for joint cooperation, and both schools provided a solid foundation for staff officers in the development of plans and the conduct of operations. Unfortunately, the realities of modern warfare would be learned in the hard school of experience. The experience of World War I transformed the American officer corps' understanding of war just as it transformed war itself.

The U. S. Army in the Crucible of Modern War

The United States declared war on Germany on April 6, 1917. Fifty-two days later Gen. John J. Pershing and a small staff of six officers stepped aboard the *S. S. Baltic* headed for Europe. Pershing, the commander of the American Expeditionary Force (AEF), represented the American military experience and education of the proceeding thirty years. Prior to 1917, he fought against Indians in the American West, the Spanish in Cuba, and the Moros in the Philippines. A 1905 graduate of the Army War College, Pershing served as an observer in the Russo-Japanese War of 1905, and he led the Mexican Punitive Expedition in 1916-17. Now as the commander of the AEF, he faced his greatest challenge, as did the army that produced him. Pershing fully understood the need to come to grips with the challenge as soon as possible if America was going to make a significant contribution to winning the war.

Despite the many years of wargaming contingency plans at the War College, the U. S. Army possessed no plan for how America might contribute to the Allies, how an expeditionary force might be organized, or even, how the War Department itself might be

expanded. The officers gathered around General Pershing were acutely conscious of the fact that the professional reputation of the American Army would be tested on a world stage. American officers had long admired the efficiency of the German Army. After years of using German tactical texts and methods, some were wary of taking on the Kaiser's forces.[39] Whatever personal doubts or feelings Pershing's aides harbored, however, they quickly got down to developing an estimate of the situation. While aboard ship they concluded, "America must organize and put into France, armies, not divisions; a force of at least a million men should reach France within a year; guns and artillery ammunition for initial needs must be secured from the Allies."[40] From the beginning, Pershing envisioned large-unit operations with American formations under American command.

One of the first questions to answer was where in France American forces would be deployed, organized, and fight. To a large extent, this was determined by logistics as much as by strategy. The British armies deployed to cover the channel ports while the French were concerned with defending Paris. The channel ports were fully committed to the support of British forces and French national needs. Only the ports in the southwest of France possessed the capacity to "supply the great forces deemed essential to win the war."[41] Adequate and clear lines of communication were critical to organizing and sustaining large unit operations. The next question was what to do with the American forces. The Allies were desperate for manpower and constantly clamored for the

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[39] Millet, *The General*, 311.

[40]Maj. Gen. Fox Connor, "G-3, G.H.Q., A.E.F., and Its Major Problems," Lecture delivered at the Army War College, March 21, 1933, 3. Richards Papers, Box 13,USAMHI.

[41] *The United States Army in the World War 1917-1919* (Washington, D.C.: Center of Military History, 1991), 12: 4.

incorporation of American troops and units directly into their own national forces. Secretary of War Newton D. Baker gave Pershing a mandate to cooperate, but admonished him to keep "in view that the forces of the United States are a separate and distinct component of the combined forces, the identity of which must be preserved."[42] Pershing was firmly committed to the organization of an American Army and finding an operational plan to use that army decisively.

Building and organizing an American Army capable of competing with European armies already at war for three years was no easy task. Shortly after Pershing's arrival in France, he tasked his G-3 Operations section to consult with the British and French staffs and propose an organization for American forces. A War Department Board known as the Baker Board was already in France working on the problem. Pershing's staff cooperated with the Baker Board and developed the General Organization Project. Published on July 10, 1917, this proposal became the basic blueprint for the American Expeditionary Force. The project asserted that "it is evident that a force of about one million is the smallest unit which in modern war will be a complete, well-balanced and independent fighting organization."[43] The plan called for the organization of five corps of six divisions each, two divisions in each corps would be replacement divisions. The plan projected the total strength of the AEF to 1,328,488 in thirty divisions. The study noted that this force should reach France by 1918, but that at least three million men eventually might be required. This number included army, corps, and support troops.[44]

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[42] Letter of Instruction from the Secretary of War to Major General Pershing, May 26, 1917, quoted in full in John J. Pershing, *My Experiences in the World War* (New York: Frederick A. Stokes Company, 1931), 1: 38.

[43] Connor, "G-3, G.H.Q., and Its Major Problems."

[44] "General Organization Project HQ AEF July 10, 1917," *U. S. Army in the World War,* 1: 93.

Pershing recognized the need for a modern staff to manage this large force. American general staff organization called for operations, intelligence, and administrative sections. After studying Allied staffs, Pershing decided to adopt the French Army's system, which included staff sections for personnel (G-1), intelligence (G-2), operations and training (G-3), and supply (G-4). The difficulties encountered in training raw units shipped from the United States led to the creation of a separate section for training (G-5). Eventually, the G-5 supervised an entire military school system in France, providing training in virtually every critical skill from cooking to staff work. The general staff organization was replicated in AEF corps and divisions and remains the basis for modern staff organization. In addition to the general staff, the AEF formed a large technical staff to manage engineer, medical, transportation, aviation, tank, and other elements of modern warfare. The critical importance of railroads led to the creation of a transportation division headed by Brig. Gen. William Atterbury, a Pennsylvania railroad executive in civilian life.

The immense logistics required to ship, deploy, move, train, and sustain a million men or more was also characteristic of modern war. The General Organization Project of 1917 suggested that 20 percent of the American force in France would be dedicated to logistics in maintaining the lines of communication. In fact, it grew to 329,653 soldiers or 35 percent of the total force.[45] Eventually, the organization charged to maintain the lines of communication became known as the Services of Supply. Maj. Gen. James G. Harbord, a trusted confidant of General Pershing, commanded this organization. As

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[45] C-in-C, AEF, "Report on Organization HQ AEF", February 12, 1919, *U. S. Army in the World War*, 1: 144.

commander of the Services of Supply, Harbord supervised the chiefs of procurement, transportation, supply, and construction. The logisticians divided the rear area into nine base sections to receive supplies from ports, an intermediate section in the center of the area for storage, classification, and transshipment of supplies, and an advance section for the distribution of supplies in the zone of operations.[46]

Modern war meant large armies that needed large staffs. The General Headquarters staff mushroomed from 186 officers and men in 1917 to 1,414 within one year with the addition of the supply and administrative departments, it grew to 4,271 officers and men.[47]

Modeled on American adaptations of European practice and experience, the AEF held the key to shifting the military balance to the Allies. Since 1914, the war had attained unprecedented and ever increasing levels of military effort. The initial German plan to invade France, generally referred to as the Schlieffen Plan, involved seven armies comprising two million men. By 1918, the Germans massed thirteen armies in four army groups on the Western Front opposed by three Allied army groups containing a total of thirteen armies. Both sides had reached the limits of their national resources. German strategy depended on quickly ending the war in the East and hurling the remainder of its strength against the Allies in the West. The Allies had to hold on until the American Army could organize itself into a modern effective fighting force. How this American force would be employed was a contentious issue for the Allies.

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[46] Historical Branch, War Plans Division, General Staff, *Organization of the Services of Supply: American Expeditionary Forces* (Washington, D.C.: Government Printing Office, 1921), 22-23.

[47] "Report of the Chief of Staff, GHQ, AEF," June 30, 1919, in *U. S. Army in the World War,* 12: 91, 92.

Shortly after General Pershing arrived in France, he directed the operations section of the newly formed General Headquarters (GHQ) to make a study for the future employment of the American Expeditionary Force. The operations section "sought a vital point where a quick telling blow could be struck, a blow which would strike against the whole German system on the Western Front."[48] By September 25, 1917, this small group of officers produced "A Strategical Study on the Employment of the AEF Against the Imperial German Government." The report's authors identified two critical sectors on the Western Front: the Saarbourg-Metz sector in northeastern France and the Hirson-Lille sector in the northwestern portion of the country. It also offered this prescient assertion: "For a successful conclusion of the war, Germany must strike a decisive blow against the Western Front prior to the Fall of 1918."[49] Further the study predicted, "Unless internal disorders appear in Germany, it does not seem probable that the Allies can make a large offensive in 1918 with much chance of success."[50] The study anticipated only defensive or minor offensive operations in 1918 while the American Army gained strength, organization, and experience. Decisive operations would take place in 1919.

The study recommended that the American Army eventually take over a sector in the Saarbourg-Metz sector using Nancy as a major base of operations. A detailed analysis of the rail system supporting the German forces in France suggested that seizing or destroying the two lateral railroads running behind the German lines in the vicinity of

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[48] "Lecture Delivered by Brig. General H.A. Drum, Chief of Staff, First Army," December 18, 1918. Drum Papers, Box 14, USAMHI.

[49] "A Strategical Study on the Employment of the A.E.F. Against the Imperial German Government," Drum Papers, Box 15 USAMHI.

[50] Ibid., 19.

Metz would separate the right and left wings of the German Army and "might well compel the evacuation of practically all territory West of the Rhine."[51] Striking in this region had the additional advantage of securing the valuable iron ore fields in the area. Metz, however, was heavily fortified and so striking to either flank of the city was preferable. Regardless of where the Americans attacked in the direction of Metz, the St. Mihiel salient would have to be eliminated first to protect the flank of the attacking forces.[52]

Pershing's staff was a tight knit group dominated by Leavenworth trained officers.[53] Within four months of arriving in France his staff had studied the problem and recommended an operational objective that would guide Pershing's efforts to get American forces into the fight. A host of problems highlighted by logistics, a lack of organization, and German offensives hindered his ability to build an American Army capable of achieving this operational objective.

In 1917 as America shipped troops to France and began the process of organizing and training its forces, the Germans knocked Russia out of the war. The German High Command now led by Field Marshal Paul von Hindenburg and General Erich Ludendorff began shifting forces to the Western front for decisive operations against the French and British. On March 21, 1918, the Germans opened a series of major attacks aimed at finishing the war before the Americans forces could tip the balance in the Allies' favor. The Germans committed three armies in a massive blow that collapsed the British Fifth Army and threatened the entire front. Four days after the beginning of the

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[51] Railroads, Exhibit B to "Strategical Study," 3.

[52] Drum, "Lecture," December 18, 1918.

[53] Pershing, *My Experiences*, 1: 103

offensive, Pershing offered General Henri Philippe Petain, the commander of the French armies, to delay the formation of U.S. corps and provide any serviceable divisions for his use.[54]

In this crisis, the Allies reached several significant agreements. Pershing's offer of American troops led to the early commitment of several U.S. divisions and supporting elements to combat in the next few months. Desperate for manpower, the French and British insisted that priority be given to American infantrymen and machine gunners in the shipment of forces to France. The result of this agreement delayed the organization of an American Army, which required a host of supporting combat and service units, such as engineer, artillery, signal, medical, and quartermaster units. Pershing and Secretary of War Baker recommended approval as long as the Allies understood their intention to form an American army as soon as possible.[55] Finally, the crisis provided the impetus for Allied unity of command. On March 26 at Doullens, France, the British and French agreed to give Foch coordinating authority over their armies. Eight days later, the Allies better defined Foch's authority by giving him the title, "Commander-in-Chief of Allied Armies in France." The Allies specifically charged Foch with "strategic direction of military operations." The commanders of the national forces would have "tactical direction of their armies," and the right to appeal to their governments if they disagreed with Foch.[56] Even though it was not yet formed, Pershing insisted the American Army

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[54] Pershing, *My Experiences*, 1: 356.

[55] "Joint Note with Recommendations of Secretary of War" March 28, 1918, *U. S. Army in the World War*, 2: 261. Later in a meeting at Abbeville on May 1 and 2 the Allies agreed that the British would provide additional shipping to increase the number of infantry sent to Europe while American shipping would concentrate on the necessary combat and service support units.

[56] " Minutes of Conference Held at the Hotel De Ville, Beauvais On April 3, 1918," in *U.S. Army in the World War*, 2: 277.

fall under this agreement.[57] Under the pressure of the German attacks, Foch became the theater and operational commander while Pershing, Haig, and Petain retained tactical direction of their armies.

Four more German offensives in the spring and early summer of 1918 drew American units into their baptism of fire, but no units larger than a division saw action. By the end of June, the AEF organized four corps headquarters, but not until July did the I Corps actually assume tactical direction of American divisions. On July 10, Pershing went to see Foch to secure his blessing for the formation of an American Army and to argue for a sector in the Chateau-Thierry region. Foch agreed in principle, but was vague on timing. In the meantime, the Third U.S. Division played a prominent role in stopping the final German offensive in front of the Marne by July 17. Ludendorff's great gamble to win the war failed and now the initiative passed to the Allies. Foch was soon planning counter offensives to eliminate the German gains, and Pershing pressed to get an American Army involved in the coming attacks. On July 18, the First and Second U. S. Divisions under the French Sixth Army spearheaded the counter offensive to pinch out the German salient near Chateau-Thierry. Later, six more U.S. divisions as a part of two U.S. corps operated under the French Sixth and Ninth Armies. The success of this attack demonstrated the readiness of at least those American divisions and corps in the line.

On July 22, Foch agreed in writing to the organization of an American Army in the vicinity of the St. Mihiel sector.[58] Two days later, the senior Allied commanders met

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[57] Pershing, *My Experiences*, 1: 376.

[58]Ferdinand Foch to John J. Pershing, July 22, 1918, in *U. S. Army in the World War*, 2: 543.

at Bombon to set the course for the next series of offensive operations. Foch presented an outline for limited offensive operations that would set the stage for subsequent decisive operations. He was primarily interested in freeing the Allied railway system from German interference in three regions: Paris-Avricourt railway in the Marne region, Paris-Amiens railway, and the Paris-Avricourt railway in the Commercy region. This last operation required the reduction of the Saint Mihiel salient and was assigned to the American Army.[59]

On July 14, Lt. Col. George C. Marshall, until recently the G-3 Operations officer for the First Infantry Division, drove into AEF Headquarters at Chaumont as a new member of the operations section of GHQ. The next morning, Brig. Gen. Fox Connor, G-3 of the AEF, walked into his new subordinate's room and told him to start planning for the reduction of the St. Mihiel salient. Soon to be promoted to full colonel, Marshall, was a graduate and a former instructor at the staff school. He now found full use for the time he spent at Leavenworth. Within days, Marshall became the operations officer for the First Army and began planning for the first major American military operation of the war.[60] AEF headquarters issued the order to organize the First Army staff on July 24. Initially, just 35 officers and 100 soldiers were available to fill out the staff, but it grew to more than 600 officers over the next few months.[61] Organizing the First Army as a fighting force was a monumental task. American divisions were spread from Switzerland to the channel coast. Due to the decision to give priority to the shipment of infantry from

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[59] "Memorandum to the Commanders in Chief of the Allied Armies," July 24, 1918 in *U. S. Army in the World War*, 2: 551.

[60] Marshall, *Memoirs of My Services in the World War*, 120-27.

[61] Drum, "Lecture," 4.

American ports to France, there were few corps and army support units. In fact, only I Corps was organized and functioning at the end of July. The III, IV, and V Corps were organized but possessed no corps troops. The American Air Service had only six squadrons available and there were only three corps and army artillery brigades. Tank units were still in the process of organization and training. A good deal of the AEF's supporting artillery, aircraft, and tanks would have to be provided by the French.

The concentration of the American First Army in the St. Mihiel sector required significant logistics preparation. Engineers reconstructed over 45 miles of standard gauge and 250 miles of light railways. Nineteen railheads provided for daily supply and a stockpile of 40,000 tons of ammunition. The First Army communicated through telegraph and telephone lines, radio, and pigeons.[62] When the concentration was complete, the First Army included over 600,000 American troops organized into four corps with sixteen divisions available. Combined French and American assets provided for 1,400 aircraft, 267 tanks, and 3,000 guns to support the attack.

This was the largest joint and combined major operation conducted by the American Army to date. The French provided 600 aircraft, 113 tanks, and much of the artillery. Pershing commanded the First Army but was under the direction of Gen. Henri Philippe Petain, the Commander-in-Chief of the French Army. The First Army instructions for the operation called for a main attack from the southern portion of the salient by I and IV Corps. A secondary attack would be made on the western side of the salient by the V Corps. The French II Colonial Corps assigned to Pershing's First Army, would attack the nose of the salient following the success of the main attack. The plan

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[62] Pershing, *My Experiences*, 2: 260.

divided the main attack into four phases designating objectives for each echelon of the army over time. The first phase provided for an intermediate objective to which each division would reach as rapidly as possible without waiting for the advance of flanking units. Beyond this line, artillery could not provide a rolling barrage without moving forward. A second phase line was established for the corps. Each corps was to reach this line as rapidly as possible without waiting for units on its right or left. The third phase consisted of corps objectives for the second day. The final phase consisted of the drive to the army objective as directed by General Pershing. The secondary attack scheduled for II Corps was also planned in two phases.[63] (See Figure 1)

The First Army G-3 issued the operations order for the St. Mihiel attack in the classic five paragraph field order so often practiced in the Leavenworth schools' applicatory method. The order included annexes that described in detail the mission of the new weapons of war, aviation and tanks. The AEF Air Service divided aviation into pursuit, bombardment, and observation units. The pursuit groups were tasked with defending friendly observation assets and destroying hostile aviation to a depth of five kilometers behind enemy lines. Bombardment units were directed to attack railheads, command posts, enemy airfields, and bridges "at a medium distance from the zone of attack."[64] The army observation group provided photographic and visual reconnaissance of enemy movements, concentrations, and withdrawal. Unlike the particular concern shown for aviation, the operations order simply allotted the tanks available for the attack to the I and IV Corps.

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[63] "Instructions for the Reduction of the St-Mihiel Salient, September 2, 1918 in *U.S. Army in the World War*, 2: 177,178.

[64] Field Orders No. 9, dtd 7 September 1918. Drum Papers, Box 14, USAMHI.

Figure 1. First Army operations map for St. Mihiel attack.
Source: Drum Papers, USAMHI.

The Germans had occupied the salient for four years constructing a series of four or five defensive positions complete with a dense network of barbed wire. Pershing described the German position as, "practically a great field fortress."[65] The terrain in the

[65] Pershing, *My Experiences*, 2: 263.

western edge of the salient, which ran along the eastern heights of the Meuse River north of the town of St. Mihiel, was rugged and easily defended. The southern face of the salient offered more promising open terrain, which dictated the location for the main attack. The Germans committed eight divisions and one brigade to the defense of the salient. Concerned about the American build up, Ludendorff ordered the evacuation of the salient on September 8. [66]

At 1:00 a.m. on September 12, heavy artillery initiated the first major operation by an American Army in Europe. Four hours later, six American divisions on the southern face of the salient went over the top. The American troops advanced quickly, interrupting an orderly enemy withdrawal and pushing the Germans out of the salient. By dawn on the thirteenth, the forces arrayed against the western and southern portions of the salient met, eliminating the salient altogether. Pershing ordered the attack to continue on to the army objective. German resistance stiffened as they withdrew into the Hindenburg Line, a strong series of defensive positions. Although convinced that a determined attack might penetrate the German defenses and open the way to Metz, Foch's directives committed Pershing to an attack in the Argonne-Meuse sector. [67] The St. Mihiel attack was a major operation that achieved its objective in Foch's theater strategy, but it was now time to turn to decisive operations along the entire Western Front. Even before the St. Mihiel operation was concluded, the American Army began posturing for its attack in the Meuse-Argonne sector.

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[66] Erich Ludendorff, *Ludenforff's Own Story: August 1914-November 1918* (New York: Harper & Brothers, 1919), 2:361.

[67] Ibid., 270.

Lieutenant Colonel Marshall got the assignment to plan for the concentration of the Army for the new operation. Overwhelmed with the responsibility, Marshall took a walk thinking "that I could not recall an incident in history where the fighting of one battle had been preceded by the plans for a later battle to be fought by the same army on a different front, and involving the issuing of orders for the movement of troops already destined to participate in the first battle, directing their transfer to the new field of action. There seemed no precedent for such a course, and therefore, no established method for carrying it out."[68] The Americans were introduced to an important facet of modern operational art. Foch was linking major operations in the theater to a single purpose, the preparation and conduct of decisive operations. Positioning portions of the American Army while still engaged in the St. Mihiel operation was certainly a challenge. It involved the "movement of approximately 500,000 men and over 2,000 guns, not to mention 900,000 tons of supplies and ammunition." [69]

The rapid concentration of the American First Army was made possible through the use of one of the new elements of modern war — motorization. Marshall arranged the concentration for each division employing 900 trucks for the infantry and "by marching the artillery, motor supply trains and other vehicular transportation." [70] Marshall found that by using trucks and busses for transportation, he could move troops to the Meuse-Argonne concentration in a single night. Relying on horse-drawn transportation required anywhere from three to six days to move troops into the

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[68] Marshall, *Memoirs of My Services in the World War*, 137, 138.

[69] Ibid., 149.

[70] Ibid.

concentration area. In ten days, from September 16 to the 26, the American First Army muscled its way into position in the Meuse Argonne sector.

Foch's plan for nearly simultaneous assaults all along the Western Front called for four major operations launched by all the Allied armies. (See Figure 2) The Allied Commander in Chief directed the British and Franco-American forces to make a large converging attack. The British Expeditionary Force (BEF) attacked toward Cambrai and St. Quentin, while the AEF in conjunction with French forces drove toward Mezieres. These thrusts would seize the critical German lateral railroads as well as push out or bag several German armies. The specific mission assigned the AEF was to attack northeast between the Meuse River on the east and the Argonne Forest in the west. The First Army's mission was to penetrate the Hindenburg Line and subsequently push toward the line Stenay-Chesne.[71]

The Americans faced German Army Group von Gallwitz with eighteen divisions positioned along the front and twelve in reserve near Metz. Between the Meuse River and the Argonne Forest, the point of the American attack, the Germans had five divisions in the line. All the German divisions were greatly understrength and mostly of poor quality.[72] The Germans arrayed these divisions in a defensive zone consisting of four lines centered on dominating high ground. The American zone lay astride the Meuse River valley, including the Argonne Forest on the left and the heights on both sides of the

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[71] Brig. Gen. Hugh Drum, Chief of Staff of the First Army, described the army's task as "a major operation between the Meuse and the Argonne, having for its objective the taking of the Hindenburg position, with a following development in the direction of Buzancy and Stonne and an outflanking of the enemies positions on the Vouzieres-Rethel Line from the east." "Summary of Operations First Army", Drum Papers, Box 14, USAMHI.

[72] Paul F. Braim, *The Test of Battle: The American Expeditionary Forces in the Meuse-Argonne Campaign* (Newark: University of Delaware Press, 1987), 96.

Meuse. The American First Army occupied sixty kilometers of front in this sector and had swollen to 890,000 men. According to Foch's plan, the French Fourth Army would attack alongside the AEF to the west of the Argonne Forest, also driving northeast as part of the general offensive.

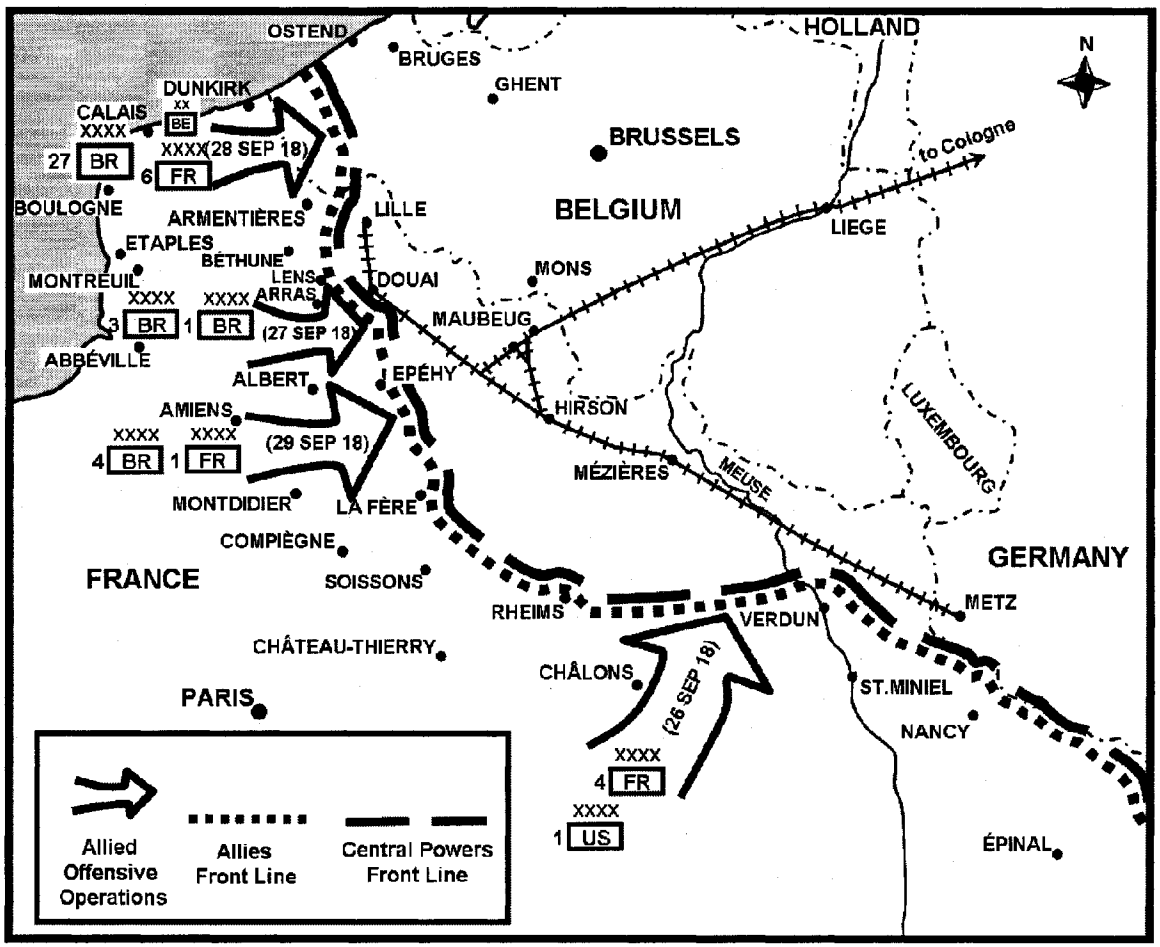

Figure 2. The last Allied offensive of 1918. Adapted by Klemens Schmidt from multiple sources.

The AEF had a total of fifteen U.S. divisions available and was given operational command of the French II Colonial Corps and XVII Corps, an addition of 120,000 troops. The French corps and elements of the U.S. III Corps occupied the lines east of the Meuse. By September 25, First Army's G-3 planners were prepared to employ this

massive force in three operations. The first operation called for an advance of ten miles to force the enemy to abandon the Argonne Forest and connect with the French Fourth Army at Grandpre. The second operation called for a subsequent advance of ten miles to what Pershing called "the line Stenay to Le Chesne to outflank the enemy's position along the Aisne Reiver in front of the French Fourth Army and clear the way for our advance on Mezieres or Sedan."[73] The third operation was designed to clear the heights east of the Meuse River. The planners prepared this last operation with two branches or variations to be executed depending upon the success of the main attack west of the river. (See Figure 3)

First Army Field Orders Number 20 dated September 20, 1918, again took the form of the now standard five-paragraph field order. The orders directed an assault with three corps on line. Each of the corps had three divisions in line and one in reserve. First Army retained three additional divisions in reserve. As in the case of the St. Mihiel offensive, separate annexes covered the role of the tanks and aviation in detail. The tanks were "to destroy machine gun nests, strong points, and to exploit the success."[74] First Army had only 189 light tanks (142 manned by Americans) available for the attack.

To support this push, Brig. Gen. Billy Mitchell, the Chief of the First Army Air Service, had 821 aircraft of all types. Americans manned 604 aircraft in this impressive aerial force. The remainder included French, British, even Italian units. The plan for air support consisted of four phases: advance preparation, during the artillery preparation,

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[73] Pershing, *My Experiences*, 2: 292.

[74] Field Orders No. 20, 20 September 1918, Drum Papers, Annex 3, Box 14, USAMHI.

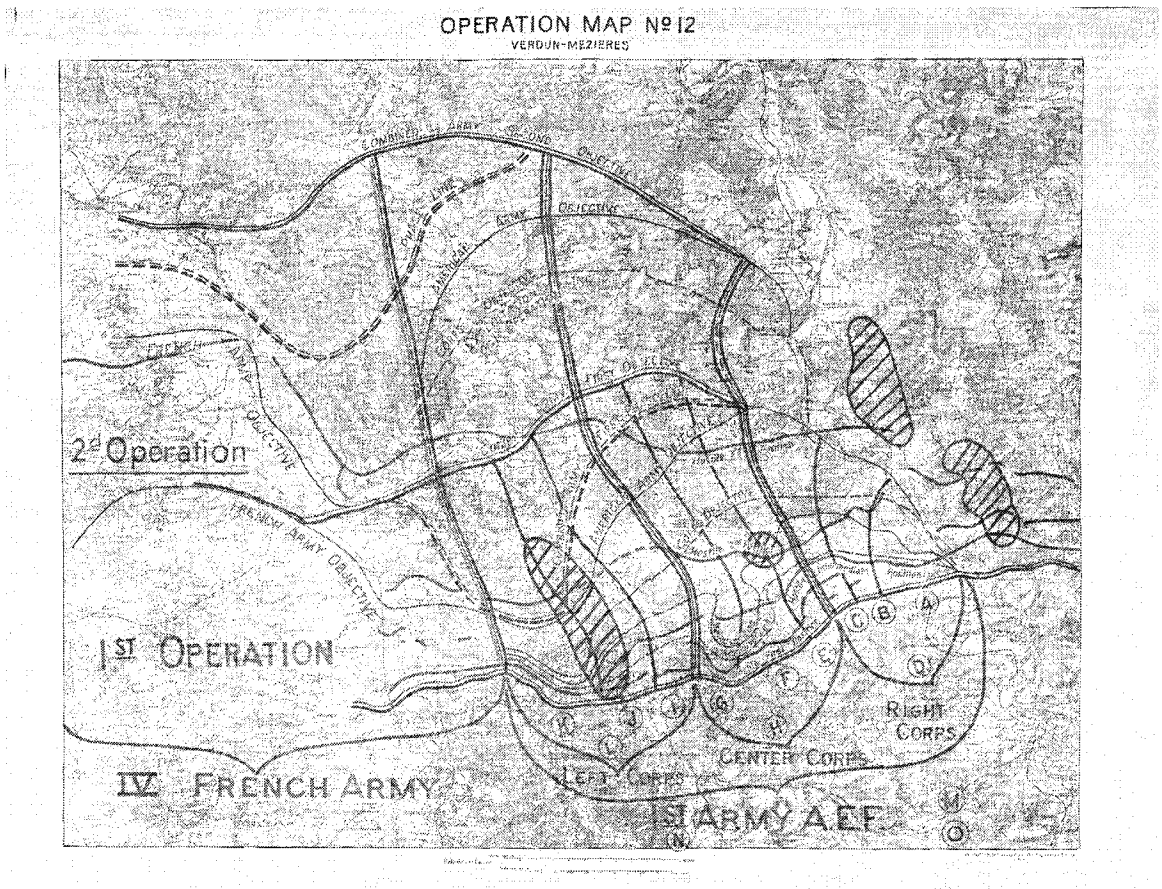

Figure 3. AEF operations map for Meuse-Argonne Offensive. Source: Drum Papers, USAMHI.

during the attack, and exploitation. In each phase, the aviation units performed tactical tasks, but, in contrast with the tanks' tactical mission, the bombardment and observation units significantly extended the army's reach. During the artillery preparation, the bombardment aviation was "to harass the enemy by attacking his troop concentrations, convoys, stations, command posts and dumps, to hinder his movement of troops and to destroy his aviation on the ground."[75] The air units targeted troop concentrations and convoys beyond the range of artillery, approximately ten to thirty kilometers behind the lines. During the attack, the air objective was "to prevent the arrival of reserves and to

[75] Ibid.

break up counterattacks."[76] In the last major operation of the war, aviation practiced its classic missions of air superiority, reconnaissance, and battlefield interdiction. In these missions lay aviation's future contribution to modern operational art.

On September 26 at 5:30 a.m., the largest American Army in history went over the top. Although Pershing hoped that the First Army might bull its way through the second German defensive position on the first day, the German defense tightened as the American attack lost its organization. The First Army pressed the attack, but the Germans threw in another six divisions by September 29 to reinforce their defense. It became clear that new American divisions would be needed to resume the attack. Over the next two days, First Army relieved and replaced three divisions in order to renew the general attack on October 4. Taking heavy flanking fire from artillery on the eastern heights of the Meuse River, Pershing directed the third operation attacking German defenses east of the Meuse. These attacks on the eighth through the tenth of October made some progress, but did not entirely eliminate the threat from the German artillery.

On October 9 in the woods near Damvillers on the east bank of the Meuse River, the Germans concentrated a considerable body of troops threatening the right flank of the American III Corps. Brigadier General Mitchell assembled 200 bombers and 110 fighters to strike the German force. In two huge formations, the bombers unloaded 39 tons of bombs, disrupting the counterattack.[77] This was the most striking example of the potential for air units to extend the operational reach of the army not only through reconnaissance, but by projecting combat power.

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[76] Ibid.

[77] See William Mitchell, *Memoirs of World War I: From Start to Finish of Our Greatest War* (New York: Random House, 1960), 266; James J. Hudson, *A Combat History of the American Air Service in World War I* (New York: Syracuse University Press, 1968), 274.

The First Army finally cleared the Argonne Forest on its left flank on October 10. Casualties had been heavy and progress was slower than expected; Pershing reassessed the situation. The First Army required 90,000 replacements, but only 45,000 were on hand. Pershing, therefore, decided to break up arriving divisions to refill his depleted combat units. In addition, expanding the attack to east of the Meuse and the growing strength of the AEF convinced Pershing to organize the Second Army under the command of Maj. Gen. Robert L. Bullard. Command of the First Army passed to Maj. Gen. Hunter Liggett, and Pershing became an Army Group Commander on the same level as the other Allied senior commanders. Subsequent attacks finally got the American forces to their initial objectives by October 18. Major General Liggett scheduled the concluding attack for November 1 to coincide with an advance by the French Fourth Army. This powerful onslaught coincided with a German withdrawal and carried the American First Army up to the line of the Meuse from Sedan to Stenay.

All the Allied Armies made rapid progress as the Germans continued to withdraw along the entire front. The pressure of Foch's great counter offensive achieved more than simply seizing the critical German rail lines and forcing the enemy's general withdrawal. It also cracked the German will to fight. Negotiations for an armistice had been under way since October 26. Finally on November 11, the guns fell silent as the Armistice took effect.

The Meuse-Argonne offensive was the last major operation of the American First Army. It demonstrated not the AEF's mastery of modern war, but served as an initiation into modern large-unit operations. This operation by an American Army included all the elements of modern war — the new technology of motorization, the airplane, and the

tank. It required competent staffs and massive supply efforts to conduct combined and major operations to achieve the theater strategic objectives that ultimately proved decisive. The Meuse-Argonne operation lasted 47 days and cost 117,000 American casualties.[78] This seminal experience provided the American understanding of the reality and the problems of modern operational art in the coming decades.

Assessment

No one associates World War I with creative generalship. Nineteenth century operational art was unable to deliver the stunning victories in the manner of Moltke in the German Wars of Unification. After the bold gamble of the German Schlieffen plan failed, the new technology and massive size of the armies prevented a repetition of those earlier victories. Still, the commanders pursued victory through the illusive decisive battle that invariably ended in stalemate and slaughter. Field Marshal Sir Douglas Haig, commander of the British Expeditionary Force, conducted the Battle of the Somme in 1916 in the classic model of the Napoleonic decisive battle. Reflecting what he had been taught in the British Staff College, Haig's concept of modern war consisted in concentrating superior force against the enemy's principal army, engaging the enemy on a wide front, wearing him out, drawing in his reserves, and then striking the decisive blow with the British reserves.[79] This tragic battle that cost 60,000 British casualties on the first day remains one of the enduring images of futile generalship in World War I.

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[78] By comparison, Pershing's First Army in August 1918 was eight times larger than Meade's Army of the Potomac in May 1864. Grant's Overland Campaign during the Civil War lasted forty days and cost 55,000 casualties. Mark Grimsley, *And Keep Moving On: The Virginia Campaign, May June 1864* (Lincoln: University of Nebraska Press, 2002), 224.

[79] Tim Travers, *The Killing Ground: The British Army, the Western Front and the Emergence of Modern War 1900-1918* (Boston: Unwin Hyman, 1990), 86.

Erich von Falkenhayn as Chief of the German General Staff was the first commander in the war to abandon the notion of decisive battle. He instead pursued a simple strategy of attrition in the West with the great Battle of Verdun in 1916. This helped provoke the great French mutinies of 1917, but bled the German Army as well. The Germans then shifted forces to seek a decision in the East, where the greater space allowed for more maneuver. By the end of 1917, Russia, wracked by Revolution, sued for peace. The Germans then shifted their offensive effort to the West to crush the Allies before American intervention could become decisive. The Allies braced for the heavy German blows sure to come in the spring of 1918.

The great tactical problem of World War I was to achieve and sustain a penetration to an operational depth that would unhinge the defense and restore maneuver to the battlefield. Ludendorff became obsessed with the need for tactical penetration to such an extent that he lost sight of operational objectives. In a conference with his commanders, he announced, "I object to the word 'operation.' We will punch a hole into [their line]. For the rest, we shall see." [80] The German use of infiltration tactics in the 1918 offensives proved capable of tactical penetration, but Ludendorff was incapable of making operational use of these successes. Foch parried the blows and planned for counterattacks that would at first reduce the German gains, then achieve limited objectives to prepare for the decisive counter offensive.

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[80]Holger H. Herwig, "The Dynamics of Necessity: German Military Policy Duing the First World War," quoting Ludendorff in Allan R. Millett and Williamson Murray, ed. *Military Effectiveness: The First World War* (Boston: Allen & Unwin, 1988), 99. Ludendorff further stressed his tactical approach in his memoirs. "I favored the center attack; but I was influenced by the time factor and by tactical considerations, first among them being the weakness of the enemy, tactics had to be considered before purely strategical objects, which it is futile to pursue unless tactical success is possible." Ludendorff, *Ludenforff's Own Story*, 2:221.

The American Expeditionary Force struggled to become a modern tactical and operational force. The divisions were fed into the Allied line to help stop the German offensives and later to reduce their gains. Only when the First Army was formed did the Americans at last have an operational force. Certainly, it was an imperfect instrument, lacking both experience and many of the corps and army troops necessary for effective operation. Army troops and equipment it got from the French. Experience it got the hard way. The First Army's reduction of the St. Mihiel salient gained 200 square miles of French territory and allowed for improvement in lateral communications along the Western Front. The Meuse-Argonne Offensive was a major operation critical in Foch's decisive counteroffensive. Foch's operational art in this war-ending counteroffensive relied not on attrition, but on seizing the critical German lateral lines of communication to force them to abandon northeastern France and much of Belgium. Much like the Allied strategy in 1944, Foch favored a broad-front strategy that involved all the Allied armies conducting nearly simultaneous major operations to fix and overwhelm the available German reserves. The pressure along the entire Western Front made manifest the Allied superiority in men and materiel. Acknowledging the inevitable, the Germans sued for peace.

World War I was the first modern war. It incorporated massive armies and new technologies, all of which presented unique problems. During the war, the belligerents tried various solutions. Technological expedients in the form of tanks, poison gas, flame throwers, and other weapons could not overcome the advantages that technology also gave the defense. Doctrinal solutions, such as infiltration tactics, rolling barrages, limited attacks, and closer combined arms cooperation, could lead to tactical, but not operational

success. The old operational paradigm of the decisive battle was wholly inadequate. In the end, it was Foch's ability to bring successive major operations to bear at the right time in order to allow the full weight of Allied resources to convince the Germans to sue for peace.

In the years following the Great War, each of the armies pondered the lessons. All of them struggled to understand the full impact and potential of the new technologies — the airplane, the tank, and motorization. Soviet theorists attempted to solve operational penetration by matching new technologies with successive operations in what they called, "deep battle." The Germans sought to restore mobility to the battlefield and perfect the battle of annihilation with motorization, armor, and the airplane. British theorists J.F.C. Fuller and Basil Liddell Hart also championed mechanization as the key to tactical and operational penetration. The French sought to impose greater control over the battlefield through the doctrine of "methodical battle."[81] The Americans perceived different challenges.

The American understanding of modern war was dominated by the experience of the Great War. Modern war was total war requiring national mobilization and unprecedented scales of effort. For the first time since 1783, America went to war with Allies. America's geostrategic position and interests meant modern war would be expeditionary, requiring joint and most likely combined operations. The essential

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[81] See Robert Doughty, *The Seeds of Disaster: The Development of French Army Doctrine 1919-1939* (Hamden, CT: Archon Books, 1985).

question for the American military in the coming decades at the operational level was how to project, conduct, and sustain military operations in a theater of war.

Just as in the period before World War I, the postgraduate military institutions shaped American theory and practice in this new modern warfare. Like their European counterparts, American officers pondered the operational implications of modern war. Over the next twenty years, the higher military schools educated and trained the generation of officers that would fight and win the next great war.

CHAPTER 3

THE TWENTIES: LEARNING THE LESSONS

In the years following the Great War, the United States military sorted out the lessons from that massive conflict in a challenging period of fiscal constraint and public indifference. As in previous wars, the American Army melted away soon as the guns fell silent as the citizen soldiers were rapidly demobilized. By the end of June 1919, the Army had discharged 2,736,218 officers and men.[1] By 1920, the Regular Army shrank to 203,247 officers and men. Within seven years, it reached a rock-bottom aggregate strength of 134,829.[2]

Congressional interest in financial support of the military faded as the nation settled into peace. As early as 1922, the Secretary of War, John Weeks, noted, "Economy has literally become the primary consideration in every departmental undertaking."[3] The following year, Secretary Weeks complained that the total expenditure for national defense, both Army and Navy, had declined steadily from just over eleven billion dollars in 1919 to $509,096,799 in 1924.[4] Well before the Great Depression of 1929, the nation's armed forces contended with a lack of money to train, modernize, or even maintain their authorized strength.

In addition, the pride so many Americans took in their country's victory in the Great War soon turned to disillusionment. Congress rejected President Wilson's attempt

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[2] Weigley, *History of the United States Army*, 599.

[3] *Report of the Secretary of War to the President for 1922* (Washington, D.C.: Government Printing Office, 1922), 13.

[4] *Report of the Secretary of War to the President for 1923* (Washington, D.C.: Government Printing Office, 1923), 4.

to involve the United States in the League of Nations as part of the peace treaty ending World War I. His successor, Warren G. Harding, campaigned on the slogan of 'A Return to Normalcy.' In practical terms, this policy turned the nation toward isolationism and focused the public on the peaceful pursuit of happiness and business. America returned to its traditional antimilitary attitudes. In 1927 at the suggestion of the French Foreign Minister, the United States signed the Kellogg-Briand Pact, which outlawed war as an instrument of national policy altogether. In the following year, the pact was extended to a total of sixty-three nations. American society, both the elites and the public in general, showed signs of increasing disillusionment with war as World War I's stupendous cost and sacrifice did not seem commensurate with the disappointing fruits of victory. At the beginning of the decade, John Don Passos helped inspire this mood with his popular novel, *Three Soldiers*. The twenties witnessed the migration of a small "lost generation," as expatriate American intellectuals sought refuge and meaning in France. The widespread pacifism, disillusionment, and anti-war sentiment that blossomed in the twenties, grew even greater in the thirties.

Regardless of the reductions in strength, constant lack of money, and public indifference or open hostility, U.S. Army officers of the interwar period soldiered on. For many of them, peace meant reduction in rank. Hugh Drum, wartime chief of staff of the First Army and a brigadier general, returned to instructor duty at Ft. Leavenworth as a major. Col. George C. Marshall reverted to major, while Dwight D. Eisenhower and George Patton reverted to captain. Drum and Marshall regained their rank in the next few years, but most of the returning veterans would experience a slow climb back through the ranks. For new officers, it was even worse. The West Point class of 1919,

including a future general, Albert Wedemeyer, served as lieutenants for seventeen years.[5] Still, these officers, thoroughly imbued with a professional ethic, studied, trained, and attempted to sort out the lessons from the war.

The search for lessons from World War I began soon after the Armistice. General Pershing directed the organization of almost twenty boards to consider the particular lessons from the various branches and services of the AEF. The AEF Superior Board on Organization and Tactics convened on April 27, 1919, to review the findings of the subordinate boards and reach its own conclusions. Pershing chose the board members with an eye to both senior experience and reputation. Maj. Gen. J. T. Dickman, Maj. Gen. John Hines, Maj. Gen. William Lassiter, Brig. Gen. Hugh Drum, Brig. Gen. W. B. Burtt, Col. George Spaulding, and Col. Parker Hitt, all senior officers with high-level combat and staff experience in the AEF, participated on the board.

As suggested by the title, the board focused on tactics and organization. It did, however, reach some general conclusions confirming the AEF's experience in the war. The board confirmed the importance of the general staff system, specifically one that included an operational planning staff. It further recommended that the "division of staff duties thus defined should exist at the War Department and should extend down through all the tactical commands to include the battalion."[6] Undoubtedly reflecting on the Allied

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[5] The National Defense Act of 1920 authorized a regular army of 280,000 officers and men. Anticipating this large force, the Army commissioned 5,229 officers. Subsequently, the Congress never appropriated the money to support this force and the Army, in consequence, shrank considerably. This group of officers commissioned in 1920 became known as the "hump." This block of officers, combined with promotion by seniority and the mandatory retirement age of sixty-four, slowed promotions. Even though commissioned before the "hump" Wedemeyer's class was outranked by the many veterans joining the regular army officer corps in 1920. Coffman, *The Regulars*, 239, 240.

[6] United States Army, American Expeditionary Force, "Superior Board on Organization and Tactics," 1919, 6, USAMHI.

situation prior to Foch's rise to supreme command, the report noted, "No greater lesson can be drawn from the World War than that of unity of command is absolutely vital to the success of military operations."[7]

The board confirmed the importance of logistics and defined it as everything that "embraces the supply of armies."[8] The board found that "the infantry must be recognized as the basic arm and all other arms must be organized and made subordinate to its needs, functions and methods."[9] This conviction heavily influenced the tactics and organization of the Army in the interwar period. The board blamed the indecisive results in the earlier part of the war on limited objective attacks in which the infantry was subordinated to the artillery. The report stressed the offensive in open warfare, in which all arms supported the infantry in reaching final objectives.[10] In summary, the board confirmed the AEF's staff organization, unity of command, importance of logistics, supremacy of the infantry, and the offensive spirit.

General Pershing became Chief of Staff of the Army in 1921. He brought with him all the prestige of a wartime commander as well as his wartime experience. He recognized that the experience of the war, the new military technologies, and the impact of the National Defense Act of 1920 required a postwar review of doctrine.[11] Pershing

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[7] Ibid., 5.

[8] Ibid., 7

[9] Ibid., 18

[10] Ibid., 19

[11] The National Defense Act of 1920 confirmed the organization of the Army into Regular, Reserve and National Guard components. The Regular Army was charged with preparing the other components for war. The country was divided into nine corps areas under three army headquarters. Each corps area contained one Regular, two National Guard, and three Organized Reserve divisions. The act also created branch chiefs for infantry, cavalry, coast artillery, and field artillery. This legislation also

benefited greatly as commander of the AEF from the services of the Leavenworth graduates, and he strongly advocated the military school system. As the War Department General Staff started the review of doctrine, Pershing encouraged them to work with the army schools. The task of revision was farmed out to the various schools and branches, then reviewed by the Training Division of the G-3 Operations Division of the General Staff, and finally, distributed in pamphlet form.[12] The Command and General Staff School at Fort Leavenworth began overhauling the Field Service Regulations (FSR), the capstone doctrinal manual, as early as 1920.

The Commandant of the General Service Schools at Fort Leavenworth appointed a board of officers to revise the FSR. By 1922, the board submitted the *Manuscript for Training Regulations No. 15 (Field Service Regulations)* to the General Staff for review. The board considered the AEF Superior Board Report, as well as many others, in its attempt to extract lessons from World War I. It confirmed the geometry of the battlefield in defining the theater of war as the "entire area of land and sea which is, or which may become, directly involved in the operation of war."[13] The board divided the theater of war into a zone of the interior and theaters of operation. The theater of war may have several theaters of operation depending upon geography and the threat. The proposed

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established the Air Service, Chemical Warfare Service, and Finance Department as new branches of the service.

[12] "Report of the Chief of Staff" included in *Report of the Secretary of War to the President for 1922* (Washington, D.C.: Government Printing Office, 1922), 119.

[13] General Service School, "Manuscript for Training Regulations No. 15" (Field Service Regulations) (Ft. Leavenworth, KS: 1922), 17. CGSC File, Box 4, USAMHI.

FSR stated that war plans consisted of a detailed study of a particular theater, a plan of concentration, and "plans of operation for each major operation in the theater."[14]

The Leavenworth manual made critical assertions in discussing strategic principles and operations. It defined military strategy as "the art of moving armies in the theater of operations."[15] It concluded that "a plan of operation is a study of the exact lines of military activity proposed for a particular force during a phase of the campaign. Subordinate forces acting in conjunction therewith have separate but coordinated plans of operation."[16] The manual stressed the importance of seizing the initiative and the offense. It listed piercing (penetration), frontal, envelopment, and turning operations as forms of strategic maneuver.[17] Further, the manual listed nine strategic principles of war: operation objective, concentration of effort, economy of force, strategic surprise, freedom of action, strategic security, strategic offensive, and moral ascendancy.[18] These strategic principles reflected the principles of war adopted by the War Department in 1921.

The manual insisted that the "proposed FSR are distinctly American in the subject matter covered, in the methods of execution of the underlying and controlling principles."[19] This was a wide-ranging document with sections on mobilization, training, and War Department functions. It included a great many good ideas — too many.

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[14] Ibid., 144.

[15] Ibid., 137.

[16] Ibid., 145.

[17] Ibid., 146, 147.

[18] Ibid., 137-141.

[19] Ibid., iii.

Comments on the Leavenworth proposal indicated that it was a fine piece of military literature, but the Army required a concise practical guide to service in the field.[20] The Chief of Staff appointed a committee to review and edit the manual. Eventually, the Army published Field Service Regulations 1923, as a more concise and focused manual. FSR 1923 became the capstone doctrinal publication for the army until replaced in 1939.

FSR 1923 kept much of the Leavenworth draft, specifically, the geometry of the battlefield and the emphasis on initiative and offense. FSR 1923 omitted the Leavenworth manual's sections on mobilization, War Department functions, and strategic art. FSR 1923 boiled down the multi-volume Leavenworth draft to 195 pages. FSR 1923 did contain sections on the employment of aircraft and tanks. These sections on the new military technology accurately reflected the AEF's experience in the war, but the strategic and operational lessons were left to the staff and war college instruction. Although FSR 1923 served as the foundation and official doctrine of the Army for most of the interwar period, the Leavenworth manual remained influential. Much of the thinking that appeared in the Leavenworth draft found its way into the student texts and curriculum of the staff school. Any evaluation of American operational art in the interwar period based solely on the official doctrine, disregards the student texts, exercises, and curriculum of the postgraduate military schools that shaped and educated the future leaders of the army.

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[20] See William O. Odom, *After the Trenches: The Transformation of U. S. Army Doctrine, 1918-1939* (College Station: Texas A & M University Press, 1999), 35, 36.

The Command and General Staff School

The Leavenworth schools reopened in the summer of 1919, and for three years it operated as the School of the Line and the Staff School. The School of the Line taught brigade and division tactics, while the Staff School instructed on corps and armies. In 1922, the two schools merged into the Command and General Staff School. The merger allowed a greater throughput for officers since the time in school was reduced to one year. In 1928, the Army reinstituted a two-year course to provide for a more rigorous course of study. The two-year course continued until 1935 when once again the pressure for more officers to attend the school caused a reversion to the one-year course.[21]

Officers highly prized selection to attend the Command and General Staff School. Selection and success in the course could make or break a career. The faculty rank ordered the students according to merit. The Commandant provided an individual efficiency report on each officer and selected those that were considered suitable for duty on the General Staff. The officers felt the pressure. Lectures, conferences, and problem solving filled the day from 8:30 a.m. until 5:00 p.m. five days a week. In conferences, the faculty divided the class into committees of eight to ten officers. Instructors assigned the committees topics for study, and a committee spokesman reported on the group's work.

The applicatory method in student exercises and staff rides still formed the fundamental approach to learning. Individual problem solving was the critical feature in grading and ranking the students. In 1926, the year Dwight D. Eisenhower attended the school, the curriculum called for seventy eight map problems and terrain exercises that

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[21] Boyd L. Dastrup, *The U. S. Army Command and General Staff College: A Centennial History* (Manhattan, KS: Sunflower University Press, 1982), 60-65.

were worth a total of 1000 points.[22] Eisenhower did well, graduating number one in his class. He was helped in part by George Patton, who had attended the year before and shared with Eisenhower his notes and the problems of the previous school year.[23] By all accounts, it was a rigorous year of instruction. Eisenhower later wrote an anonymous article for the *Infantry Journal* to help reduce anxiety about the course and provide practical advice for surviving the ten months of instruction. He stressed the need for a positive attitude and good personal habits.[24] All the officers understood that attendance and success in the Command and General Staff School was important, indeed, critical to their careers. Competition among the students was keen and hard work both in class and after class was characteristic of their year at Leavenworth.

Theory

Veterans of the AEF dominated the faculty through 1925 and remained a significant portion of the faculty throughout the decade.[25] The faculty used many texts and materials employed by the AEF schools in that first year. The faculty tossed out the old German texts and spent much of their time in the first two years writing new materials to account for the new weapons of war, tanks and aircraft. One of those returning officers, Col. William K. Naylor, wrote *Principles of Strategy* as an American

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[22] United States Army, *Instruction Circular No. 1* (Fort Leavenworth, KS: General Service Schools Press, 1925-26), 14, 15.

[23] Carlo D'Este, *Eisenhower: A Soldier's Life* (New York: Henry Holt and Company, 2002), 178.

[24] Dwight Eisenhower, "On the Command and General Staff School," *in Eisenhower: The Prewar Diaries and Selected Papers: 1905-1941*, ed. Daniel D. Holt and James W. Leyerzapf (Baltimore: Johns Hopkins University Press, 1998), 43-58.

[25] Peter J. Schifferle, "Anticipating Armageddon: The Leavenworth Schools and U.S. Army Military Effectiveness 1919 to 1945" (Ph.D. diss., University of Kansas, 2002), 107.

text to replace previously used European texts. Naylor served as an instructor at the General Staff School from 1913 to 1915. Following the war, he returned as director of the school and taught the classes in strategy. There was not much new or original in Naylor's text, for the most part, the book is a compilation of his lectures based on the military thought gathered from Jomini, V. Derrecagaix, Colmar von der Goltz, and others. From Derreagaix's *Modern War*, Naylor adopts the Frenchman's discussion of "a project of operations."[26] In form and content, *Principles of Strategy* closely follows Von der Goltz's *The Conduct of War*. In fact, Naylor frequently paraphrases the German author.

From Von der Goltz, Naylor suggests that a campaign consists of a series of operations, all "connected by the bond of some common, fundamental idea."[27] He also accepts from the German author that the first strategic principle is "to make the hostile main army the objective."[28] The focus on the main enemy army was a common theme in nineteenth century military literature. Clausewitz states early in *On War* that the three broad objectives in war are: the armed forces, the country, and the enemy's will. He suggests that these objectives follow in a natural sequence.[29] Later he discusses at length his concept of center of gravity which still remains a central element in modern operational art. Clausewitz maintained that in directing military operations, "one must keep the dominant characteristics of both belligerents in mind. Out of these

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[26] Compare William K. Naylor, *Principles of Strategy: With Historical Illustrations* (Fort Leavenworth, KS: The General Service Schools Press, 1921), 153 with V. Derrecagaix, *Modern War, Part I: Strategy*, trans by C.W. Foster (Washington. D.C.: James J. Chapman, 1888), 6.

[27] Naylor, *Principles of Strategy*, 150.

[28] Ibid., 49.

[29] Clausewitz, *On War*, 90.

characteristics a certain center of gravity develops, the hub of all power and movement, on which every thing depends. That is the point against which all our energies should be directed."[30] Based on his experience, he recommended the center of gravity normally might be found in the destruction of the enemy army, seizure of his capital, or striking his principal ally.[31] Naylor does not mention the center of gravity, but simply accepts, as most of the nineteenth century theorists did, that the operational center of gravity is the enemy's main army.

Although Naylor's text is based on nineteenth century military thought, some important operational constructs find their way into American military curricula. One of the more important concepts was the Clausewitzian notion of the culminating point. Naylor cited Clausewitz, but most likely he absorbed Clausewitz through Von der Goltz. Clausewitz noted that the strength of the attacker invariably diminishes until it reaches a point of culmination. This is the point where the attacker's strength no longer enjoys significant advantage over his opponent and poses significant risk to the attacker if he continues the attack.[32] Naylor, closely paraphrasing Von der Goltz, notes, "Although originally superior to the enemy, and victorious in the past, troops may finally arrive, through an inevitable process of weakening, at a point which does not assure any future success, or, in other words, the point of culmination."[33] In operational art, "a general,

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[30] Ibid., 595, 596.

[31] Ibid.

[32] Ibid., 528.

[33] Naylor, *Principles of Strategy*, 105.

with a correct estimation of the situation, should immediately recognize the arrival of this culmination...concluding a peace or else changing over to the defensive."[34]

The Command and General Staff School classes from 1923 to 1927 got a much stronger and direct dose of Clausewitz from Lt. Col. Oliver P. Robinson. Robinson graduated from the staff school in 1915. He served during World War I as the chief of staff of the Eighty-first Division and later as the chief of staff of the American Expeditionary Force to Siberia from 1918 to 1919. In 1923, Robinson was assigned as an instructor at Leavenworth and followed Colonel Naylor as the instructor of strategy. During the 1920's each class received ten hours instruction in strategy toward the end of the school year. Robinson used the lectures in strategy to illustrate the principles of war, largely through a discussion of Clausewitz's *On War*.[35] Lieutenant Colonel Robinson believed that "Clausewitz's book on war, published in 1832, occupies about the same relationship to the study of the military profession as does the Bible to all religious studies. I have been unable to find a single proposition relating to strategy which Clausewitz did not cover in a broad general way."[36]

Robinson's lectures provided the students with an excellent view of operational art from a Clausewitzian perspective. He defined strategy as "that branch of the theory of war which has to do with the planning and effect of the various combinations, movements, and use of all the forces of a power or all of the forces in a given theater or

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[34] Ibid.

[35] In 1921, the War Department announced nine principles of war: objective, offensive, mass, economy of force, movement, surprise, security, simplicity, and cooperation The British theorist, soldier, and historian, J.F.C. Fuller originally developed the principles of war.

[36] Oliver P. Robinson, "Course in Strategy," Lecture delivered at the Command and General Staff School, May 10, 1926, 2. Bound volume. Combined Arms Research Library, Fort Leavenworth, KS (hereinafter referred to as CARL).

theaters of operations. It takes into consideration, tactics, logistics, material assets, the theater of war, psychology of the people and the national policy, both from the viewpoint of its own country and that of the enemy."[37] This definition clearly defines nineteenth century strategy as twentieth century operational art — all military activity within a theater of operations that takes into account a number of factors including logistics and national policy. Later Robinson updated Clausewitz' famous definition of strategy, "If, for the word battle in Clausewitz's definition, there be substituted, 'operations of war', which includes all those things which precede and lead up to the battle and the threat of battle, as well as the battle itself, there results the all inclusive definition: strategy is the use of the operations of war to gain the end of war." [38]

In 1926, with Eisenhower and four other future corps and army commanders in the audience, Robinson lectured on the "Principle of the Objective" by discussing at length the concept of the center of gravity.[39] Paraphrasing Clausewitz, Robinson insisted, "Therefore the first consideration under the principle of the objective is to determine the centers of gravity of the enemy's power. Then against this center of gravity the concentrated blow of all the forces must be directed."[40] Following Clausewitz' discussion of the center of gravity, Robinson noted, "the will of the people to carry on a

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[37] Ibid., 11

[38] Oliver P. Robinson, *The Fundamentals of Military Strategy* (Washington, D.C.: United States Infantry Association, 1928), 2.

[39] Leonard T. Gerow commanded V Corps and Fifteenth Army. Geoffrey Keyes, John Millikin, and Walton H. Walker commanded the II, III, and XX Corps, respectively.

[40] Oliver P. Robinson, "Principle of the Objective," Lecture delivered at the Command and General Staff School, May 14, 1926, 10, Bound volume, CARL.

war may be the real center of gravity of a nation, but in this situation the quickest way to reach that will is by a defeat of the hostile main forces."[41]

Less than two weeks later, Robinson lectured the class on the principle of the offensive, emphasizing the operational concept of culmination. He told them that it was critical that the commander "must make it his business that the culminating point will see the maximum result accomplished. He must stop his advance the moment he discovers that his strength would fail by undertaking more. Then he must pass to the strategic defensive conducted offensively, and thus as far as possible retain the initiative."[42] Robinson was, in effect, arguing that an operational pause must be taken before reaching culmination. His firm grasp of Clausewitz was reflected in virtually all of his lectures. From 1923 to 1927, the future supreme commander, all six of the army commanders in World War II, plus twenty five of the thirty four corps commanders sat through Robinson's lectures on strategy. He later compiled his lectures into *The Fundamentals of Strategy* published in 1928. The book was used as a text and recommended for reading at Leavenworth, the Army War College and the Naval War College throughout much of the interwar period.

The influence of Clausewitz on American military thinking during the interwar years can be debated. Clausewitz' *On War* covers the whole scope of war, theory, philosophy, strategy, operations, and tactics. To the extent American officers were exposed directly or indirectly to Clausewitz, they like other military professionals, undoubtedly selectively read or understood him. Eisenhower claimed he read *On War*

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[41] Ibid., 11, 12.

[42] Oliver P. Robinson, "The Principle of the Offensive," Lecture delivered at the Command and General Staff School, May 23, 1926, 24, 25, Bound volume, CARL.

three times and believed it was the most influential book besides the Bible he ever read.[43] Robinson noted that "in our library for instance — the first volume of Clausewitz's three is thumb marked, pencil marked, pages dirty and worn from use while Volumes II and III show very little evidence of use."[44] The term, "center of gravity" was occasionally but not commonly used in student texts and exercises. What is clear, is that there was a firm understanding of the three levels of war, the need to focus combat power at the theater level, and the concept of culmination of the offensive which required operational pauses.[45]

Doctrine

Many of these concepts did not find their way into the official doctrine, but did appear in the student texts. The student text on *Tactical and Strategical Studies, Corps and Army*, originally published in 1922, went through five editions and was used throughout the nineteen twenties. This text clearly establishes three levels of war:

> In discussions of plans involving large forces there are utilized the terms project of operations, plan of campaign, and plan of an operation. The first relates to a national project prepared by the War Department for the execution of a war with a specific enemy, and may involve several campaigns. The second relates to the general conduct of forces in a single theater of operations and is the plan prepared by the commander thereof for the accomplishment of the mission

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[43] D' Este, *Eisenhower*, 168.

[44] Robinson, "The Principle of the Offensive," May 23, 1926, 2.

[45] The Army consistently encouraged officers to read Clausewitz. *On War* was placed on the Leavenworth reading list throughout the interwar period as especially recommended. The War Department instituted a voluntary army wide reading program for officers in 1928. The officers were encouraged to read seven to eight books a year from a published list available at post libraries. From its inception to 1941, the reading program listed all three volumes of *On War*. Memorandum, Major General Connors to the Adjutant General, "Subject: Reading Course for Officers" 8 March 1928, and War Department Bulletin No. 44, "Reading Course for Officers" 15 January 1941, AWC Curricular Files, Box 1-105, Copy No. 1 1-82 TAG, Faculty Comments, USAMHI.

assigned. It includes successive tactical operations. The third relates to a tactical phase of a campaign which generally involves several tactical operations before the mission is accomplished.[46]

In campaign planning the text describes the center of gravity as the 'hostile decisive element' which is usually the enemy's main force, but "under exceptional circumstances, the enemy's capital, his commerce, his industrial areas, or his resources may be the military objective. However, these objectives are generally secondary, in that they provide a means for the destruction of hostile forces."[47] The text further states that, "the plan of campaign may also contemplate probable successive operations phases to continue the success of the primary operations, and consider steps to be taken contingent upon results different from those expected."[48] This is a clear expression of phasing and the need to develop branches and sequels in campaign planning.

A survey of the Leavenworth curriculum during the decade of the twenties demonstrates several other key features of military education. In addition to the necessary focus on tactical instruction, military history and logistics made up a significant portion of the curriculum. In 1922, tactical instruction on corps and army comprised 26 percent of the conferences, while military history absorbed 17 percent and logistics another 13 percent.[49] Military history presented as lectures and conferences on World War I and the Civil War, provided a vehicle for deriving lessons from large-unit operations, campaign planning, and senior leadership. Logistics, both as a separate

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[46] United States Army, *Tactical and Strategical Studies, Corps and Army* (Fort Leavenworth, KS: General Service Schools Press, 1922), 14.

[47] *Tactical and Strategical Studies*, 1928, 2.

[48] Ibid., 5,6.

[49] United States Army, "Resume of Program of Instruction, The General Staff School, 1921-22" (Fort Leavenworth, KS: General Service Schools Press, 1921). CARL.

subject and as an integrated element in all exercises, pervaded tactical instruction. Consistently, throughout the decade logistics specifically took up 10 to 15 percent of the instruction. When compared to the 25-29 percent consistently dedicated to tactical instruction, logistics loomed large in the faculty's consideration.[50]

The Command and General Staff School at Leavenworth during the first half of the interwar period made great strides in sorting out the lessons from World War I. Its primary focus was on divisions, corps, and the army. The army was considered the strategic or operational echelon of maneuver while corps and divisions were tactical units. The Staff School clearly recognized three levels of war, and reflected several key elements of operational art in its instruction in campaign planning. These included the need for a clear focus for combat power in the theater of war (a center of gravity or decisive hostile element), offensive culmination, and an extension of the concept of tactical phasing to operational phasing. In addition, instructors stressed logistics as an important and integral part of large-unit operations. The Staff School imparted doctrine through rigorous instruction and exercises. The study of the broader implications of World War I for strategy and large-unit operations was reserved for Army's senior educational institution, the Army War College.

[50] See United States Army, "Instruction Circular No. 1" (Fort Leavenworth, KS: General Service Schools Press), for the years 1922-1930. CARL.

The Army War College

The War Department reestablished the Army War College in 1919 with the mission to "train officers for high command and War Department General Staff Duty."[51] Initially called the General Staff College, the institution was renamed the War College in 1921 to avoid confusion with the Command and General Staff School at Fort Leavenworth. In 1922, the War Department further specified the mission of the War College to train officers in high command and general staff duty with units larger than corps. Maj. Gen. Hanson E. Ely, Commandant from 1923 to 1927, used his first opening address to emphasize that this included strategy and logistics of all units larger than corps.[52]

Despite the efforts of the War Department to delineate clearly between the missions of the Staff School and the War College, there was overlap between the two institutions for most of the decade. Although the Staff School focused on division and corps, Leavenworth also taught army operations. With the addition of a second year of study at Leavenworth in 1928, the school provided even more instruction dealing with echelons above corps. As a result of the changes at the Command and General Staff School, the War Department altered the mission of the War College "to train officers in the conduct of Army and higher echelons; to instruct in those political, economic and social matters which influence the conduct of war; to train officers for joint operations of

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[51] "Summary of Courses at the Army War College Since the War," General Staff College Course 1919-1920, 1. AWC Curricular File 1-105, USAMHI.

[52] "Summary of Courses," AWC Curricular File 1-105, Course 1923-1924, 7, USAMHI.

the Army and Navy; to instruct officers in the strategy, tactics, and logistics of large-unit operations in past wars, with special reference to the World War."[53]

There were significant similarities and differences in the instruction and the subjects covered at both schools. Both institutions used the same doctrine, the applicatory method, military history, and emphasized logistics in the curriculum. Leavenworth was legendary for its rigorous methods and adherence to the school solution. Col. H. B. Crosby, Assistant Commandant of the War College, noted in his orientation lecture in 1924 the difference between the methodology of the two schools. "I believe I speak the truth when I say that no one helps his rating by blindly accepting the views of the faculty on any subject," Crosby declared. "This is distinctly a college — where we learn from an exchange of ideas and not by accepting unquestioned either the views of the faculty or the views of the student. At Leavenworth we accepted and should have accepted the principles and doctrines laid down by the faculty of that school. Here we reach our own conclusions, faculty and student, following a full and free discussion of the subject."[54] Leavenworth was about training; the War College was about education and training.

There were other significant differences between the curricula of the two schools. The War College began as an adjunct to the War Department's General Staff to assist in the preparation of war plans. Unlike the General Staff School, the War College worked with real war plans. Virtually all the War College map exercises dealt with the color plans. Throughout the interwar period, the College most frequently exercised the Green

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[53] "Summary of Courses," AWC Curricular File 1-105, Course 1928-1929, 12, USAMHI.

[54] Col. H. B. Crosby, "Orientation Lecture," Delivered to the Army War College, September 3, 1924, AWC Curricular file 294-2, 4, USAMHI.

Plan (War with Mexico), the Red Plan (War with Britain), and especially, Plan Orange (War with Japan). As intended from its inception, the War College was always concerned about joint operations. The national war plans, generated by the Joint Board, inherently involved joint operations between the Army and the Navy. The broader perspective of the War College in preparing the nation for war and in conducting it called for the study of both strategy and operations. The college considered operations within a broader political, economic, and social context.

The War Department charged the War College with producing officers capable of serving on the General Staff and as commanders or staff officers of armies and army groups. In 1922, the War College faculty and curriculum changed to mirror the organization of the General Staff. The G-1, G-2, G-3, and G-4 courses taught lessons in personnel, intelligence, operations and supply, respectively. Courses in war plans and command rounded out the early curriculum.

Like the Command and General Staff School, the War College made extensive use of military history for instruction. Unlike the Staff School, War College students studied a broad array of campaigns, war plans, and great commanders to draw their own lessons. The faculty and students particularly examined World War I to discover the lessons of modern war. From these analytical studies, the students reached conclusions on campaign planning and increased their understanding of the operational level of war.

Joint Operations

Throughout the twenties, the students routinely studied the campaigns of World War I. Criticism of German and Allied operational art consistently included poor

command and control, lack of joint planning, and insufficient emphasis on logistics. A committee in 1923 studying the Schlieffen Plan of 1914 found that "the plan failed to provide sufficiently for cooperation in the field, in the armies of the wings and center with distinct tasks did not have group commanders to coordinate their activities."[55] The report concluded "there should be a plan of campaign or an outline of proposed operations, simple in conception, stating clearly the objective, based on the principle of offensive, and of movement, but not encroaching on the initiative the commander. This part of the plan will also designate the theater of operations, list the troops required. Locate or define the initial concentration areas, prescribe the organization of the command and indicate the cooperation of the Navy (which the German plan did not do.)"[56] Significantly, the committee criticized the Germans not only for the failure to properly coordinate their armies within the theater of operations, but also to include the Navy in their planning.

The lack of German joint planning was featured in most of the committee reports reviewing the opening campaign. A committee in 1927 reviewing both German and British naval plans of 1914 insisted that "in naval plans, the singular feature is their lack of coordination with military ones, and in Germany their domination by military plans."[57] The committee concluded that "naval cooperation is essential in any major effort, with the service having paramount interest in the operation in control. All war plans should be

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[55] Committee No. 10," German Plan of 1914," February 28, 1923, War Plans Course, AWC Curricular File 254-10 , 8, USAMHI.

[56] Ibid., 10.

[57]" Report of Committee No. 1," War Planning in the Past," September 14, 1927, War Plans Course, AWC Curricular File 346-1, 2, USAMHI.

a result of studies by both services working together in their preparation."[58] Another committee reporting the previous year on the same subject, argued that if the German Imperial Navy had interfered with the movement of the British Expeditionary Force from Britain to France, the Germans would have had sufficient force to overcome the French and win in the opening campaign.[59] This committee drew the lesson that joint planning agencies are necessary to coordinate between the two services.

From the beginning, the Army charged the War College with encouraging joint training and education. As early as 1920, the Commandant of the college suggested an exchange of students with the Naval War College. By 1927, three Navy officers and three Marine officers annually attended the War College. The War College also added two naval officers to its faculty. Both as faculty and students these officers contributed to improvements in joint planning.

Joint war games between the Army and Naval War colleges began in 1923, with an exercise of the defense of the Philippine Islands. The joint games were held again the next year, and the majority of the War college class was participating by 1925. The students and faculty maintained communication between Washington Barracks (the Army War College) and Newport, Rhode Island (the Naval War College), by telegram.[60]

Joint exercises were not confined to the map. In 1925, the Chief of Staff, Maj. Gen. John Hines, lectured the War College class on the recent Army-Navy exercises in Hawaii. He noted that 50,000 officers and men participated. He raised the issue of joint

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[58] Ibid., 12.

[59] Committee No. 3, "Naval War Plans of Great Britain and Germany, 1914," September 14, 1926, AWC Curricular File 336-3, 19, USAMHI.

[60] Ball, *Responsible Command*, 211.

staffs instead of liaison officers. Finally, he noted that the only real problem was lack of coordination between Army and Navy air forces.[61] Two years, later the Commandant, Major General Ely, involved the War College in a joint exercise in New England. The students prepared course of action briefings, estimates, and incredibly detailed plans for a two corps assault on the New England coast. The 182-page series of orders included appendices, administrative and field orders for embarkation, debarkation, naval fire support, and a communications plan. The Commandant and six other army officers boarded the flag ship to supervise the exercise.[62] Lt. Col. Charles Keller made the key point in 1926 while addressing the War College. He noted "The real importance of the annual Joint Exercises is but little realized at the present time. Our geographical location alone would appear to dictate the necessity for this class of training."[63] The exercises and the faculty drove home the importance of joint operations in future warfare, the question was who would command them.

During the interwar period, the joint board was responsible for joint planning and establishing the means for joint cooperation. In 1926, the joint board established two methods of joint coordination in military operations: paramount interest and unity of command. Under the principle of paramount interest, the service whose function and requirements are of greater importance maintained authority and responsibility for coordination. In this arrangement the service with paramount interest could give

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[61] Maj. Gen. John L. Hines, "Grand Joint Army and Navy Exercise No. 3," Lecture delivered at the Army War College, June 26, 1925, AWC Curricular File 294-7, USAMHI.

[62] Army-Navy Joint Exercise 1927, Estimate, Plans and Orders for First Army, Black Expeditionary Force. Box 1926-27, War Plans Course, AWC Curricular File 336-1-11, 3, USAMHI.

[63] Charles Keller, "The Army and Navy Joint Board and Joint Planning Committee; and the Methods of the War Plans Division War Department General Staff," Lecture delivered at the War College September 4, 1926, AWC Curricular File 336A-4, 6, USAMHI.

operational missions to the other service. Under the principle unity of command, forces of one service were assigned to a commander who was empowered to coordinate the services by the "organization of task forces, the assignment of missions, the designation of objectives, and the provision of logistic support; and to exercise control during the progress of operations to insure the effective effort toward the accomplishment of the mission."[64]

In their studies, the students preferred the principle unity of command. In 1928, a committee charged with developing lessons from the study of British and German naval plans during World War I, recommended, "That in all major joint expeditionary forces a single supreme commander with a suitable joint staff be designated for control of the entire campaign."[65] Another subcommittee report in 1928, chaired by Maj. Simon B. Buckner, the future commander of the Tenth Army during the invasion of Okinawa in World War II, emphasized the importance of unity of command. Buckner's committee further noted that the Army was deficient in training for landing operations and suggested that it might adopt some of the methods employed by the Marine Corps. Buckner and his fellow students recognized that in any future wars close teamwork with the Navy would be required in the formation of broad strategic plans, as well as joint land, sea, and air

[64] Joint Board, "Statement of Coordination of Operations of the Army and Navy," December 1, 1926, AWC Curricular File, Box 232-5, 2, USAMHI.

[65] Committee No. 8, "Recommendation for a System of High Command for Major Joint Army and Navy Expeditionary Forces," October 6, 1928, G-3 Course, AWC Curricular File 352-8B, 15, USAMHI.

perations.[66] The students anticipated that future wars would require projecting significant combat power overseas.

The students were right. The importance of joint command and joint operations would play a prominent role in the operational art exercised by American commanders in World War II. These officers recognized that in operational art, all combat power, naval and landpower, must be brought to bear in the theater to achieve strategic objectives. One of the key features of modern operational art is the ability of the theater commander to bring all the various capabilities at his disposal to bear. In their study of joint operations, the students of the War College recognized the need to leverage the capabilities of each of the services in achieving strategic objectives. The third element of national military power, airpower, had been born over the trenches in World War I. The promise and role of that new force forged in the Great War was a subject of much debate between its most fervent advocates and the practitioners of landpower.

Airpower

Perhaps the clearest transformation in warfare wrought by World War I was the advent of airpower. In 1917, the United States had only eight serviceable airplanes employed for reconnaissance and training. By 1918, Brig. Gen. Billy Mitchell commanded over 1,400 aircraft fighting for control of the air over the St. Mihiel Salient.[67] The war saw the use of aircraft in tactical, even strategic roles as the Germans

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[66] Sub-committee No. 3, "Training System of the Navy including the Marine Corps with a View to More Effective Cooperation Between the Army an Navy in Joint Operations," October 4, 1928, G-3 Course, AWC Curricular File 352-4B, 1, 10, USAMHI.

[67] Lee Kennett, *The First Air War 1915-1918* (New York: Free Press, 1991), 21.

employed Zeppelins and conventional aircraft to strike at London and Paris. For the army, the role of airpower was still tied to its ability to contribute to winning the land battle. Airpower's inherent range and flexibility, however, gave it an ability to influence operations throughout the theater. Thinking through the new impact of airpower on warfare, the more fervent advocates of the air service and the established authorities for landpower, frequently reached different conclusions. To the advocates of airpower, the experience of World War I promised a great deal, but the role of airpower in modern warfare according to American doctrine in the interwar period was determined not only by experience, but also by technology, the budget, and the bureaucracy.

The Army documented the official lessons of the war with regard to aviation in the AEF Superior Board's report on aviation. The report's conclusion did not look to the future, but simply confirmed that during the war, aviation's major contribution was in reconnaissance and ground attack rather than distant bombing. The report concluded, "Nothing so far brought out in the war shows that aerial activities can be carried on independently of ground troops, to such an extent as to materially affect the conduct of the war as a whole."[68]

Brig. Gen. Billy Mitchell was one of the most public and fierce advocates of airpower. After the war, Mitchell became the Director of Military Aeronautics and gathered around him veteran airmen whose ideas about airpower were often contrary to the official views of the War Department. He lobbied for an independent air force and constantly advanced the claims of airpower's new role in warfare. During a congressional hearing on an appropriations bill in 1921, Mitchell challenged the Navy to

[68] United States Army, "Superior Board on Organization and Tactics," 81.

permit a bombing test of warships. The subsequent test which sank the captured German battleship *Ostfriesland* and the cruiser, *Frankfort*, may have helped prove a point, but it made him few friends in the military establishment. Eventually, Mitchell's criticism of the administration of aviation affairs following the crash of the Navy dirigible, *Shenandoah*, led to his court-martial and subsequent conviction for conduct prejudicial to the service. He resigned from the Army, but remained a public figure for some time. In fact, he is better known as a publicist for airpower than for any detailed theories about its employment. In his most well known work, 1925's *Winged Defense*, he argued for the creation of a Department of National Defense that would include three separate services: the Army, Navy, and a Department of Aeronautics.[69]

Despite Mitchell's concern for the independence of the air service, the new combat arm made steady institutional progress in the twenties. The National Defense Act of 1920 officially made the Air Service a branch of the Army. In 1926, the Air Service was re-designated the Air Corps and given a separate Assistant Secretary of War responsible for aviation matters. The Air Corps' relationship to the Army was now analogous to the Marine Corps' relationship to the Navy. The Air Service Tactical School at Langley Air Station was likewise re-designated the Air Corps Tactical School (ACTS) in that year. At the end of the decade in 1929, the school moved to its final home, Maxwell Airfield in Alabama. From its inception to its closure in 1940, the ACTS was the source of American air theory. Throughout the interwar period, the vision of airmen at the school grew with the promise of technology, but there was a growing divergence between what was taught at the school and what made it into official doctrine.

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[69] William Mitchell, *Winged Defense: The Development and Possibilities of Modern Air Power—Economic and Military* (New York: G.P. Putnam's Sons, 1925), 223.

One of the officers very much involved in the development of air doctrine in the twenties was Maj. William C. Sherman.

A more moderate and one of the lesser known pioneers of American air theory and doctrine, Maj. William C. Sherman was one of the early group of American military aviators. Born in Augusta, Georgia in 1888, Sherman graduated from West Point in 1910. He served in various staff duties during World War I, but eventually returned to aviation as chief of staff, First Army Air Service in 1918. Following the war, Sherman was assigned to ACTS, where he literally wrote the doctrine for airpower.

In 1921, Sherman wrote a text on air tactics for the school. In 1923, this document was issued for use in the air service as Training Regulation No. 440-15, *Fundamental Principles for the Employment of the Air Service.* [70] After review by the Command and General Staff School, the Army War College, and the Army staff, TR No. 440-15 became official Army doctrine in 1926.[71] Not surprisingly, the approved regulation adhered to the Army position that organization and training of the air service is based on "the fundamental doctrine that their mission is to aid the ground forces to gain decisive success."[72] Military airplanes were divided into four classes: pursuit, attack, bombardment, and observation. Observation units were assigned to divisions, corps, and armies. Attack and pursuit units were assigned to field armies, while an Air Service General Headquarters (GHQ) maintained a reserve of attack and bombardment units.

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[70] Robert F. Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force 1907-1960*, Vol. 1 (Maxwell Air Force Base, AL: Air University Press, 1989), 41.

[71] Ibid.

[72] U.S. War Department, *Training Regulations No. 440-15: Fundamental Principles for the Employment of the Air Service* (Washington, D.C.: War Department, 1926), 2.

The GHQ air force was an operational tool for the theater commander. According to doctrine, the theater commander organized GHQ air force into large units, highly mobile and capable of effective action within the theater of operations or against distant objectives. The regulation stressed that upon the outbreak of war, the first priority was to secure control of the air. GHQ then served the double purpose of assisting directly the ground forces by joining in the ground battle and indirectly by operating against hostile lines of communication.[73] The air service employed attack aviation only to the depth of the enemy's rear corps area. Bombardment aviation might be used to directly assist ground troops, but it was best employed in the combat zone attacking communications centers, ammunition and supply depots, enemy concentrations, and transportation lines. Although granting its subordinate role to the theater commander, the doctrine did allow that bombardment units could operate "deep into hostile territory beyond the combat zone against targets which may be far removed from the field of battle, with the object of destroying sources of military supply, main lines of communications, mobilization, concentration, and military industrial centers."[74]

As technology provided faster and more capable bombers in the coming years, strategic bombing became a central feature of instruction at ACTS, but not in Army doctrine. Strategic bombing offered airpower the promise of institutional independence and a greater, perhaps even decisive, role in warfare. Officially, airpower, like the other Army arms of service, assisted the infantry. Operationally, airpower's range and

[73] Ibid., 8, 9.

[74] Ibid., 14.

flexibility made it an ideal force for shaping and influencing the theater by attacking the enemy's lines of communication.

The Command and General Staff School and the War College taught official air doctrine rather than the unproved theories of strategic bombing that became increasingly popular at ACTS. In exercises and conferences, instructors stressed the role of airpower in assisting ground forces. In a conference on the tactics and techniques of Air Corps bombardment at Leavenworth in 1928, Maj. Oscar Westover, former Commandant of ACTS, still stressed that the primary role for bombardment was in striking the enemy's industrial centers in accordance with a definite strategic plan. If these objectives were beyond the range of the bombers, then the lines of communication were the next best set of targets.[75]

The faculty and students at Leavenworth were less concerned about the strategic employment of airpower than they were about the ability of airpower to influence operations in the theater. In exercises, the faculty required the students to plan for the employment of an air division in attacks against the hostile lines of communication. A problem presented to students in 1928 asked them to plan for the employment of a blue air division against red forces attacking as part of a fictional country in the central United States. The scenario located the red capital in St. Louis with a reinforcing red fleet moving up the Mississippi River. The options available to the blue commander for using his air assets included: attacking the capital, industrial centers, supply bases, bridges across the Mississippi River, or the hostile fleet moving up the river. The approved

[75] Maj. Oscar Westover, "Tactics and Techniques of Air Corps Bombardment Aviation," Lecture delivered at the Command and General Staff School, November 19, 1928. CGSC Curricular Archives, CARL.

solution called for a hard initial strike at enemy air bases, then switching to the enemy fleet, and subsequently concentrating on attacks against movements of hostile reinforcements and lines of communication.[76] The clear preference here is the need to shape the theater operationally rather than strike strategically deep into enemy territory.

Likewise at the War College, the students planned for the employment of airpower in accordance with official doctrine. In 1925, a committee of students prepared a study on the employment of air units eventually approved by the War Department for use at the college pending the publication of Training Regulation (TR) 440-15. The study used much of Major Sherman's earlier Air Service text. The study asserted that the mission of the air service was to assist the ground forces to gain strategic and tactical success by destroying enemy air forces, attacking enemy ground forces and objectives on land and sea.[77] The students noted that "while strategical bombardment does not involve direct cooperation with ground troops, it is always so employed as an integral part of the broad plans of operation of the military force, as to have a direct bearing on their success."[78] In 1927, Maj. H. C. Pratt lectured the War College class that most large scale operations aim at cutting the hostile lines of communication. He acknowledged that

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[76] Command and General Staff School, 1928-29, *Tactical Principles*, One Year Course Map Problem No. 16, Series II, Box 7, CARL. Other conferences on employment of the air division in the attack covered the various missions of the air division such as an attack on the hostile air force, withdrawal, coast defense, defense of a city, and in the attack and pursuit of an army. In each case, the instruction emphasized the subordination of the air force in shaping theater operations. "Conference on Air Division Attack, Illustrative Problem", May 25, 1929, CGSC Material, Box 7, USAMHI.

[77] Committee No. 3, "Fundamental Principles for the Employment of Air Service", Command Course 1925-26, Command #3, AWC Curricular File 316A, USAMHI.

[78] Ibid., 5.

airpower might not do this as effectively as ground forces, but it could cut a line of communications at a vital point such as a river or along railroad lines.[79]

In 1926, Major Sherman collected his notes from lectures at both ACTS and the Command and General Staff School and published them in a book entitled *Air Warfare*. This book represents the best expression of American thought on airpower during the interwar period. Sherman emphasizes the human dimension of warfare, psychological and moral factors. He discusses at length the principles of war as related to aerial warfare. He establishes a priority for the employment of bombers that will become the centerpiece of the air corps internal doctrine in the coming decade. Sherman argues that bombardment should target population centers, the enemy system of supply, fortifications, and provide for coastal defense. Specifically, "the long range of the bomber should be utilized to the full, and every sensitive point and nerve center of the system put under pressure in an effort to paralyze the whole."[80] This concept included attacks on the lines of communication.

Sherman asserted the other tenets of airpower: centralized command, employment in mass, and the requirement for air superiority. The book contains a good deal of tactical and technical information, but he manages to cover practically every aspect of air warfare. He points out the operational impact of aviation in reconnaissance. Observation aircraft greatly extended the eyes of the operational commander and could limit operational movement. He noted how practically every army in the later years of World

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[79] Maj. H. C. Pratt, "Air Corps Organization and Employment of GHQ and Army Air Corps," Lecture delivered to the Army War College, November 1, 1927, AWC Curricular File 343A-7, USAMHI.

[80] William C. Sherman, *Air Warfare* (New York: Ronald Press Company, 1926), 217.

War I was constrained to move only at night to avoid observation.[81] Sherman also thought about naval air operations and logistics. He devotes a chapter to naval aviation, forecasting that aircraft carriers will replace the battleship and dominate maritime operations. His chapter on air logistics reflects a fundamental American recognition, perhaps even preoccupation, with the demands of supplying modern war.

Logistics

American officers understood that modern war meant mass armies and required massive logistics to support them. At both Leavenworth and the War College, an interest in logistics pervaded the curriculum. In 1929, a student committee at the War College determined that the German failure in 1914 was due to weakening the right wing, the lack of control between the General Headquarters and the various armies, and finally, "that the German supply system was too rigid and did not permit flexibility."[82] The students concluded that the solution was mass, formation of army group headquarters to coordinate armies in the theater, and a greater emphasis on logistics in theater planning. [83] There was a general perception that German attention to logistics was lacking during the war. Beginning in 1925, the college required each student to write an individual study which took the form of a staff memorandum in each of the major staff areas. Maj. H. S. Grier's staff memoranda in 1926 on German logistics in World War I found the German

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[81] Ibid., 98.

[82] Command Group No. 6, "Historical Study: German Operations on the Western Front, 1914: From the Concentration of their Armies to Include the Battle of the Marne," March 29, 1929, Conduct of War Course, AWC Curricular File 356-3B, 2, USAMHI.

[83] Ibid., 19.

supply organization too rigid and too complex.[84] The lesson was obvious, Grier concluded that, "Every war plan and every plan for operations should have included in it a plan of supply the scope of which must be broad and contain the requirements, the procurement and distribution plans and policies for the situation to be met."[85] Similarly, fellow student Maj. James W. Barber believed "that the U.S. General Staff Organization for supply is far superior to that of the Germans."[86]

One of the great lessons of the war was the need for total mobilization of the nation's industry and manpower to create and sustain the mass armies required in modern warfare. The War College gave mobilization planning special attention in the curriculum. In fact, the War Department established the Army Industrial College in 1924 to address mobilization problems encountered in World War I. How to logistically sustain the mass armies provided by total mobilization formed a significant part of the War College curriculum as well. In the 1920's the G-4 course covered various aspects of strategic and operational logistics. In 1926, the course included lectures on ship to shore supply, rail movement, and studies dealing with campaign analysis from a logistics point of view.[87] Students examining the impact of logistics on modern strategy recognized

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[84] Maj. H. S. Grier, "A Study of the Organization, Functions, and Relations of the Supply Division of the German General Staff or its Equivalent, with Lessons therefrom Applicable to the United States," Individual Staff Memorandum, December 1, 1926, G-4 Course, AWC Curricular File 334-22, 13, USAMHI.

[85] Ibid., 11.

[86] Maj. James W. Barber, "A Study of the Organization, Functions, and Relations of the Supply Division of the German General Staff or its Equivalent, with Lessons therefrom Applicable to the United States," Individual Staff Memorandum, December 5, 1926, AWC File 334-22, 4, USAMHI.

[87] " Orientation and Outline for G-4 Course," November 11, 1926, AWC Curricular File 334-A-1, USAMHI.

"that as armies have increased in size, the necessity for the protecting of their lines of communications has increased the influence of logistics upon operations."[88]

As one student committee noted, "Military strategy is realized by means of maneuver and logistics."[89] The importance of logistics increases with large-unit operations. Deployment, concentration, and sustainment are at the very heart of operational maneuver. It is clear from the curriculum that both faculty and students recognized that logistics at the operational level is not just a matter for logisticians. Most of the students at the War College came from the combat arms — infantry, artillery, cavalry, yet they were required to write detailed logistic annexes during exercises. All students were required to understand how supply works at the higher echelons of army organization. Brig. Gen. Fox Conner lectured the 1925 class, "Material (supply) has enormously increased in importance, so much so that the G-3 is more concerned with the possibilities of supply than with anything else or with everything else put together."[90]

The Army understood and emphasized logistics. It had long been a practice to exchange faculty and students between the Army and Naval War Colleges. Adm. W. V. Pratt, President of the Naval War College, during an address to the Army War College in 1926 noted that the Army officers serving as faculty at the Naval War College helped establish that institution's course in logistics: "Without their earnest effort we never would have been able to get as far as we have in what we call our Logistic Course which

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[88] Report of Committee No. 5, "Influence of Logistics on Strategy," December 21,1925, G-4 Course, AWC Curricular File 314-5, 17, USAMHI.

[89] Ibid.

[90] Brig. Gen. Fox Conner, "G-4 From a G-3 Point of View," Lecture delivered to the Army War College January 6, 1925, AWC Curricular File 290-A-5, 6, USAMHI.

is, after all, supply personnel, materiel, matters of the sort which naval men as a rule do not appreciate because we carry with us our ninety days supply."[91]

Even in the theory of war, American officers did not leave out logistics. In 1928, a committee reporting on "War and Its Principles and Methods and Doctrine" quoted Clausewitz, but added some distinctly American observations. The committee included Maj. Dwight Eisenhower and Lt. Col. Oliver Robinson, who had lectured Eisenhower's General Staff School class on Clausewitz just the previous year. The report, probably written by Eisenhower or Robinson, is thoroughly Clausewitzian in its discussion of the theory of war. Clausewitz, however, never discussed logistics. The committee report nonetheless concluded that logistics which involves the entire complex mechanism of organization and administration is part of the preparation for war, the constant replenishment of the means, though most officers consider logistics as part of the conduct of war itself.[92]

The relationship between operational maneuver and logistics was clear to these American officers. The faculty drove home this lesson, "Every phase of military operations, every strategical or tactical conception is inextricably interlocked to a greater or lesser extent with some phase of supply and transportation." [93] Logistics determines the art of the possible for the operational commander, and its role in campaign planning is crucial.

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[91] Adm. W. V. Pratt, "The Exercise of High Naval Command, " Lecture delivered to the Army War College April 14, 1927, Bound volume of lectures 1926-27, 1, 2, USAMHI.

[92] Report of Committee No. 1, "War and Its Principles, Methods, and Doctrines, " February 27, 1928, Command Course, AWC Curricular File 347-1, 10, USAMHI.

[93] Maj. C. C. McCornack, "The G-4 and Some of his Problems," Lecture delivered to the Army War College November 15, 1926, G-4 Course, AWC Curricular File 334A-3, 1, USAMHI.

Campaign Planning

In 1928, Brig. Gen. Frank Parker, the Army General Staff G-3, lectured the class on the application of strategy. He criticized the strategy of the Germans in 1918: "The offensive maneuvers of the German Armies on the Western Front beginning March 21, 1918 and ending with the attack of July 15th in Champagne, seems to have had no definite strategic inspiration. Their tactical successes in Flanders, on the Somme, and on the Aisne, at this time seems to have no part in the continuity of a strategic idea involving the whole front. The only result of these attacks was to establish dangerous salients at long intervals of time and space."[94] Likewise, the next year, faculty instructor Lt. Col. A. D. Chaffin lectured the class on the strategy of the Central Powers and criticized the Germans for adopting a strategy of attrition in 1915 and for having no strategy or operational intent in the offensives of 1918. He offered this rhetorical question: "What were Ludendorff's objectives in those attacks; not what did he want, but what did he expect and plan for?[95] Both Parker and Chaffin emphasized the notion that in strategy or operational art, combat operations must be coordinated and guided by the commander to achieve a strategic objective in the theater of operations.

Campaign planning is the primary means through which the commander exercises operational art. Students in a 1926 committee report noted the nature of modern campaigning and the role of the commander. They observed, "After the War of 1870, the commander tended to become a Director of Operations and was seldom seen on the field

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[94] Brig. Gen. Frank Parker, "The Application of Strategy by Tactics in Combat," Lecture delivered to the Army War College on February 17, 1928, Command Course, AWC Curricular File 347-A, 5, USAMHI.

[95] Lt. Col. A. D. Chaffin, "Strategy of the Central Powers in the World War," Lecture delivered to the Army War College March 5, 1929, Bound volume of lectures 1928-29. AWC Curricular File, 10, USAMHI.

of battle. Von Moltke, Oyama, Foch, Hindenburg and Pershing were Directors of Operations."[96]

The theater commander, frequently responsible for several armies, no longer managed a single decisive battle but directed operations that might involve several battles all linked to a common strategic purpose. Linking several battles in a theater called for phasing. In an orientation lecture to the class of 1925, Col. C. M. Bundel, Director of the War Plans Division, advised the students:

> It is becoming apparent that the whole of the war effort is not a rigid, indivisible affair that must be handled as such. In fact, an analysis shows quite clearly that it is divided into several distinct steps or phases which, while inherently distinct, nevertheless are interdependent and in some cases overlapping. It is believed that the differentiation of these phases is essential to clear understanding and correct solution of the many problems involved.[97]

The students at the War College practiced campaign planning through exercises based on real war plans. In 1919, the Joint Board was reorganized and charged with coordinating matters of mutual interest between the Army and the Navy — joint exercises, joint procedures, and war plans. The Joint Board was primarily an attempt to develop a national planning system. A Joint Planning Committee consisting of officers from each service's respective war plans division, prepared estimates and plans for review by the Joint Board. By 1925, the college taught that there were four types of plans: the joint plan, army strategical plan, General Headquarters (GHQ) plan, and the theater of operations plan. The Joint Planning Committee of the Joint Board developed the joint plan. It stated the national objectives, summarized the situation, and prescribed

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[96] Report of Committee No. 1, "Command and Organization of Large Units," February 23, 1926, Command Course, AWC Curricular File 338-1, 28, USAMHI.

[97] Col. C. M. Bundel, "Orientation and Outline for the War Plan Course," Lecture delivered to the Army War College April 1, 1926, AWC Curricular File 310A, WPD #14, 2, USAMHI.

missions to the Army and Navy. The General Staff then developed the Army strategic plan. It was essentially a directive from the secretary of war which allocated forces and directed mobilization. War Plans Division of the General Staff wrote the GHQ plan. In theory the WPD would form the staff of the general headquarters established in a theater of war. This plan organized the theaters of operation, allocated forces, and gave broad missions to subordinate commands. Finally, the theater commander developed the operation plan.[98]

The joint plan was the capstone plan; all others were supporting plans. The plans were linked in their support of objectives to the higher plan. The War College settled on the five-paragraph field order as the format for all the plans.[99] The significance of this national military planning system for operational art lies in the fact, that campaign plans would be nested in a series of national and joint plans that should ensure joint cooperation in the theater to pursue strategic objectives. The operational commander would pursue not just victory over the enemy in the field, but strategic objectives with political purpose.

In 1926, Lt. Col. Charles Keller of the Army General Staff informed the class that a strategic plan might include: an estimate of the situation, a general concept of the war (from the joint basic plan), phases of the war, missions assigned by the joint plan,

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[98] Report of WPD Committee No. 8, "Joint Plans, Army Plans, GHQ Plans," September 26, 1925, War Plans Course, AWC Curricular File 310-11, 1-9, USAMHI.

[99] Report of Committee No. 11, "War Plans Division," September 18, 1926, AWC Curricular File 336-11, 8, USAMHI.

strategic concentration, theaters of operation, administration and supply, and plans for operations.[100]

A few months after Lieutenant Colonel Keller's lecture, the faculty expanded on their view of the process in a memorandum of what the plan of campaign in this planning system might look like. It combined the doctrine found in the Leavenworth student text, *Tactical and Strategical Studies, Corps and Army*, with their understanding of the national planning system. The memorandum on campaign planning quoted the Leavenworth text by describing the campaign plan as a guide to operations that may contemplate probable successive phases in operation. The Joint Basic Plan, the Army Plan, and the theater plan are all part of a planning sequence establishing objectives, missions, and guidance from national strategic objectives to operational objectives in a theater of operations or war. The General Headquarters Plan (GHQ) provided the campaign plan for the theater. According to the faculty, the campaign plan must include an estimate of the situation that considers military, geographical, topographical, political, and economic conditions. The plan should include the objective, general plan of operations, method and location of concentration, and the general policy of supply.[101]

The planning system was not only studied, but also exercised. In 1925, Map Problem Number 1 in the War Plans Period required the students to draft a campaign plan for an army in a war against a Red-Orange alliance. Immediately following World War I, the only two powers capable of challenging American interests were Great Britain and

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[100] Lt. Col. Charles Keller, "The Army and Joint Board and Joint Planning Committee," Lecture delivered to the Army War College September 4, 1926, AWC File 336-4, USAMHI.

[101] Memorandum for the Director, Command Division, "A Plan of Campaign and a Plan of Concentration," March 2, 1926, AWC Curricular File 316-11-12-13-14, 1,2, USAMHI.

Japan. As early as 1919, the Joint Board considered the possibility of conflict with these two powers. As unlikely as a war against the British Empire might be, it provided significant training value in planning for large-unit operations. The plan called for the ultimate mobilization of nine American armies to seize Canada while the Navy concentrated in the Atlantic to defend the coast and wage war on British commerce.[102] The campaign plan devised by the students followed doctrine closely, but it did not include phasing. Of more interest is the basic war plan provided by the college. In this scenario, the United States is involved in a war against Great Britain in the Atlantic theater and Japan in the Pacific theater. The basic plan called for three phases: mobilization and concentration, joint Army and Navy operations to capture Nova Scotia, and finally, destruction of Red and Crimson (Canadian) forces wherever found. The strategy was "to seek a favorable decision with Red while offering the maximum practical resistance to Orange in the Pacific Ocean. After the defeat of Red, to undertake a general offensive against Orange in the Pacific."[103] This strategy for a two-ocean war involving Japan and a European ally required prioritization of the theaters just as in World War II some fifteen years later.

The focus of the War College increasingly shifted to war planning. In 1924, the Assistant Commandant informed the class in his orientation lecture that the entire course was based on the preparation of war plans.[104] The next year, the Director of the War Plans Division assured the students, "Almost without exception everything undertaken

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[102] Steven T. Ross, *U.S. War Plans 1939-1945*, (Malabar, FL: Krieger Publishing Company, 2000), 11.

[103] Map Problem Number 1, Command #35, 1924-25. AWC Curricular File 293A-35, USAMHI.

[104] AWC Curricular File 1-105, Course 1924-1925, 9, USAMHI.

during the year has its application, either direct or indirect, to the preparation of war plans."[105] From 1920 to 1929, the college exercised War Plan Red, Red-Orange, or Orange every year. War Plan Red allowed the exercise of joint large unit operations. The entire class normally conducted a field reconnaissance in the Northeast to validate its plans with the actual terrain. The prominence of War Plan Orange recognized the very real threat Japan posed to the Philippines and American interests in the Pacific. This war plan provided concrete and specific challenges to military planning. In the long run, War Plan Orange stimulated the most productive American thought on operational art.

At the end of the decade in September 1929, Maj. Gen. W. D. Connor, Commandant of the War College, went to Europe to visit other institutions of higher military education. He found the American War College virtually unique. The British Staff College was more comparable to the Command and General Staff School. The British College of Imperial Defense included members from other government offices, such as the Foreign Office and Treasury. Perhaps because of the presence of so many civilian officials, the Imperial Defense College did not war game or tackle any detailed military planning.

The Versailles Treaty abolished the German General Staff and the *Kriegsakademie*. Training and education for the "leader staff" which functioned as a general staff took place in divisional schools. The two-year staff training course in the divisional schools included historical studies and division or corps level war games. The German War Department School did extensive war gaming, mostly at the corps level, but the student body consisted of only thirty junior officers. Major General Connor found the French Center of High Military Studies most comparable to the War College. He

[105] Ibid., 10.

noted, however, this institution did not war game or prepare officers for service on higher staffs. General Connor concluded that "all in all, I came back home with a greater feeling of satisfaction with our course at the Army War College than I had when I left."[106] The War College seemed uniquely positioned to study the relationship of strategy and operations.

Assessment

In the twenties the Army sorted out the lessons from World War I. These lessons focused initially on tactics and organization as derived from the many boards convened immediately following hostilities. The larger lessons in modern operational art were studied, discussed, and taught in the army's post graduate school system. Both the General Staff School and the War College recognized the third level of war, the operational level. The War College particularly focused on large-unit operations. Modern warfare meant total mobilization and mass armies. These armies required expanded staffs capable of planning and supervising vast operations sustained by enormous logistical efforts over great distances. The geostrategic position of the United States required the projection of combat power over vast distances and the ability to sustain them. As a result, American officers recognized the critical role of logistics in operational art.

The Command and General Staff School emphasized combined arms — cooperation between the branches of the army. The War College emphasized joint operations — cooperation between the services. The increasing capability of airpower

[106] Maj. Gen. W. D. Connor, "Notes on European Trip, 1929", AWC Curricular File 241-64, 7-20, USAMHI.

added importance in bringing all the combat power in the theater to bear in order to achieve strategic objectives. Airpower, particularly, expanded the commander's ability to shape and influence operations in the theater. The theoretical elements of center of gravity or the hostile decisive element, helped to focus that combat power. The national planning system helped to ensure that combat operations in the theater would be tied to national objectives.

In their study of World War I, American officers extrapolated from the tactical phasing characteristic of American battles in that war to the need for phasing operations in the entire theater in future wars. Logically thinking there way through the application of force in the theater from deployment, concentration, to the maneuver of armies and army groups, they recognized the changing nature of decisive battle. Decisive battles might change the course of the campaign, but could not decide the outcome of the war in an afternoon, a day, or by World War I standards, perhaps even months. Modern war meant marshalling all the combat power available in the theater, naval and air power, projecting, maneuvering, and sustaining large units in a planned sequence of operations.

Operational art as the employment of military force in a theater of operations or a theater of war to achieve strategic objectives was well understood by the American military by the end of the decade. This understanding grew largely from the traumatic experience of World War I. American confidence and optimism that the United States could meet any challenge in 1917 was tempered by the sober postwar realization among professional officers that their country had been unprepared for the sheer scale of modern warfare. Experience, theory, and strategic requirements continued to shape American operational art in final decade before the next great war, the thirties.

CHAPTER 4

THE THIRTIES: AMERICAN OPERATIONAL ART

The 1930's was a dark decade for America. On October 29, 1929, the stock market crash initiated a national economic depression that spread throughout the world. During the 1920's the United States produced more manufactured goods than all the other six great powers combined, but the value of manufactured goods in 1933 was less than one quarter what was in 1929. By 1933, fifteen million workers had lost their jobs and were without means of support.[1] For the American military, the postwar financial cutbacks that began in 1919 and continued throughout the 1920's became much worse in the following decade.

In 1932, Gen. Douglas MacArthur, Chief of Staff of the Army, noted in his annual report to the Secretary of War "the universal and inescapable influence" of the economic depression. According to MacArthur, retrenchment was the dominant factor shaping military policy. The strength of the Army had dipped to 12,180 officers and 119,888 enlisted men, which MacArthur described as "below the point of safety."[2] There was barely enough money to maintain a skeleton military force let alone funds to train and exercise it, or acquire modern technology. Only when potential threats arose in Europe and the Far East near the end of the decade did Congress demonstrate interest in increasing military funding. The Japanese invasion of Manchuria in 1931 and the Nazi rise to power in Germany in 1933 foreshadowed trouble in the years ahead. With

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[1] Paul Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000* (New York: Random House, 1987), 328, 329.

[2] *Report of the Chief of Staff of the Army to the Secretary of War for 1932*, Extract from the *Annual Report of the Secretary of War* (Washington, D.C.: Government Printing Office, 1932), 54, 56.

Imperial Japan's assault on China in 1937 and Germany's march into the Sudentenland and Austria in 1938, the level of international tensions and potential threat even attracted the notice of Congress. Congress authorized an increase in Army strength to 165,000 for fiscal year 1938. In that year, Congress also finally appropriated the money for the Vinson Naval Parity Act, which authorized the Navy to acquire 100 ships and 1,000 airplanes over the next five years. President Roosevelt proposed a new rearmament program in November 1938 that included $500 million for 10,000 air planes. Some historians cite 1938 as the beginning of American rearmament. If so, the Navy and the Army Air Corps were the chief beneficiaries.[3]

Despite the increased congressional support for the military at the end of the decade, public pacifism was reflected in a strong isolationist mood. The popular 1930 movie, *All Quiet on the Western Front*, was symptomatic of the growing anti-war movement at the beginning of the decade. The use of regular troops to evict World War I veterans of the Bonus Army from Washington, D.C., in 1932, further diminished the Army's prestige.[4] In 1934, Senator Gerald P. Nye of North Dakota chaired a committee investigating the charge that munitions manufacturers and financiers conspired to involve the United States in World War I. The following year, retired Marine Corps Maj. Gen. Smedley Butler published *War is a Racket*, which *Reader's Digest* later condensed as a book supplement. Butler toured the country for two years sponsored by the League

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[3] Weigley, *History of the United States Army*, 417.

[4] On May 29, 1932, one thousand veterans arrived in Washington, D. C., to support passage of a Bonus Bill that would provide immediate payment of a promised bonus for their service in World War I. By May 1932, their numbers swelled to an estimated 10,000 to 17,000 men, but the bill did not pass. After the failure of Congress to act, many went home, but some 2,000 marchers remained. On July 28 violence broke out between a small group of veterans and the authorities. Secretary of War, Patrick Hurley's fears of communist agitation and riots prompted orders to General MacArthur to clear away the affected area. In full uniform and against the advice of his aide, Maj. Dwight David Eisenhower, MacArthur exceeded his orders and broke up and burned the veterans camp. D'Este, *Eisenhower*, 219-21.

Against War and Fascism. His status as a long-serving veteran of foreign wars, twice decorated with the Congressional Medal of Honor, gave credibility to the views of the anti-war, isolationist movement.[5]

Isolationism and the anti-war movement also had a powerful political voice. Former President Herbert Hoover, Senators Robert Taft, Robert LaFollette, Gerald Nye, William Borah, and Hiram Johnson and the *Chicago Tribune*, *the New York Daily News* and the Hearst newspaper chain represented a powerful isolationist bloc in and out of government. Isolationism and anti-war rhetoric helped to create a national mood hostile to preparing the country for war. Despite the German conquest of Poland and the shocking defeat of France in June 1940, Congress voted to extend the conscription act by only a single vote in August 1940.

The Great Depression and the public's prevailing antiwar mood affected not only America's military institutions, but also the officers who led them. Low pay, slow promotion, and civilian indifference or hostility made pursuing a military career personally difficult for these men. Future general Maxwell Taylor graduated from West Point in 1922. He did not attain the rank of captain until 1935. In his memoirs, he recalled the interwar period as a challenging time during which many officers resigned their commissions to pursue other careers. Taylor chose to stay in the Army. He noted that those who remained "in these doldrums, were saved by some inner feelings of the importance of their profession, reinforced by the influence of the Army school system."[6] He enjoyed the rigor of the Command and General Staff School at Leavenworth and "the

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[5] Hans Schmidt, *Maverick Marine: General Smedley D. Butler and the Contradictions in American Military History* (Lexington: University Press of Kentucky, 1987), 236-38.

[6] Maxwell D. Taylor, *Swords and Plowshares* (New York: W. W. Norton & Company, 1972), 29.

year at the War College was a time for mature reflection on the broadest problems of the military profession in company with congenial fellow professionals."[7]

Future General of the Army, Dwight Eisenhower turned down a job with the Hearst newspaper chain which would have tripled his Army salary. This during a period in which the Hoover administration mandated a 10 percent pay cut for the Army in 1930.[8] Robert L. Eichelberger, future commander of the Eighth Army in World War II, was one of Eisenhower's Leavenworth classmates. He remembered, "There are ampler ways of making a living than a professional military career. But I guess it must have its satisfactions; despite business offers I never seriously considered getting out of the Army."[9] Similarly, but earlier in his career, future fleet admiral, Chester Nimitz declined an offer of $40,000 per year to work for a commercial company when he was making $2,880 as a junior naval officer.[10] The professionals stuck it out in a period of increased financial retrenchment and public indifference and even hostility. For most of the interwar period, the Army could not afford large formations, new technology, or even adequate manning levels. With plenty of time on their hands, few units to command, and little modern equipment with which to train, education became the central focus in preparing the military for war. Only in the military's postgraduate schools could any real preparation for war be made in the minds of the officers who would fight it.

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[7] Ibid., 37.

[8] The Roosevelt administration mandated a further cut in 1933. D'Este, *A Soldier's Life*, 213.

[9] Robert L. Eichelberger, *Our Jungle Road to Tokyo* (Nashville, TN: Battery Press, 1989), xvi.

[10] Alan Schom, *The Eagle and the Rising Sun* (New York: W. W. Norton & Company, 2004), 168.

Command and General Staff School

From 1930 to 1936, the Command and General Staff School at Fort Leavenworth continued its two year program. Maj. J. Lawton Collins reported to the Command and General Staff School on August 29, 1931. He attended both first and second years, recalling that the second year was chiefly devoted to the logistics of large units, corps, armies and army groups.[11] The 1933-34 second year course devoted 31 of 52 conferences to army-level operations. The course included instruction on tanks, mechanized cavalry, and joint operations. The course included five lessons on overseas expeditions. Interestingly, there was as much instruction on the employment of the Air Corps as the field artillery in army operations.[12] There were frequent lectures on military history to illustrate large unit operations. The Army reduced the Leavenworth course to one year beginning in 1936. The Command and General Staff School then concentrated on tactics and logistics at division level and below.

By far, the most remarkable document to come out of Leavenworth in the thirties Was *Principles of Strategy for an Independent Corps or Army in a Theater of Operations*. Written in 1936 by anonymous members of the faculty, this text was remarkable because of the obvious influence of Clausewitz, its clarity in expressing operational concepts, and its analysis of the impact of modern warfare on operations within a theater.

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[11] J. Lawton Collins, *Lightning Joe: An Autobiography* (Baton Rouge: Louisiana State University Press, 1979), 57.

[12] The course provided 13 lessons on the employment of field artillery at corps and army level and 12 conferences on the Air Corps. United States Army, "Schedule for 1933-1934, Second Year Class" (Fort Leavenworth, KS: Command and General Staff School Press, 1933). Combined Arms Research Library, Fort Leavenworth, Kansas. Hereinafter referred to as CARL.

The influence of Clausewitz permeated *Principles of Strategy*. The text stressed the importance of history in the study of campaign planning. Underscoring the school's belief in military history, the text asserted that "only a leader well versed in military history will possess those qualities which are found among the great captains of history."[13] Citing another famous Clausewitzian observation, the text affirmed that the role of chance meant that "the issue of battle is always uncertain."[14] To overcome this uncertainty, the commander needed special qualities of character and determination. These observations can be found in *On War*, where Clausewitz discussed them at length.[15]

Clausewitz's influence was even more evident in the text's discussion of mass and the strategy of annihilation. All other things being equal, mass, numerical superiority, decided the issue. In fact, the fundamental law of strategy is: "Be stronger at the decisive point."[16] *Principles of Strategy* strongly embraced the battle of annihilation and concluded that only the wide envelopment could achieve it.[17]

The operational concepts found in earlier Leavenworth texts were presented more clearly and forcefully in 1936. The three types of military art were reaffirmed as the conduct of war, strategy, and tactics. The conduct of war related to employing not only the armed forces but also political and economic measures in achieving national aims in

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[13] United States Army, *Principles of Strategy for an Independent Corps or Army in a Theater of Operations* (Fort Leavenworth, KS: Command and General Staff School Press, 1936), 70. Box 12, CGSC Files, USAMHI.

[14] Ibid., 3.

[15] Clausewitz, *On War*, 101-3, 170-74.

[16] *Principles of Strategy*, 37. For Clausewitz' discussion of the importance of the superiority of numbers at the decisive point see pages 194-97 in *On War*.

[17] Ibid., 70.

war. Strategy was defined as "the art of concentrating superior combat power in a theater of war," which would defeat the enemy in battle. The text conceived of tactics as "the art of executing the strategic movements prior to battle and of employing combat power on the field of battle."[18]

This framework of military art allowed for other operational concepts included from earlier texts. In regards to successive or phased operations, it was noted that the commander "must look further into the future and must see beyond the battle itself."[19] Indeed, modern conditions meant that, "final victory will be achieved only through a succession of operations or phases." [20] The notion of culminating point was also discussed.

Principles of Strategy also included a new analysis of the changing nature of warfare and its impact on operations within a theater. It noted that perfection of road networks, plus the telegraph, radio and airplane, had "decidedly modified the art of war."[21] The new technology allowed for a greater distribution of force in a theater providing for more secure operations on exterior lines. The increase in range and firing rates of modern weapons made frontal attacks more hazardous and "as a result the envelopment from one or both sides is the object of modern strategists."[22]

Principles of Strategy insisted that mechanization, motorization, and airpower mandated wide envelopments. The mission of motorized units and tanks "must be to

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[18] Ibid., 8.

[19] Ibid., 28.

[20] Ibid., 16.

[21] Ibid.

[22] Ibid.

attack the flank and rear of the enemy, and to prevent the hostile withdrawal. Aviation and tanks must disrupt the lines of communication far in the rear."[23] The text recognized that modern warfare increased the importance of logistics. "Any enemy interference with an army's supply system has far reaching consequences. The larger the force the greater will be the consequences."[24] Wide envelopments made the most of the new mobility, targeted the lines of communication, and by preventing enemy withdrawal could be made more decisive. Although frontal attacks were discouraged, if a penetration was necessary, it should be done: "By massing a preponderance of force while economizing elsewhere, the commander plans to achieve an advance deep into the hostile formation. If this operation is successful, it is frequently decisive. It has for its object the separation of the enemy's forces into two parts and then the envelopment of the separated flanks in detail."[25]

This analysis compared favorably with the writing of the most prominent military theorists of the day. In fact, it could have been written by the German tank advocate, Heinz Guderian, or the Soviet general, Mikhail Tukhachevsky. Curiously, many of Tukhachevsky's ideas received official sanction that same year when the Red Army published then as the *Field Service Regulations of the Soviet Union, 1936*. The main difference lay in the fact that Tukhachevsky saw mechanization as providing the means of deep operations, his preferred maneuver. While the Russians favored penetration

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[23] Ibid., 46, 47.

[24] Ibid., 18.

[25] Ibid., 42.

leading to envelopment, the Americans leaned toward the German solution of wide envelopment.

The 1936 *Principles of Strategy* went beyond this analysis to consider new approaches to strategy. It made a key assumption by stating, "Strategy is concerned with making an indirect approach accompanied by movements intended to mystify, mislead, and surprise the enemy."[26] The text went so far as to assert that if two armies confronted each other with their lines of communication secure, all their combat power present, and without being surprised, no strategy had been used at all."[27] This logically led to the emphasis on the enemy flanks and rear and wide envelopments.

The great British theorist, Sir Basil H. Liddell Hart, first proposed his thesis of the indirect approach in *The Decisive Wars of History* published in 1929. He would later expand this operational construct into a strategic prescription in his *Strategy of the Indirect Approach*, which was not released until 1941. Original or not, *Principles of Strategy for an Independent Corps or Army in a Theater of Operations, 1936* was remarkable for its synthesis of modern thought, combining Clausewitz, the indirect approach, and modern technology.

How influential was *Principles of Strategy*? The Command and General Staff School hammered home the doctrine to such an extent that the Army Staff took issue with the emphasis on wide envelopments. The objections of the Army Staff were hotly

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[26] Ibid., 7.

[27] Ibid., 8.

debated in the War College.[28] Regardless of the debate, the text was quoted in lectures given at both the Navy and Army War Colleges by senior faculty.[29]

After 1936, the Command and General Staff School reverted to a one-year curriculum. The Army's desire for more graduates encouraged this move. This led to an inevitable decline in the amount of time available for the study of operational art. The one-year course became focused exclusively on division and corps tactics. Military history and logistics were still emphasized, but large-unit operations, army operations, became the sole responsibility of the Army War College. The overlap between the two institutions in operational art virtually ceased with the introduction of the regular one-year course at Leavenworth. The Army War College continued to use the doctrine and student texts developed at Leavenworth with regard to large unit operations, but persisted on its own path of educating students through exercises, lectures, conferences on joint and combined operations.

The Army War College

On September 1, 1937, Col. Ned B. Rehkopf, Assistant Commandant of the Army War College, stood before the incoming class and delivered the general orientation lecture. He noted that the mission of the college was to train officers "for the conduct of field operations of the Army and higher echelons; to instruct officers in those political, economic and social matters which influence the conduct of war, to instruct officers in

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[28] Report of Committee No. 7, "Trends in Tactics and Techniques," October 10, 1938, AWC Curricular File 3-1939-7, USAMHI.

[29] Col. C. H. Wright, "Strategic Employment of Military Forces," Lecture delivered at the Naval War College, October 21, 1937. AWC Curricular File 195-38-2k. COL Ned B. Rehkopf, "Strategy," Lecture delivered at the Army War College, April 11, 1939, AWC File WP #19, 1939.

the duties of the War Department General Staff, train officers for joint operations of the Army and Navy; and to instruct officers in the strategy, tactics and logistics of large operations in the past."[30] The War College curriculum now began with a Preliminary Command Course (PCC) to pick up the instruction no longer covered at the General Staff School. This course covered the organization, tactics, and logistics of the army, army group, and general headquarters. The remainder of the year consisted of the Preparation for War and the Conduct of War courses.

The Preparation for War course began with the general staff or G-courses. About one month was devoted to each staff section, but by the end of the decade, G-4 received more days of instruction than any other. The G-2 course surveyed the political, economic, social and military features of the major world powers. This course provided the greater strategic context for the subsequent military planning in the Conduct of War Course. Complementing the G-2 course, each week the students discussed and evaluated a foreign news article. Analytical Studies followed the G courses. This sub-course used history to examine leadership, high command, joint operations, and national defense organizations. Analytical Studies had long been a part of the curriculum, and depending on the commandant, the sub-course used military history to discover principles, search for trends, or as a laboratory for operational research.[31] Over 20 percent of the committee reports through these years dealt with joint or coalition subjects.[32]

Following Analytical Studies, the Preparation of War Plans sub-course allowed

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[30] Col. Ned B. Rehkopf, "Orientation Lecture," Delivered to Army War College, September 1, 1937, AWC Curricular File Misc. #1, 1938, USAMHI.

[31] Ball, *Responsible Command*, 228.

[32] See Tentative Courses 1923-1940. AWC Curricular File 1-82/A, USAMHI.

students to prepare plans from the national to theater level. The students did not work with real war plans, but used the color plan scenarios: Green for a minor effort, Red for a major effort, and Orange for an overseas effort. The students were advised, "Do not concern yourselves with the probability or improbability of such wars nor in the useless conjecture as to whether we would or would not fight alone or associate with allies. Our task is to teach ourselves how to formulate war plans and in doing so we select different types to cover as many situations as time and personnel permit. However, the plans we do make should be as complete, logical and accurate as possible under the governing circumstances."[33] War planning and war gaming at the War College were not meant to test war plans but to train and educate competent staff officers and future commanders in the art of war.

The Conduct of War Course lasted until the end of the school year and consisted of map exercises and maneuvers. From 1928 to 1932, this course consisted of four two-sided map maneuvers. These map maneuvers included operations in Puget Sound on the West Coast, a defense of the Chesapeake and Delaware bays on the East Coast, a campaign in the Allegheny Mountains, and the recapture of Luzon in the Philippines. Beginning in 1933, the college replaced free play-map maneuvers with faculty-directed map problems in which student staff groups solved operational situations. The faculty and fellow students critiqued the solutions and then new requirements and situations were presented.[34] The course included a strategic reconnaissance in the northeast or in the Delaware Bay area, as well as a command-post exercise, when funds were available. Throughout the year, lectures supported instruction on a variety of subjects from

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[33] Report of War Plans Group No.2, 11 April 1936, File 5-1936-19/1 to 12, USAMHI.

[34] Ball, *Responsible Command*, 227.

international economics to history to specific military and naval topics — all provided by the best expertise available. The college's mission and the curriculum that supported it, covered a good deal, but clearly the focus on large-unit operations, joint operations, logistics, and military planning in the theater provided American officers their education in operational art.

The faculty divided the students into committees or staff planning groups. The committees reported to the entire class the results of their study or briefed their solutions to operational problems. Classes met every day with morning and afternoon sessions except for Wednesday and Saturday afternoons. Despite the Saturday morning classes, for the students, living was easy. Omar N. Bradley, a future army group commander in World War II, attended the War College in 1933-34. Bradley was impressed by the difference between the War College and Leavenworth. At the War College, he recalled, "there was very little pressure. We were not graded on our work; there was no class standing to be achieved, no one of importance to impress."[35] In his spare time, Bradley organized a baseball team with Jonathan Wainwright as umpire, William F. Halsey as shortstop, and himself as pitcher.[36]

By the end of the decade, not much had changed. Maj. Maxwell D. Taylor entered the last War College class before the war in 1939. He agreed with Bradley that "there was none of the individual competition among the students which characterized Leavenworth; the year at the War College was a time for mature reflection on the

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[35] Omar N. Bradley and Clay Blair, *A General's Life: An Autobiography of General of the Army Omar N. Bradley* (New York: Simon and Shuster, 1983), 74.

[36] Jonathan Wainwright became a major general, commanded and subsequently surrendered American forces on Bataan in World War II. William F. Halsey rose to four star admiral and commander of U.S. forces in the South Pacific.

broadest problems of the military profession in company with congenial fellow professionals, most of whom were destined for senior assignments in the approaching global war."[37] Taylor also noted that the focus of instruction was on the "military problems of the theater of operations and at the seat of government."[38]

Just as in the twenties when many future senior commanders passed through the Staff School at Leavenworth, many of the same men attended the Army War College in the decade preceding World War II. All of America's future army group commanders and all but two of the nine future army commanders were students at the War College in the thirties. The other two army commanders, Simon B. Buckner and Walter Krueger, had attended in the 1920's. These men would fight battles and wage campaigns all over the world in the coming war. In the decade preceding the great struggle, however, they waged battles and campaigns in exercises and on maps to learn their craft and develop the organizational and staff skills to achieve victory in modern war.

The lessons of World War, I as distilled in the curriculum of the War College in the 1920's, continued to be studied and taught into the 1930's. The emphasis on logistics remained evident in virtually all of the exercises and map maneuvers. The scale, scope, and detail in campaign planning became more refined and more sophisticated, particularly as war clouds gathered at the end of the decade. More than anything else, the specificity of war planning, particularly, the War Plan Orange scenario, helped to develop meaningful and modern solutions to problems in operational art.

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[37] Taylor, *Swords and Plowshares*, 37.

[38] Ibid.

Logistics

"You need very few Napoleon Bonapartes in war, but you need a lot of superb G-4s."[39] That was the opinion of Maj. Gen. Fox Connor gave in a lecture to the War College class in 1931. General Connor spoke with some authority on the issue, having served as the G-3, Deputy Chief of Staff for Operations in the AEF. Here was the senior operations officer in the AEF unequivocally underscoring the importance of logistics. He noted that "since the war we have paid more attention in our schools to matters of personnel, intelligence and supply. But we are not yet anywhere strong enough in our attention to logistics, the details of supply and the technique of G-4 work."[40]

Connor was widely respected in the Army, not only for his service with the AEF, but as an officer of wide learning and professional competence. George Patton introduced Dwight Eisenhower to General Connor, and subsequently, Connor became Eisenhower's mentor. Eisenhower greatly admired Connor and remembered him as "the ablest man I ever knew."[41] While Major Eisenhower served with Fox Connor in Panama, the general impressed upon him the value of military history, and insisted he read Clausewitz' *On War* three times.[42] General Connor's opinion counted for a great deal.

The faculty increasingly recognized that one of the key differences between tactical and operational art is logistics. In a lecture on the "Strategy of Supply," Maj.

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[39]Maj. Gen. Fox Connor, "Organization and Function of G-3, AEF," Lecture delivered at the Army War College, September 18, 1931, AWC Curricular File 383-A-8, G3 Course, 6, USAMHI.

[40] Ibid., 1.

[41] D'Este, *Eisenhower*, 164.

[42] Ibid., 167, 168.

Gen. William D. Connor, former Commandant of the War College, specifically made the point. "In this summary that I have hastily sketched," Connor said, "we have seen the functions of the leader, the Commander in Chief, change materially. Originally, they pertained mainly to tactics and did not need to take supply matters into account. Conditions have changed so that today tactics have passed entirely out of his list of functions and supply matters have come to occupy a predominating position in those functions."[43] The War College continued to emphasize the connection between operational art and logistics. Beginning in 1931, the faculty provided fewer situations to the student groups so that "more time was given for the careful working out of the logistic features of operations."[44] By 1937, the Army War College was even teaching naval logistics.[45]

In exercises, the faculty demanded the students pay attention to logistics. In his critique of the Command Post Exercise in 1938, Lt. Col. B. Q. Jones criticized the students serving as army commanders because "not enough stress was laid upon logistics, the establishments and operation of the line of communication in the rear." He further echoed Maj. Gen. William D. Connor by emphasizing that in the conduct of modern war, "the commanding general once his plan has been launched, becomes a logistics general and he must delegate naturally, without losing touch, the conduct of actual combat to his subordinates, that the success of operations from then on depends upon careful attention

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[43] William D. Connor, "Strategy of Supply," Lecture delivered at the Army War College, April 29, 1937, AWC Curricular File WP #21, 1937, p. 4, USAMHI.

[44] Summary of Courses at the Army War College Since the World War, AWC Curricular File 1-105, p. 19, USAMHI.

[45] Ibid., 5-8.

and certainty that the logistics arrangements shall be maintained in spite of all operations."[46]

The emphasis on logistics came naturally to American officers raised in an industrial society that out-produced most of Europe. Americans were good at it. Arguably, the Army's frontier tradition also contributed to the Army's attention to supply. The Army projected force for sustained periods of time in remote frontier areas. These logistics, even if on a much smaller scale, could mean the difference between success or failure. More importantly, in modern warfare, the requirement for an overseas expeditionary force demanded it. Projecting the kind of power needed to wage mass industrial warfare across oceans required attention to detail and a thorough understanding that logistics determined the art of the possible. For the Army students, in their studies, their planning, and their exercises, logistics always held a central place in their understanding of operational art.

Airpower

The trends in the theory and doctrine on the employment of airpower that originated in the twenties continued into the thirties — so did the disagreements. American airpower continued to benefit from its own institutional representation, fierce advocates, improving technology, and the American fascination with flight. Suspecting corruption in the air transport companies, President Franklin Roosevelt ordered the Army Air Corps to fly the air mail starting February 19, 1934. With little time to prepare and with inadequate organization and equipment, the Air Corps quickly experienced fifty-

[46] Lt. Col. B. Q. Jones, "Comments on the Command Post Exercise, 1938," AWC Curricular File 6-1938-11, p. 36, 37, USAMHI.

seven accidents and twelve fatalities. Negative publicity and public concern, prodded the War Department to convene a special committee to investigate the inadequacies of the air service that April. Chaired by former Secretary of War Newton D. Baker, the Baker Board recommended the establishment of General Headquarters (GHQ) of the Air Force.[47] The War Department accepted many of the Baker Board's recommendations and established the GHQ Air Force on March 1, 1935. GHQ Air Force was responsible for all Air Corps tactical units. This headquarters reported to the chief of staff of the Army in peace and to the theater commander in time of war.

Unlike tanks, over which institutional advocacy was split between infantry and cavalry, airpower was well represented by the GHQ Air Force, the Air Corps Tactical School, and active professional and public interest. The trend among airpower advocates to emphasize the role of strategic bombardment increased with the introduction of more capable aircraft. In the early thirties, the Boeing B-9 and Martin B-10 bombers were capable of speeds in excess of 200 miles per hour and a ceiling of 21,000 feet. By 1935, their long range performance was significantly increased with the introduction of Boeing's B-17. These aircraft gave the United States the most capable strategic bombers in the world. At the same time, the development of fighter aircraft lagged, which only added weight to the enthusiasts' claims for strategic bombing.

The disagreements, however, between the Air Corps and the War Department on the employment of this growing capability remained. Chief of Staff General Douglas MacArthur directed the Army staff to prepare a statement on the employment of air power. The War Plans Division revised War Department Regulation 440-15 *Employment of the Air Forces of the Army*. The draft of this regulation insisted the "land campaign

[47] Futrell, *Ideas, Concepts and Doctrine*, 70.

and battle was the decisive factor in war."[48] After the faculty of the Air Corps Tactical School reviewed this document, it insisted that the principal mission of airpower "is the attack of those vital objectives in a nation's economic structure which will tend to paralyze that nation's ability to wage war and thus contribute to the attainment of the ultimate objective of war, namely the disintegration of the will to resist."[49]

The revised Training Regulation 440-15, dated October 15, 1935, was to a certain extent, a compromise. The War Department was willing to concede some strategic role for the Air Corps, but was most concerned about support to ground forces. The regulation noted that the functions of the GHQ Air Force consisted of "operations beyond the sphere of influence of the ground forces, immediate support of the ground forces, and in coastal frontier defense and in other joint Army and Navy operations."[50] Operations beyond the ground force's sphere of influence included enemy air forces, war industry, critical points along the lines of communication, and troop concentrations.[51] The regulations indicated that the theater commander would provide the GHQ Air Force commander with broad general missions in which the air commander would select targets. The theater commander might also direct special missions and designate the major objectives. Although noting the range and versatility of airpower, the regulation recognized the importance of basing. "Air bases suitably located are essential to the operations of air

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[48]Ibid., 77.

[49] Ibid.

[50] U. S. War Department, *Training Regulations No. 440-15: Employment of the Air Forces of the Army* (Washington, D.C.: War Department, 1935), 5-6.

[51] Ibid., 6.

forces. If necessary, localities suitable for use as air bases must be seized and held in the prospective theater of operations after the outbreak of hostilities."[52]

Not too surprisingly, the students at the Army War College in the thirties did not plan massive strategic bombing campaigns against potential or fictional adversaries. War College students planned for the employment of landpower in an environment in which airpower was a necessary and ever present fact in the theater of operations. They were most concerned with the tactical and operational impact of airpower in the theater. Typical of missions assigned to the air corps in exercises was a map maneuver against the fictional Red Coalition in 1938. The blue commander assigned the following mission, "The GHQ Air Force, operating from airdromes in the Northeast Theater and southern New England is to execute distant reconnaissance, provide close support for ground forces of the theater, disrupt hostile communications particularly port facilities, and attack hostile overseas expeditionary forces in transport when within range."[53] In the same exercise, the red coalition commander assigned the air force missions that "are those set forth by the theater plan, namely, to attack Blue air force, including the attack of aircraft factories and munition plants in Connecticut, New Jersey, and Pennsylvania, and secondly, to effect as much delay as possible in Blue concentration."[54]

A different view was stressed and exercised at the Air Corps Tactical School. An ACTS text on Air Warfare dated February 1, 1938, declared that "Air warfare may be waged against hostile land forces, sea forces, air forces, or it may be waged directly

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[52] Ibid., 4.

[53] Conduct of War: Part II Map Maneuver, Group 2, Red Coalition, May 20, 1938, AWC Curricular File 6-1938-9B, p. 2, USAMHI.

[54] Ibid.

against the enemy nation. The possibility for the application of military force against the vital structure of a nation directly and immediately upon the outbreak of hostilities, is the most important and far reaching military development of modern times."[55] The text described air warfare using the principles of war and adopted the classic Clausewitzian observation that resistance is a product of the means to wage war and the will to employ those means.[56] The aim in war is to break the enemy's will to fight. The role of airpower is to deprive the enemy of the means to fight and to inflict "direct suffering on the civil populace in such manner as to make it apparent that further resistance is futile."[57]

The text established the ACTS view of airpower at the end of the decade. Bombardment was considered the primary arm of the air force with the mission of providing precision attacks against vital targets in the enemy's national structure. In order to do this, the air force must first conduct counter air operations to obtain some degree of air superiority. Support of ground forces was viewed as a necessary but subordinate concern. To accomplish its mission, airpower needed to be massed and centrally controlled by the GHQ Air Force. The text did not completely ignore the subject of supporting ground and maritime forces. When required, the Air Corps could help ground forces through the direct destruction of enemy forces or by isolating them by attacking their lines of communication within the theater.[58]

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[55] Air Corps Tactical School, *Air Warfare, Tentative*, February 1, 1938, 1, AWC Curricular File 97-124/A. USAMHI.

[56] See Clausewitz, *On War*, 77.

[57] *Air Warfare Tentative*, 38.

[58] Ibid., 45.

While the text highlighted the importance and potential decisiveness of unilateral air force operations, it also established one of the primary features of joint operational art: how each service's capabilities should be combined to achieve the theater commander's objectives. The text insisted that each service must bring its unique capabilities to bear. In expeditionary warfare, "the success of an overseas invasion depends upon the ability of the naval and air forces to accomplish in an initial phase of action a condition of superiority that will ensure the safe passage of the land force across the sea. Control of the seas is insured only by the defeat or the neutralization of the defending naval and air forces."[59] Likewise, "Just as air forces are capable of offering direct or indirect assistance to land and sea forces, so also land and sea forces are capable of assisting the operations of air forces. Land and sea forces may seize territory necessary to the establishment of air bases, they may provide the necessary surface security, and they may contribute to the supply of air forces."[60] In those few words lay one of the driving operational concepts for the coming Pacific campaigns in World War II.[61]

In the 1930's, officers like Henry H. ("Hap") Arnold, Ira C. Eaker, and Carl A. ("Tooey") Spaatz rose through the ranks of the Army Air Corps embracing Billy Mitchell's vision of American airpower. Committed to their quest for an independent and decisive air force, they looked to the future. Henry Arnold graduated from West

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[59] Ibid., 65.

[60] Ibid., 36.

[61] The development of the naval air arm certainly testified to the Navy's recognition of airpower. In a 1930 lecture to the Army War College, Navy Capt. William D. Pulleston, unequivocally stated, "The effect of the air force on joint operations will probably be enormous; it would be a rash undertaking indeed to attempt a landing on a hostile shore without air superiority. Operating against an invading expedition, air superiority will probably be decisive." Capt. William D. Pulleston, "Lecture on The Probable Future Trend of Joint Operations," Delivered at the Army War College on April 8, 1930. AWC Curricular File 366-A-2A, p. 10, USAMHI.

Point in 1907 and quickly became interested in flying. In fact, Wilbur Wright taught Arnold how to fly, making him one of the very first American military aviators. Arnold spent World War I in Washington, D.C., but his charm, effective leadership, and passion for airpower moved him steadily up the ranks during the interwar period. By 1935, Brigadier General Arnold was the assistant Chief of the Air Corps and in 1938 became the Chief of the Air Corps. Arnold fully accepted the ACTS theory on the strategic employment of air power. He would direct the course of American airpower as the Chief of the Air Corps, later Army Air Force, throughout World War II.[62]

Ira C. Eaker received a reserve commission in 1917, but missed combat action in the Great War. He distinguished himself in the interwar period, not only by his leadership, but also by grabbing headlines through spectacular flight achievements, such as completing the very first transcontinental flight purely on instruments in 1936.[63] In 1933, Eaker graduated from the University of Southern California with a degree in journalism. He put this training to good use by co-writing three books with Hap Arnold to popularize and spread the airpower gospel. After taking note of the role airpower played in the German blitzkrieg, Arnold and Eaker published *Winged Warfare* in March 1941. Just as Maj. William Sherman's *Air Warfare* summed up American thought on the employment of airpower in the twenties, Arnold and Eaker's *Winged Warfare* summarized the beliefs of senior American airmen at the end of the interwar period.

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[62] Roger J. Spiller, ed., *Dictionary of American Military Bibliography*, Vol. 1 (Westport, CT: Greenwood Press, 1984), 43.

[63] Richard G. Davis, *Carl A. Spaatz and the Air War in Europe*, (Washington, D.C.: Center for Air Force History, 1993), 33.

The book represented an updated statement of their vision on the employment of airpower. They still insisted, "The first priority missions are the destruction of opposing air forces, and vital enemy objectives beyond the range or theater of influence of land forces. To take all or part of the air force and remove it from these higher priority missions to missions cooperative in character would be a dangerous error."[64] Independent missions were the primary functions of airpower, but the authors did discuss cooperative missions with the other services. Arnold and Eaker listed observation, working with mechanized forces, paratroops, and pursuit aviation as missions in support of other services. They justly and proudly asserted, "It is now fairly generally agreed that no land or naval battle will be won while the enemy holds superiority in the air and when he is able to bring considerable air pressure to bear on the theater of that battle."[65] Their commitment to airpower's support to ground forces would be tested in World War II. They remained convinced that the best contribution of airpower not only to ground forces but to winning the war lay in destroying the enemy air force and striking at strategic targets. Eaker went on to become one of the senior American commanders responsible for attempting to put the ACTS theory on strategic bombing into practice as the commander of the Eighth U.S. Air Force in England.[66]

Carl "Tooey" Spaatz, graduated from West Point in 1914, and unlike Arnold and Eaker, did not miss combat in World War I. Although assigned to a training command, Spaatz went to the front without orders, and within three weeks shot down three German

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[64] H. H. Arnold and Ira C. Eaker, *Winged Warfare* (New York: Harper & Brothers, 1941), 125.

[65] Ibid., 123.

[66] Spiller, *American Military Biography*, 1: 293.

aircraft. Spaatz loved to fly, but was not academically inclined. He resented the time he spent at the Command and General Staff School, and was by all accounts an indifferent student. Spaatz was a man of action. Like Eaker, Spaatz participated in a series of spectacular flights, earning the Distinguished Flying Cross for an endurance refueling flight in 1929, staying aloft for 151 hours. All three men maintained close personal and professional ties and shared a common view of the strategic role for airpower. They were the true believers who proposed the gospel according to Billy Mitchell.[67]

Arnold, Eaker, and Spaatz graduated from the Command and General Staff School, but none attended the Army War College. Significantly, the senior air commander who would make the greatest contribution in airpower at the operational level was a graduate of the War College. George C. Kenney enlisted as a flight cadet in World War I. He flew seventy-five missions, shooting down two German aircraft. Kenney had a long involvement with attack aviation, the branch most suited to support of ground forces. As an instructor at ACTS from 1926 to 1929, Captain Kenney wrote the textbooks for the Observation and Attack courses.[68] He attended the Command and General Staff School in 1927 and graduated from the War College in 1933. Nicknamed "Little George" by his friends (because he stood a little less than five feet six inches tall), Kenney was confident, energetic, and full of good ideas.[69] In the coming war, Kenney would command both the Fifth U.S. Air Force and the Far Eastern Air Force under

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[67] Davis, *Spaatz*, 31-33.

[68] Thomas H. Greer, *The Development of Air Doctrine in the Army Air Arm 1917-1941* (Washington, D.C.: Office of Air Force History, 1985), 66.

[69] Spiller, American Military Biography, 2: 554.

General MacArthur. Kenney became the Army Air Forces expert in wielding airpower at the operational level in the Pacific.

Fundamentally, airpower is all about selecting targets — where they are located and more importantly to what purpose. In the 1930's, American military officers recognized that airpower was capable of achieving strategic, operational, and tactical effects. Army officers in the last decade before the war made judgments on the utility of airpower in each of those roles based on their professional perspective. It was certainly clear that by the end of the decade both the Army and Navy recognized the importance of airpower in modern war. They might disagree on its decisiveness, and how its power should best be employed, but they both agreed on its importance. If not a full joint partner, it was accepted as a critical component in the prosecution of operations. The best understanding of how land, sea, and air power might be used in a theater of operations was obtained when all elements of power were combined in campaign planning.

Campaign Planning

One of the distinguishing features of American campaign planning in the interwar period was the sensitivity to national policy. Unlike the German General Staff prior to World War I, the American officers were not purely military technicians. They were very aware of the political, economic, and even social dimensions of strategy in which they must plan campaigns. Some historians have criticized American war planning in the interwar period as unrealistic.[70] The fact is the United States government had no single

[70] Ross, *American War Plans: 1890-1939*, 183.

institution to bring national security planning into a single forum. The Joint Board occasionally solicited input from the Department of State, but without success.[71] Although the American military established a military planning system from the national level down to the theater level of operations, there was no way to effectively coordinate with the other federal agencies or departments. In the absence of guidance from above, the military planners simply developed their own national objectives, as well as their appreciation of the economic, political, even social strategic context. Inasmuch as operational art must bridge the tactical and strategic levels of war, this was a critical step in campaign planning.

Many, of course, recognized the problem with this approach to strategic planning. A committee of students at the Army War College charged with reporting on war planning in 1931 noted, "It is unwise to accept the statement of the national objectives made by the Joint Board, a purely military body. The statement of the national objectives, political, commercial, and economic, lacks the support and concurrence of those agencies of the U.S. charged with the determination of policies governing those objectives."[72] In the question-and-answer period following the conference, an instructor, Col. Leon B. Kromer, noted that even if the Department of State participated in Joint Board planning, "no representative of the State Department could commit the government to a definite political line. After all, circumstances will determine just what

[71] Report of Committee No. 2, "U. S. War Planning," September 23, 1931, AWC Curricular File 383-2, p. 9, USAMHI.

[72] Ibid., 2.

the political objectives will be, because of the fact that we have no one enemy and our principal objectives therefore will be subject to the combinations that come at the time."[73]

Still, the Joint Board made war plans. Certainly, some of the American war plans maintained and updated from the twenties to the thirties were unrealistic — War Plan Red (war with Britain), for example, but War Plan Green (Mexico) or War Plan Orange (Japan) were well within the realm of the possible. Regardless of their likelihood, the joint estimates demonstrated that military planning flowed from national objectives and required an understanding of political, economic, and social context. The joint estimate for War Plan Orange was a model of detail and insight. In another question-and-answer period following a discussion of joint plans in September 1932, the War College Commandant, Maj. Gen. George S. Simonds, insisted, "While I agree with what the committee put over about the desirability of calling all the other people in, the Joint Planning Committee hasn't always fallen down on taking into account the things they spoke of. I have in mind the joint estimate of the situation of the Orange Plan. The one I have in mind is perhaps out of date now, but they did go into that with a great deal of detail as to the political, economic, and social conditions of the United States and Japan. They got up a fine document."[74]

Since practically all of the planning scenarios used in the War College for exercises and map maneuvers were based on existing war plans, the students were not allowed to use or consult with the real plans.[75] Nonetheless, the detailed student plans

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[73] Ibid., 9.

[74] Report of Committee No. 1, "Subject: Joint Plans and Army Strategic Plans," September 23, 1932. AWC Curricular File 383-2, p. 9, USAMHI.

[75] Collins, *Lightning Joe*, 92.

reflected this appreciation for strategic context. In briefing their solutions, students frequently began with a statement of national objectives. Student joint plans included a diplomatic and economic annex, as well as measures requiring cooperation with other government departments.[76] The sophistication in campaign planning increased significantly in the thirties and included for the first time coalition as well as joint planning.

In 1934, Maj. Gen. George S. Simonds, Commandant of the War College, reestablished a faculty war plans division that included his Air Corps and Navy instructors. He also introduced into the War Plans course a problem dealing with coalition warfare. For the next six years until the War College ceased classes in 1940, at least one student committee developed a war plan called "Participation with Allies." The first of these student plans dealt with a coalition composed of the Soviet Union, Britain, China, and the United States pitted against the Japanese Empire. Capt. William F. Halsey, U.S. Navy, prepared the plans offered as options open to the allies. Col. Jonathan Wainwright served as chief of staff for the student group and prepared the war aims of each ally. The plans generated by this committee incorporated much of the operational design developed in earlier years. In the resulting scenario, Japan was involved in major ground operations against the Soviets in Manchuria and threatened U.S. and British possessions in the Pacific. The center of gravity of the campaign was determined to be the Japanese army and fleet. The Soviets were to remain on the defensive until the combined British and U. S. campaign provided an opportunity for a crushing allied counteroffensive.

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[76] Report of Staff Group 2, "Subject: War Plan Red-Orange Coalition," May 4, 1937, AWC Curricular File 5-1937-20/1 to 9, USAMHI.

The plan envisioned four phases, which brought the Allied (British and American) main effort up from the south. In the first phase, British and Chinese land and air forces from Hong Kong operated against the Japanese forces in the Fukien Province. In the second phase, the Allied fleet with a corps of U.S. ground troops penetrated the Japanese Pacific defense line and conducted joint operations against the Shantung Province. In the third phase, the Allied air forces isolated the Japanese in Korea by bombing their lines of communication. Joint operations then secured Korea and Allied forces advanced on Mukden. At this time, the Soviets began their counteroffensive, which resulted in a massive Allied envelopment of enemy forces on the mainland. The final phase called for operations against the Japanese home islands to end the war.[77] The operational employment of airpower, phased joint and combined operations, and even operational envelopment are all evident in this concept of operations.

In the question-and-answer period following the committee's presentation, the Commandant observed, "Although there is a comparative calm in that region right now compared to what it was a short time ago, if you have been following the world situation, as I hope you have, it must be very apparent that there are conflicting interests which are moving toward inevitable conflict of various sorts, which may end up in armed conflict. In that theater it is quite evident that probably the first actors to come on the stage will be Orange (Japan) and Pink (Soviet Union)."[78] Three years after the Commandant's prophetic remarks, Japan invaded China. Within another two years, the Soviet Union clashed with Japanese forces in the massive battle at Nomohan along the boundary

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[77] War Plans Group 4, "Participation with Allies (Blue, Pink, Red, Yellow vs. Orange and Carnation)," April 21, 1934, AWC Curricular File 405-24, USAMHI.

[78] Ibid., 13.

between Manchuria and Mongolia. Within another two years, Great Britain, and the United States joined China in the war against Japan. Three years after that, the Soviet Union joined the coalition against Japan.

Subsequent committees developed coalition plans against a Nazi confederation in 1935, a central coalition of Germany, Italy, Austria, and Hungary in 1936, and in 1937 against an enemy coalition of Germany and Japan. These were theater strategic plans in which the students did not produce any detailed plans for theater operations. That sort of work was reserved for routine class problems dealing with the color war plan scenarios. Typical was the requirement for student groups working the Green and Orange scenarios in 1936, which mandated they produce a joint estimate, a joint plan, an army strategic plan with three prescribed annexes, and a theater of operations plan.[79] The kind of detailed campaign planning called for in class work built upon progress made during the twenties, specifically, phasing, joint operations, and unity of command, and as already discussed — logistics.

Committees charged with examining the problems of war planning in joint operations were consistent in their conclusions. In terms of format, the five-paragraph field order remained the recommended template for theater operations plans. Improving upon planning formats from the previous decade, the operations paragraph now listed major subordinate forces with assigned tasks by phase.[80] The students generally used this approach in their class work. Like their predecessors in the twenties, the students

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[79] "Directives and Organization of Groups for War Plans March 19 to April 15, 1936," AWC Curricular File 5-1936-19/1to 12, USAMHI.

[80] Report of Committee No. 1, "Subject: War Planning," February 19, 1936, AWC Curricular File 5-1936A 1-20, p. 50, USAMHI.

continued to favor unity of command in joint operations. The official doctrine still allowed for either unity of command or command to the service with paramount interest. Expressing the common view, a committee in 1931 recommended that the principle of paramount interest be discontinued and that "the system of unity of command, as defined in the pamphlet, be used in coordination of all combined operations."[81]

Toward the end of the decade, the creation of joint staffs to serve the commander of a joint force was also noted. In a lecture on joint operations by Maj. Charles Bolte, the question-and-answer period highlighted the need not only for unity of command in joint operations but joint staffs. When asked if joint staffs were necessary, the instructor replied they were "absolutely essential." The Commandant, Maj. Gen. John L. De Witt, confirmed, "Joint staffs, I think are necessary and if they work personally together, if their personalities fit in, your chances for success are increased a hundred fold."[82] These discussions invariably arose as the students developed plans for expeditionary warfare involving both land, naval, and airpower. Students worked hard and wrote incredibly detailed plans using fictional or even unrealistic scenarios, such as war with the British Empire. These exercises still provided valuable staff training, but the most important progress in American operational art was made with the most demanding, realistic and pressing problem of expeditionary warfare in a potential war with Japan.

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[81] Report of Committee No. 3, "Subject: Joint Army and Navy Action," September 24, 1931, AWC Curricular File 383-3, p. 2, USAMHI.

[82] Charle Bolte would later command the Thirty-fourth Infantry Division in Italy in World War II and eventually rise to four-star rank serving as Vice Chief of Staff of the Army before retiring in 1955. Maj. Charles L. Bolte, "Joint Operations in the American Revolution and Civil War," Lecture delivered at the Army War College on February 4, 1938, AWC Curricular File Conduct of War 1938, p. 6, USAMHI.

The Impact of War Plan Orange

War Plan Orange originated in 1906 amid rioting and expanding U.S. interests in the Pacific following the Spanish American War. Tensions with Japan arose in that year over treatment of Japanese immigrants on the American West Coast. Continuing immigration from Japan and American racial bigotry sparked anti-Japanese riots in California in 1907. Concerned about the increasing tensions, President Theodore Roosevelt asked the Navy if it was studying how to fight Japan.[83] For the next three decades, both the U.S. Navy and Army studied hard, devising a plan to defeat Japan. Through most of its existence, War Plan Orange considered three phases: Japanese forces overrun U.S. possessions in the Pacific, the U.S. Navy and an expeditionary force advance to the Far East to recover them, and finally, U. S. forces establish an economic blockade that would force Japan to capitulate. Throughout the interwar period, there was a good deal of debate about how the second phase should be accomplished.

Initially, the intent was to build a base that would secure the Philippines and support the fleet in offensive operations. The American government refused to put money into the project and in 1922 traded away this option for mutual arms reductions in the Washington Conference. That left American war planners only two other options: a short war scenario in which the fleet rushes to the Philippines in order to save the Army garrison and force an early decisive battle with the Japanese fleet, or a long war scenario involving a step by step advance across the Pacific. By 1934, the step by step advance pushing across the mandated islands became the approved solution. War Plan Orange was the most realistic, most studied, and most productive of all the planning scenarios

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[83]Edward Miller, *War Plan Orange: The U. S. Strategy to Defeat Japan, 1897-1945* (Annapolis: Naval Institute Press, 1991), 21.

devised in the interwar period. The plan helped to drive organization, doctrine, and the American approach to operational art.

Any drive across the vast expanse of the Pacific naturally held great ramifications for American seapower. Logistics drove the plan. If the Navy could not count on an existing base in the Far East, then it must be prepared to seize bases along the way. Recognizing the importance of airpower, the Navy would have to bring its own airpower along with it. This encouraged the Navy's acceptance and support for naval aviation — aircraft carriers. Seizing islands also required troops trained for amphibious assault. The Marine Corps' adoption of amphibious operations as a primary mission was the result not only of the desire for an institutional niche in modern war, but an operational necessity for the Navy.[84] For the Army, the requirement to defend or retake the Philippines and provide an expeditionary force for the advance across the Pacific was a constant concern. In every case, this expeditionary warfare required combining all elements of military power in a particularly challenging theater.

The War Plan Orange scenario was studied in some form every year at the Army War College during the interwar period. More than any other planning scenario, this one forced the students to consider all the facets of modern operational art: phasing, unity of command, joint operations, logistics, and how to combine seapower, airpower, and landpower in the theater. Phasing was evident in every solution. In 1934, Maj. Edward Almond provided a typical phasing construct in an oral presentation of his solution: "You may recall the successive steps or operations contemplated in the plan after the

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[84] Allan R. Millet, "Assault from the Sea: The Development of Amphibious Warfare Between the Wars: The Americans, British, and Japanese Experiences," in Williamson Murray and Allan R. Millet, eds., *Military Innovation in the Interwar Period* (Cambridge, UK: Cambridge University Press, 1996), 57, 58.

capture of the island of Luzon were in the following order: Formosa, Okinawa group, Jakishima Group, Amanmioshia Group." These islands, according to Almond, would provide the land air bases necessary to bomb the Orange homeland. Like most planners, Almond believed that if the home islands could be bombed or blockaded into submission, "land invasion is of last resort."[85]

In 1936, Lt. Col. Orlando Ward presented his group's Army plan that consisted of the step by step approach to retaking the Philippines:

> After conference with the Navy it was decided that the scheme of operations would initially have three phases; the first phase to include the seizure and securing of adequate fleet bases, initially in the Mandate islands and subsequently in the Southern Philippines; the second phase to include the progressive occupation of the southern and central Philippines and the assembly there of a force for the capture of the entire archipelago. The next phase is to include the capture and preparation of Luzon as a base from which the main Orange forces and strategic areas could be subject to attack by Blue ground and air forces, supported by the Blue fleet.[86]

Each of the services had a vital role to play in the plan, and the students paid due respect to the importance of airpower. The students serving as naval planners in Ward's group insisted that basing in the southern Philippines was necessary until air superiority was achieved. They also noted that "the magnitude of the logistics involved [in a Pacific war] is appalling."[87]

The 1936 student plan for War Plan Orange was incredibly detailed. The plan filled twelve volumes that included a joint estimate, an Army strategic plan, the Navy

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[85] Maj. Edward Almond, "Oral Presentation of 2nd Situation, Map Study No. 2 (Orange)," June 9, 1934. Almond Papers, Box 15, USAMHI.

[86] Report of War Plans Group No. 2. " Subject: War Plan Orange," April 11, 1936, AWC Curricular File 5-1936-19/1 to 12, p. 33, USAMHI.

[87] Ibid., 45.

basic plan, a Western Pacific Theater Joint Plan, Army and Navy operations plans, even a joint basing plan. The joint estimate included a thorough diplomatic and economic appraisal, establishing national objectives for both the United States and Japan. The estimate contained the classic military decision making process comparing courses of action and reaching a recommendation. The students planned for the necessary mobilization and concentration of the means in the basic Army and Navy plans. The Western Pacific Theater Joint Plan called for unity of command in which the "commander will control and coordinate the operations and logistics of the two services."[88] Providing for the joint commander to direct logistics as well as operations was a significant innovation. Of the twenty-four officers participating in this planning group, nineteen would become generals, including the briefer, Lt. Col. Orlando Ward.[89]

The following year, another group briefed the inevitability of a long war with Japan. They decided to "seek the Blue victory primarily by a measured westward advance, with the main effort in the direction: Hawaii-Orange mandated islands — Brown (Philippines) — Orange homeland, coupled with economic and diplomatic pressure against exterior sources of Orange support." The group characterized their concept of operation as a "step by step steam roller advance."[90] They projected a five-phase sequential operation that envisioned the capture of the Marshall Islands, the Caroline Islands, bases in the southern Philippines, Luzon, and subsequent operations

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[88] Ibid., 25.

[89] Orlando Ward rose to the rank of major general and commanded the First Armored Division in North Africa.

[90] Report of Committee No. 4, "Subject: War Plan Orange Oral Presentation, " May 6, 1937, 5, AWC Curricular File 5-1937-22/1 ,2 ,3, p. 5, USAMHI.

against Orange. They paid particularly close attention to timing the phases so that forces are concentrated in Hawaii to "exploit any success attained in the early operations."[91]

This plan highlighted a consistent feature of Pacific plans, the imperative for joint command. "In wars where joint action of the major services is a rarity, the parallel channels of command illustrated by this slide will, as proven by history satisfy the normal need. But in a war in the Pacific, where joint action obtains almost continuously, this method is likely to fail. Unity of command is prescribed for all operations and the forces will be referred to as the Expeditionary Force and will include army and navy contingents."[92] (See Figure 4)

One of the more interesting and detailed student presentations took place in 1938. In this solution, the group considered basically three approaches to Japan: from the north by way of the Aleutians, through the central Pacific, and up through the southern Pacific by way of the East Indian Barrier. They rejected the northern approach as impractical. They rejected the central Pacific approach as a frontal assault that would run into the strength of Japanese defenses. Instead, they chose an indirect southern approach combined with a diversionary operation threatening the central mandates. (See Figure 5)

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[91] Ibid., 20.

[92] Ibid., 4, 19.

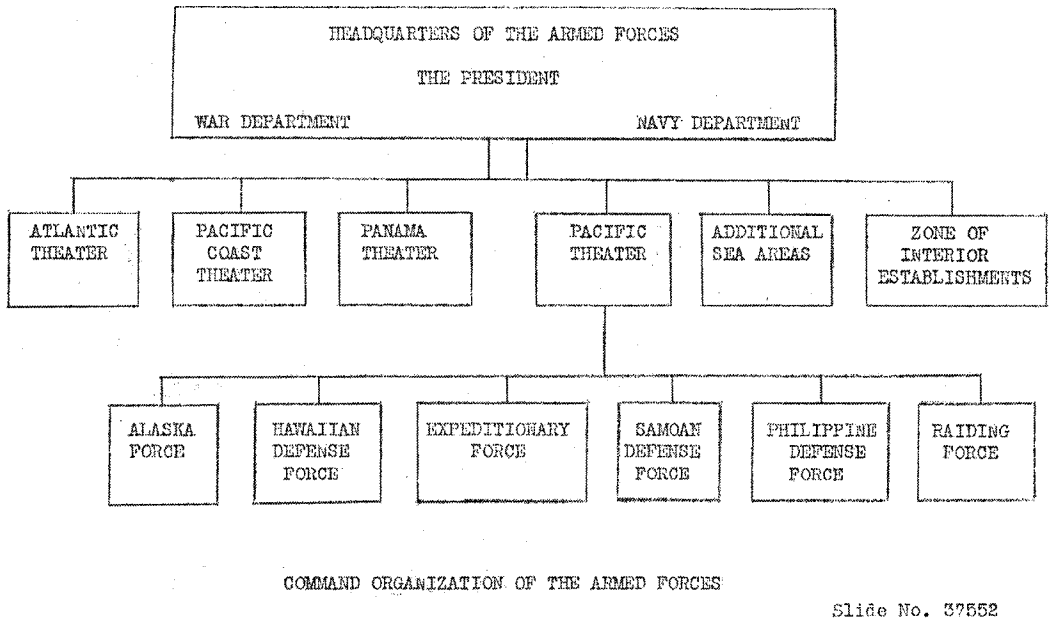

Figure 4. Army War College student solution for command for War Plan Orange in 1937. Source: Army War College File, USAMHI.

The students referred to their operational solution as an envelopment and were convinced this approach would be more decisive. They believed a quick strike through the southern approach would make for a shorter war. In defense of their course of action, the students asserted that the American people would not tolerate the high casualties or a long war required in the step by step approach through the central Pacific.

Capt. Edward J. Foy, the naval instructor, soundly criticized the group not only for its psychological assessment of public will, but also for attempting to shoe horn the fleet through the Torres Straight. From the Navy's perspective, "the game is played over and over again at Newport and this particular solution invariably loses. I don't believe that anybody who has any conception whatsoever of war would attempt any such weird

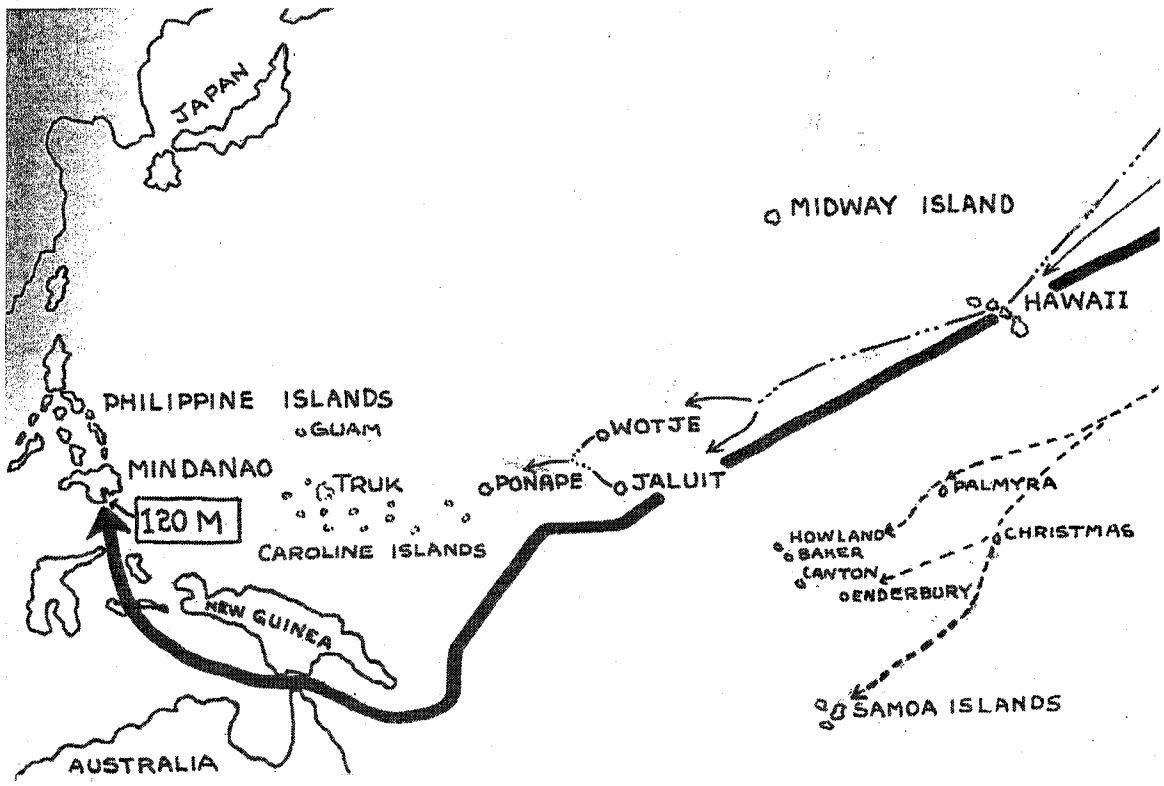

Figure 5. Army War College student solution for War Plan Orange exercise in 1938. Source: U.S. Army War College File, USAMHI.

method of winning as this."[93] The Army students were clearly more willing to accept operational risk to the fleet than Captain Foy, but admitted the "weakest element in the plan is logistics, because of the distance from home bases without the existence of intermediate bases."[94] The students vigorously defended their solution and provoked debates on joint command, the role of airpower, and the development of branch plans. Regardless of the validity of this course of action, of more importance were the details in the planning.

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[93] Report of War Plans Group No. 3, "Subject: War Plan Orange Oral Presentation," May 6, 1938, AWC Curricular File 5-1938-21/1, p. 73, USAMHI.

[94] Ibid., 34.

The plan called for a single theater commander, the Commander in Chief of the U. S. Fleet, who would assign missions to the Army expeditionary commander. The plan included sequels and branches providing options to the commander in the event operations went differently than expected. The inclusion of joint command, phasing, an indirect approach, detailed planning for logistics, even deception were marks of student sophistication in campaign planning. The Commandant commended the group for their innovative approach and offered the final observation, "What we have had this morning is something we have wanted and which we want all the time: thoughtful, careful preparation, a full presentation, and a confident defense."[95]

The problems in planning for a war against Japan were significant. As it turned out, the Navy pursued a step by step campaign across the central Pacific, much like that envisioned in War Plan Orange. The Army, led by Douglas MacArthur, pursued its own campaign along the southern approach from Australia up through New Guinea to retake the Philippines.

Of course, not every student solution was a model of detailed planning. The staff planning procedures, however, such as the military decision making process comparing courses of action, developing estimates, and reaching a decision were the same. Even those students whose groups did not war game War Plan Orange benefited from the class discussion and debate on student solutions. As Omar Bradley noted many years later of his War College work, "Another group wargamed the operation of a half-million man

[95] Ibid., 85. Of the twenty-four officers in this planning group, fifteen became generals.

field army in the Philippines. I found that lecture valuable background later in the European war."[96]

The most significant American preparation for war in the interwar period occurred in the military's postgraduate school system. Particularly at the Army War College, this generation of military leadership developed their understanding of operational art, and it was this understanding that shaped the campaigns they would lead and ultimately contribute to their success.

Assessment

The great problem of modern warfare facing American officers following World War I was simply how to project, sustain, and employ military power in distant theaters of operation. This called for an operational art that combined airpower, seapower, and landpower in expeditionary warfare. The solutions to this problem developed in the service schools included phasing, emphasis on staff skills, recognition of the importance of airpower, logistics, and joint operations.

The need in World War I to coordinate infantry and artillery introduced American officers to tactical phasing. The development of operational phasing was driven by the need to link battles, to coordinate with other services, and logistics. The vast distances of the Pacific demanded basing to extend operational reach. This required phasing, and attention to detail not only to project, but sustain power. Seizing bases for extending and sustaining airpower and seapower, further encouraged a necessary step by step — phase by phase approach to campaign planning. Landpower combined with seapower to secure air bases, which in turn allowed airpower to support and extend the operational reach of

[96] Bradley, *A General's Life*, 74.

all services. The Army, the Navy, and the Air Corps could not fight their own separate wars against the enemy. They must fight the same war leveraging their capabilities against the enemy's center of gravity. This recognition of joint operations was fundamental in providing the flexibility required to win campaigns in the next war.

The American Army by 1940 had come a long way from the days when General Sherman expressed such fierce disdain for staffs. In the interwar period, the Army perfected the military decision making process and staff procedures. The G-2 intelligence and G4 logistics staff sections became planning staffs equal to that of the operations staff, responsible for handling the complexity of modern war. These staffs understood well by the end of the decade the demands of modern operational art. American operational culture at the end of the interwar period can best be characterized as a preference for expeditionary warfare conducted through joint operations dependent upon mass and backed by an expertise in logistics. In the coming decade, facing the greatest war in history, these American officers were well served by their interwar preparation in the postgraduate military school system.

Responding to the threat of world war in 1940, the pressing need for experienced officers to manage America's expanding services closed down most of the postgraduate school system. The Army replaced the Staff School regular course with a series of abbreviated staff training courses. The War College closed its doors in the summer of 1940. The ultimate test for the Army's leadership, the students of the interwar period, was less than six months away.

CHAPTER 5

THE EUROPEAN THEATER OF WAR

The Japanese attack on Pearl Harbor in the early hours of December 7, 1941, swept away the isolationism and pacifism that gripped America throughout much of the interwar period. The Japanese attack galvanized American opinion and thrust the United States into another world war. The United States entered this war much better prepared than in 1917. After France's defeat increased military budgets, military production, and the expanding armed forces all helped to quickly shift America into industrial and military mobilization.[1] Developing and applying American military power was now in the hands of the officers who had spent the last twenty years studying modern war so they would be prepared to fight this one.

Although the events that actually plunged the United States into World War II occurred in the Pacific, the first strategic agreements America made with its new ally, Great Britain, committed the republic to give the war in Europe first priority. Even before American entry into the war, the Joint Board began to set aside the old color plans and draft new ones considering coalition warfare against the Axis. One of these plans, RAINBOW 5, called for the disproportionate commitment of U. S. forces to Europe or Africa while assuming the defense in the Pacific. In November 1940, a separate study of strategic options by Adm. Harold R. Stark, Chief of Naval Operations which became

[1] Just six months after the Japanese attack on Pearl Harbor, the United States engaged in offensive operations in the Pacific. Within eleven months after the declaration of war against the Axis, the United States conducted major offensive operations in Europe — OPERATION TORCH. This global commitment of forces so soon after the declaration of war far surpassed the seventeen months it took in World War I to cobble together an American Army and commit it to action in France.

known as Plan DOG, confirmed this strategic approach. Admiral Stark also advocated talks between the American and British military staffs. President Roosevelt accepted Stark's recommendation, and the first staff talks took place on March 29, 1941. This conference and subsequent staff meetings following America's entry into the war confirmed the Europe first strategy. Once that was accepted as a key principle of Allied strategy, the question became how to apply Allied force in Europe against the Axis.

Operation Torch

Just two weeks after Pearl Harbor, the British and American chiefs of staff met during the ARCADIA conference to discuss Allied strategy. The situation was grim. Japanese victories in the Pacific continued for the next six months. In Europe, the Soviet Union seemed on the verge of collapse, and in the Middle East, the Germans challenged British control everywhere in the Mediterranean. The Allies agreed to form a Combined Chiefs of Staff to provide strategic direction for the war. The British chiefs also provided their American counterparts with their strategic proposal for "closing and tightening the ring round Germany."[2] This involved limited offensives on the continent while taking the offensive in the Mediterranean. These talks inaugurated a running debate between American and British planners, reflecting their strategic culture and interwar preparation.

To facilitate working within the framework of the Combined Chiefs of Staff, the Americans formed their own Joint Chiefs of Staff (JCS) consisting of Gen. George C. Marshall (GSS 1908), Gen. H. H. "Hap" Arnold (GSS 1929), and Adm. Ernest J. King

[2] Maurice Matloff and Edwin M. Snell, *The War Department: Strategic Planning for Coalition Warfare 1941-1942*. United States Army in World War II (Washington, D.C.: Center of Military History, 1953), 101.

(NWC 1933), the new Chief of Naval Operations (CNO), with Adm. William Leahy, a former CNO, as its presiding officer.[3] For Marshall and the War Department, the War Plans Division (WPD) did the strategic planning. Early in 1942, General Marshall decided to reorganize the War Department. The War Plans Division became the Operations Division (OPD), and on March 9, Maj. Gen. Dwight D. Eisenhower (GSS 1926, AWC 1928) became its first chief.[4] The OPD proved critical in shaping not only strategic planning, but logistic, and in the early years, even operational planning. Eisenhower noted that the officers who manned the OPD consisted of a carefully "selected body of officers, which had, between the two World Wars, truly absorbed the teachings of our unexcelled system of service schools."[5] This select group included Thomas Handy, Lyman Lemnitzer, Mathew B. Ridgeway, and Albert C. Wedemeyer — all graduates of the General Staff School and the Army War College with the single exception of Wedemeyer, who had attended the German *Kriegsakademie*. These officers made significant contributions to the strategic and operational direction of the war; all rose to prominence during the struggle.[6]

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[3]Officers mentioned in the following chapters will include their interwar education. The following abbreviations will be used: General Staff School (GSS), Army War College (AWC), Naval War College (NWC).

[4] Dwight D. Eisenhower, *Crusade in Europe* (New York: Doubleday & Company, Inc., 1948), 31.

[5] Ibid., 36.

[6] Thomas Handy succeeded Eisenhower as chief of OPD, remained as Marshall's chief planner and rose to the rank of four star general. Lyman Lemnitzer served primarily as a staff officer throughout most of World War II. Following the war, he rose to the rank of four star general in a variety of positions eventually becoming Chairman of the Joint Chiefs of Staff. Matthew B. Ridgway commanded the Eighty-second Airborne Division in World War II. Following the war, he became a four star general commanding UN forces during the Korean War, and eventually, Chief of Staff of the Army. Wedemeyer replaced Gen. Joseph Stillwell as commander of U.S. forces in China and retired as a lieutenant general.

In February 1942, the OPD expressed its strategic views in a memorandum to Marshall insisting that an attack through Western Europe as the proper course of action. The OPD based its recommendation on the overriding need to keep Russia in the war, the superior lines of communication offered by England's proximity to the continent, the ability to mass Allied power, and "attack our principal enemy while he is engaged on several fronts."[7] This staff appreciation underscored the American preoccupation with logistics, mass, and concentration. Theoretically, at least to those familiar with Clausewitz, this made perfect sense. According to the Prussian theorist, "not by taking things the easy way — using superior strength to filch some province, preferring the security of this minor conquest to great success — but by constantly seeking out the center of his power, by daring all to win all, will one really defeat the enemy."[8] The American planners saw Germany as the center of gravity and believed it should be struck directly and as soon as possible. This was the shortest route to victory. The OPD began work on BOLERO, a plan for a cross-channel attack.

BOLERO provided for the buildup of American strength in Britain that would establish sufficient force for a cross-channel attack. Two variants of the plan emerged: SLEDGEHAMMER and ROUNDUP. SLEDGEHAMMER called for a diversionary strike of up to two divisions in 1942 which would force the Germans to undertake significant operations in the west. The Operations Division conceived SLEDGEHAMMER as a desperate contingency plan in case Russia appeared on the

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[7] Dwight D. Eisenhower to George C. Marshall, memorandum, February, 1942, in *The Papers of Dwight David Eisenhower: The War Years*, 5 vols., ed. Alfred D. Chandler, Jr. (Baltimore: Johns Hopkins Press, 1970), 1: 146. This was officially presented to Marshall in a memorandum of March 25, 1942.

[8] Clausewitz, *On War*, 596.

verge of defeat. The planners viewed ROUNDUP as the main event projected for 1943. By July, the British concluded that SLEDGEHAMMER was not feasible, but British Prime Minister Winston Churchill remained anxious to keep pressure on the Axis and seize the initiative. In a telegram to President Roosevelt, he again urged an operation to liberate French Northwest Africa as "by far the best chance for effecting relief to the Russian front in 1942."[9]

The British had long considered operations in French North Africa. The British chiefs raised the project during the ARCADIA conference under the code name GYMNAST. Eisenhower and his planners in OPD convinced Marshall that any such operation constituted a dispersion of Allied effort and would delay the decisive cross-channel attack. Like the Americans, the British perspective strongly reflected their strategic culture. The British Empire had a long history and predilection for peripheral operations.[10] Moreover, no British leader was in a rush to get into a bloodbath on the continent like World War I. The British wanted to ensure that peripheral operations or the war in Russia significantly weakened German power before getting into a death grip with the *Wehrmacht* in France. Although sympathetic to Stalin's need for a second front, Churchill would not sacrifice British interests or increasingly slender British resources in a premature cross-channel attack. American planners suspected the British might use American military power to sustain the interests of the British Empire. Of all the many good reasons to begin offensive operations in North Africa, in the end, it may have been politics which decided the issue — American politics.

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[9] Quoted in Winston S. Churchill, *The Hinge of Fate*, Vol. 5, The Second World War (Boston: Houghton Mifflin Company, 1950), 434.

[10] See Liddell Hart, *The British Way in Warfare* (London: Faber & Faber, 1932).

Winston Churchill became an extremely persuasive and persistent advocate for the North African operation. Added to the British Prime Minister's arguments, President Roosevelt desired to boost American morale and get American troops into the fight against the Germans before the upcoming congressional elections.[11] Marshall and his planners felt so strongly that any major effort in the Mediterranean was a diversion of strength, that they proposed shifting to offensive operations in the Pacific and adopting a defensive posture in the European theater.[12] Roosevelt sent Harry Hopkins, Admiral King, and General Marshall to London in July to hammer out an agreement with the British. His instructions left them with few choices, "It is of the highest importance that U.S. ground troops be brought into action against the enemy in 1942."[13]

The British believed SLEDGEHAMMER was a recipe for disaster. Since BOLERO could not be ready before 1943, the conclusion was inescapable. At the end of the conference, Marshall called Eisenhower to his London hotel room. A month earlier on June 24, 1942, Marshall had appointed Eisenhower as commander of the European Theater of Operations U.S. Army (ETOUSA). Now, Marshall informed Eisenhower that the Allies would invade North Africa and that Eisenhower would command the Allied operation. Eisenhower immediately began planning for the first major Anglo-American offensive operation of the war, Operation TORCH.

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[11] Michael D. Pearlman, *Warmaking and American Democracy: The Struggle over Military Strategy, 1700 to the Present* (Lawrence: University Press of Kansas, 1999), 233. The president was careful not to insist on an invasion date that would precede the election, but he did urge Eisenhower to begin operations as soon as militarily practical. In fact, the invasion took place five days after the election. The Democrats lost forty four seats in the House and nine seats in the Senate. See Eric Larrabee, *Commander in Chief: Franklin Delano Roosevelt, His Lieutenants & Their War* (New York: Harper & Row, Publishers, 1987), 139.

[12] Matloff and Snell, *Strategic Planning*, 268.

[13] Quoted in Churchill, *Hinge of Fate*, 442.

There was little in Eisenhower's career that prepared him for this immense responsibility beyond his military education at the Command and General Staff School and the Army War College. He missed combat action in World War I, indeed, had never commanded above battalion level. Just a year before his assignment as commander of U.S. Army forces in Europe, Eisenhower was a colonel on an Army staff. Now, his first combat experience would be as a theater commander. It is little wonder that decorated British veterans from World War I like Field Marshal Sir Allan Brooke, Gen. Bernard Montgomery, or Gen. Sir Harold Alexander already with two years experience in fighting the Germans might look down their long aristocratic noses at this mechanic's son from Abilene, Kansas.[14] Eisenhower's character would serve him well in the constant give and take of coalition warfare. All those years of professional study and education in the decades between the wars, however, provided his only real preparation to command and plan major operations. His first responsibility as the designated commander for TORCH, was to offer the Combined Chiefs a workable plan for establishing the first Allied theater of operations in North Africa.

Politically, both Churchill and Roosevelt wanted to launch TORCH as soon as possible. Militarily, the operation had to be executed before winter weather further complicated amphibious landings. Conscious of both requirements, Eisenhower immediately utilized the U.S. Army officers from his ETOUSA staff. He placed Brig. Gen. Alfred M. Guenther (GSS 1937, AWC 1939) in charge of the combined planning team. The combined planners moved into Norfolk House on St James Square in London

[14] Wedemeyer remembered, "Sir Alan Brooke, the British Chief of Staff, did not have a very high opinion of the American military leaders' knowledge or ability. He thought we lacked experience and couldn't be expected to evolve sound strategical concepts." Albert C. Wedemeyer, *Wedemeyer Reports!* (New York: Henry Holt & Co., 1958), 132.

on August 4. Fully aware of the complex joint and combined issues involved in the planning, Eisenhower decided to pull Maj. Gen. Mark W. Clark (GSS 1935, AWC 1937) from command of the American II Corps then in England, and name him deputy commander in charge of the combined planning staff.[15] This planning staff became the nucleus of the Allied Force Headquarters.

In World War I, only a small group of exclusively French staff officers served Foch as Supreme Allied Commander. Eisenhower determined that his staff must reflect both the military expertise and the coalition participation necessary to win. From the British, he asked for "two officers each from the Navy, the Army, and the Air Force. In each service, one of these officers should be especially qualified in operational planning and one in intelligence work."[16] The American officers selected for Eisenhower's staff duplicated this arrangement. Eisenhower adopted the American G staff system. In the final staff organization, the British provided the chiefs of the naval staff, air staff, and the G-2. Americans served as deputy commander, chief of staff, and most critically, the G-3 and G-4. This was the very first joint and combined staff in history.

Eisenhower insisted on his authority as commander. When Marshall appointed him to head the European Theater of Operations, U.S. Army, Eisenhower made sure that all U.S. forces conformed to the principle of unity of command. He personally went to see Marshall's counterpart, Admiral King, to ensure the latter would support him in unified command over Army and Navy forces. King assured Eisenhower "that he wanted no foolish talk about my authority depending upon cooperation and paramount

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[15] Dwight D. Eisenhower to George C. Marshall, August 10, 1942, in Chandler, *Eisenhower Papers*, 1: 456, 457.

[16]Dwight D. Eisenhower to Lord Hasting L. Ismay, August 6, 1942, Ibid., 446.

interest."[17] Likewise as commander of the Allied force, Eisenhower insisted on a new level of authority for Allied theater commanders. During the North African landings, the three task force commanders reported directly to Eisenhower. Following the landings, he exercised command through a limited circle of key subordinates consisting of a U.S. Army commander, a British Army commander, an Allied naval commander, and separate British and American air commanders (See Figure 6). Later in the campaign, the Allies eventually consolidated the land forces and air forces under single subordinate commanders. This command arrangement employing Allied land, air, and naval commanders under a single theater commander was a thoroughly modern and original command arrangement.

As Lt. Gen. Kenneth Anderson prepared the British First Army for OPERATION TORCH, the British government drafted a set of instructions to govern his relations with his American allies. In reality, Anderson's political masters simply intended to send him the same guidelines issued to Field Marshal Douglas Haig, who commanded the British Expeditionary Force in World War I. Haig's instructions in 1918 allowed him to refer to the British government any order issued by Marshal Foch, the Supreme Allied Commander, which he felt imperiled his force. The British allowed Eisenhower to review the document, and he promptly made some changes. Anderson retained the right to communicate directly with London, but Eisenhower insisted he be informed first. Most importantly, the revised document instructed Anderson, "you will carry out any orders

[17] King readily agreed to the principle of unity of command, undoubtedly with one eye on the eventual command arrangements in the Pacific. Eisenhower, *Crusade in Europe*, 51.

issued by [Eisenhower]."[18] This complete subordination of a combined, joint, and integrated command and staff remained the Anglo-American model for the rest of the war in Europe.

Politically and militarily, the assault on French North Africa as the first combined major offensive operation was ambitious and challenging. The Allied force would have to stage from both England and the United States to assault an ostensibly neutral country. Tunisia, Algeria, and Morocco made up the larger portion of the French colonial empire on the northern and western coasts of Africa. The armistice that marked the French defeat in 1940 pledged military forces loyal to the Vichy government to defend the French empire from any intrusions by Allied forces.

Even if the Allied invaders survived enemy submarines and airpower and reached North Africa, they still faced the challenges of operating in a hostile and largely Spartan environment. The poor roads and few sizable ports made French Northwest Africa a relatively underdeveloped theater. Casablanca, Oran, and Algiers were the most important major ports capable of supporting major operations. More than 1,200 miles separate Casablanca on the western coast from Tunis on the northeastern coast. A main coastal road and a parallel interior road provided the primary hard surface transport system. A "long rickety railway line" ran from Casablanca through Oran, Algiers and into Tunis.[19] All this meant that the lines of communication and operation available to the Allies lay along the coast.

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[18] For an account of Eisenhower's review of Anderson's instructions see Dwight D. Eisenhower to Hastings L. Ismay, October 10, 1942, in Chandler, *Eisenhower's Papers*, 1:602. The actual instructions are quoted in George F. Howe, *Northwest Africa: Seizing the Initiative in the West*, United States Army in World War II series (Washington, D. C.: Center of Military History, 1985), 36.

[19] Eisenhower, *Crusade in Europe*. 78

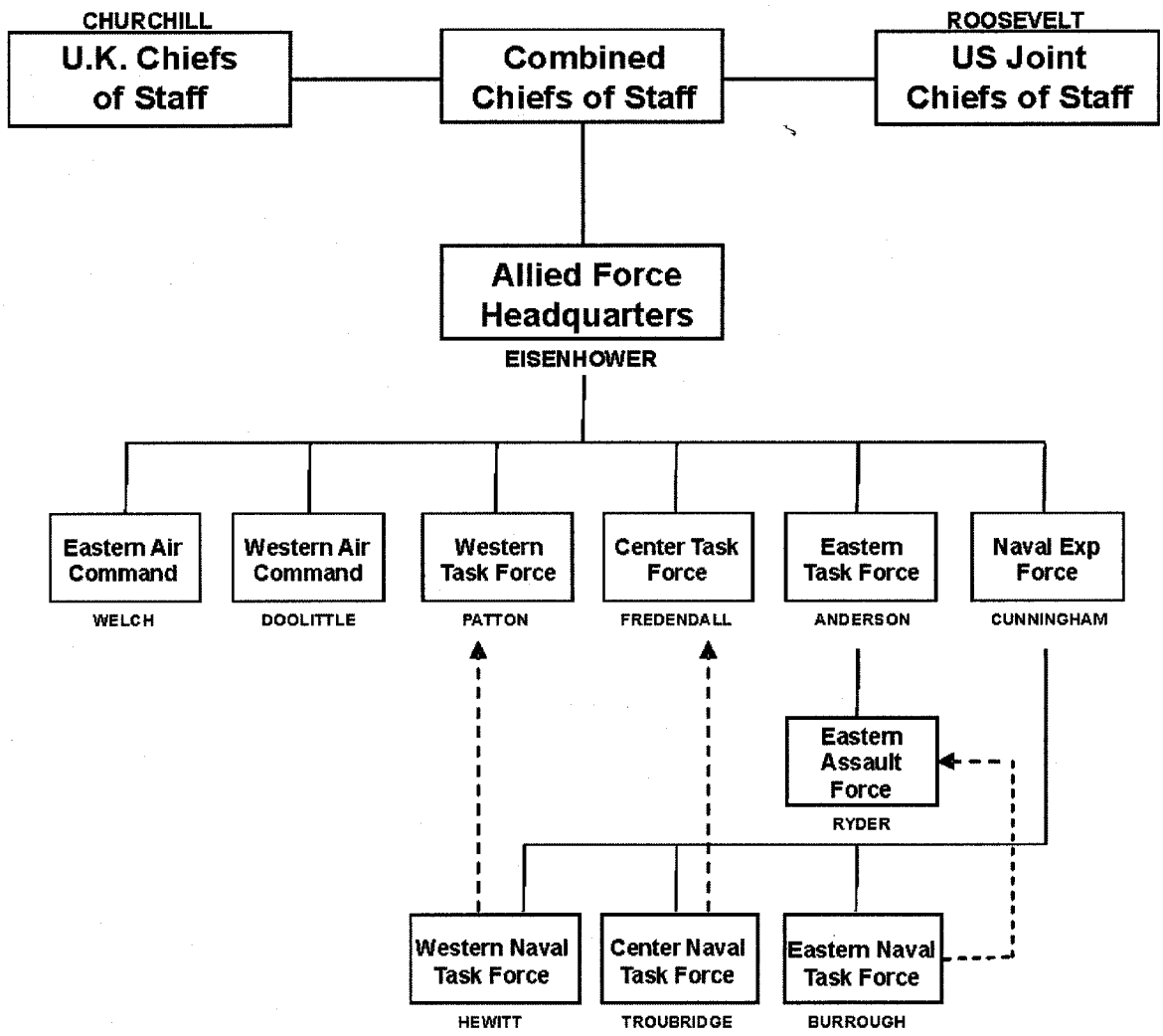

Figure 6. Allied command and control for OPERATION TORCH. Adapted by Dr. John Bonin from multiple sources.

The French possessed a significant capability to resist. Eisenhower estimated the French had "fourteen divisions rather poorly equipped but presumably with a fair degree

of training and with the benefit of professional leadership."[20] The French had some 500 aircraft available. The Allies considered the bombers obsolete, but believed French fighters superior to Allied carrier aircraft. By comparison, the Allies could initially muster only 300 carrier aircraft to cover the landings.[21] French naval power was also considerable. In North Africa, the Allied G-2 intelligence staff estimated the French Navy maintained two battleships, four cruisers, fifteen destroyers, and thirty-six submarines.[22] Obviously, much of the success of OPERATION TORCH depended on whether the French would resist. President Roosevelt insisted that American troops lead the invasion in hopes of French cooperation rather than resistance.[23] Winston Churchill's order to the British Navy to sink the French Fleet at Oran, Algeria, after the fall of France had soured Anglo-Vichy relations. The neutrality of Francisco Franco's Spain was also critical in preserving Allied access to the Mediterranean. At the operational level, French military power required the Allies to project significant combat power. This meant that from an operational point of view, logistics and airpower drove Allied planning.

The Combined Chiefs' directive for Torch specified three objectives: establish lodgments in the Oran-Algiers-Tunis and Casablanca areas, conduct a rapid exploitation

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[20]Dwight D. Eisenhower to George C. Marshall, August 15, 194, in Chandler, *Eisenhower's Papers*, 1:469.

[21] Ibid.

[22] Allied Force Headquarters G-2 Intelligence Report dated September 11, 1942. RG 407.3, Box 24349, File 478, National Archives and Records Administration, hereinafter referred to as NARA.

[23] French politics were complicated. Britain recognized Charles De Gaulle as leader of the Free French, and although the U.S. was willing to provide support De Gaulle, the U.S. government maintained diplomatic relations with Vichy France. Hoping to solicit the French military support in North Africa, the Allies secretly brought General Henri Geraud from France to North Africa to rally support. Eisenhower also sent his deputy, Mark Clark in late October to meet with sympathetic French military leaders at Cherchel seventy five miles west of Algiers. Regardless of this clandestine meeting, as anticipated, the French Navy and portions of the Army resisted the Allied landings.

to control the entire area to include Tunis, and finally, annihilate Axis forces opposing British forces in Egypt and Libya.[24] This made for a tall order. Logistics, particularly shipping, determined how much Allied power could be gathered and projected ashore. Along with airpower, logistics also helped to determine where that power should be put ashore. The crux of the operational problem was where to make the landings. Certainly, the major ports of Oran and Algiers were obvious objectives. British planners insisted that every attempt should be made to land as far east as possible to facilitate the rapid occupation of Tunis. Only by occupying that port and Bizerte might the Allies forestall rapid German reinforcement into the theater which would upset Allied plans. The American planners, particularly in OPD, insisted on a landing at Casablanca on the Atlantic coast, outside the Mediterranean, due to concerns about Spain.

The American planners focused on logistical and airpower considerations. The closer to Tunis the Allies moved the more vulnerable they became to German airpower based in Sicily and Sardinia. Due to an insufficient number of carrier aircraft, the Allies had to depend on land based air support.[25] This meant that airfields in North Africa had to be seized as soon as possible so that aircraft transiting from Gibraltar could rapidly enter the fight. Without land air bases in the theater, amphibious operations depended upon whatever carrier aircraft the Allies could muster. From the American perspective,

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[24] Howe, *Northwest Africa*, 16.

[25] Due to losses at the battles of Coral Sea, Midway, and the struggle for Guadalcanal, the U.S. Navy had only one operational carrier, the *Ranger* assigned to the Atlantic Fleet in October 1942. The British carrier allocated to TORCH was torpedoed and sunk in the Mediterranean that summer.

the Allies could not project enough airpower into the theater to cover landings east of Algiers.[26] Regardless of how the French Air Force reacted, German airpower in the Mediterranean threatened the Allied forces. In August, the Axis sank twelve of thirteen British ships in a convoy bound for Malta. They sank the remaining ship after it reached the harbor.

In addition to airpower, American planners remained very conscious of the lines of communication to the Mediterranean. Eisenhower worried that only a landing at Casablanca could secure the Allied lines of communication.[27] Spanish Morocco lay adjacent to the Straits of Gibraltar. If Franco joined the Axis or even permitted German use of Spanish airfields, the Allies might lose Gibraltar, effectively cutting off Allied forces inside the Mediterranean. Casablanca secured the lines of communication through the Atlantic from Africa to the United States. Rickety as it might be, the rail line running from Casablanca to Tunis provided a logistic life line. Because of his concerns about Spain, Eisenhower insisted on a contingency plan that called for additional forces if Spain intervened.[28]

The critical operational decisions centered on where to land and timing. The initial plan called for simultaneous landings at Casablanca, Oran, Algiers, and Bone. In his explanatory cable to Marshall, Eisenhower indicated the landings at Casablanca might

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[26] Dwight D. Eisenhower to George C. Marshall, August 15, 1942, in Chandler, *Eisenhower Papers*, 1:469.

[27] Eisenhower also felt that only by landing at Casablanca could the Allies provide the appearance of overwhelming force that would convince the French not to fight. Throughout his correspondence, he remained most concerned about the potential Spanish and axis threat to Gibraltar. Clearly in his mind and those of the American planners, Gibraltar was a decisive point upon which success of the operation depended. Dwight D. Eisenhower to Combined Chiefs, August 23, 1942, Ibid., 488.

[28] Dwight D. Eisenhower to George C. Marshall, November 2, 1942, Ibid., 652.

be deferred five to ten days due to a lack of air cover.[29] The British chiefs balked at the plan. British planners re-scrubbed the available lift and air support and determined that simultaneous landings were not possible. They insisted the Allies accept the risk of canceling the Casablanca landings. To address the British concerns, Eisenhower proposed to limit the assault to two American-led landings inside the Mediterranean at Oran and Algiers. The force at Algiers "would push rapidly eastward." A later second convoy would land additional armored forces at Oran and "from there strike toward the rear to open up communications and seize Casablanca."[30] Eisenhower published the new plan on September 21 and provided it to the Combined Chiefs. Eisenhower's attempts to reconcile the British and American concept of TORCH initiated what he called the "transatlantic essay contest."[31]

The resulting exchange between the British and American chiefs included several proposals and counterproposals. OPD planners countered that if the Allies could provide naval support for only two landings, these should be made at Casablanca and Algiers. The British again objected that this would lose the opportunity to get to Tunis before the Germans. The senior Allied brass had reached an impasse. Churchill appealed directly to Roosevelt, making his case for landings at Algiers and Oran. Eventually, Roosevelt offered to reduce the size of the American landing force at Casablanca to provide troops

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[29]Dwight D. Eisenhower to George C. Marshall, August 9, 1942, Ibid., 454.

[30]Dwight D. Eisenhower to Thomas T. Handy, August 13, 1942, Ibid., 462.

[31] Harry C. Butcher, *My Three Years with Eisenhower* (New York: Simon and Schuster, 1946), 85.

and resources for a third landing.[32] The final plan essentially reverted to Eisenhower's proposal of September 9 for simultaneous landings at Casablanca, Oran, and Algiers.

The planning for TORCH continued throughout the debate on the number and location of landings. Gen. Mark Clark assembled thirty-seven British and American planners, and announced, "Some of you men are less confused than others about TORCH. Let's all get equally confused."[33] The planners developed Plan A and Plan B to anticipate the final decision on landings. They also developed deception and contingency plans. By the middle of September, the supply situation fell into such disarray that the Allies postponed the attack to November. The planners, now under the supervision of the G-3, Brig. Gen. Lyman Lemnitzer (GSS 1936, AWC 1940), kept refining concepts and working the details. Mark Clark handpicked Lemnitzer based on his experience in planning and his status as a graduate of the Army War College. Lemnitzer credited his experience at both Leavenworth and the War College, "I could not have asked for any better preparation for all of this in that period of service which included school, teaching, and practical experience."[34]

The outline plan for TORCH coordinated three major operations, the landings at Casablanca, Oran, and Algiers. U.S. Maj.Gen. George S. Patton (GSS 1924, AWC 1932) led the Western Task Force with 35,000 men to assault Casablanca. This task force

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[32] See Churchill, *The Hinge of Fate,* 530-38.

[33] Mark Clark, *Calculated Risk* (New York: Harper & Brothers Publishers, 1950), 51.

[34]Lemnitzer added, "One of the turning points in my military experience was going to Leavenworth, because up until that time I was an artillery officer. There I comprehended and was exposed to the operations of the combined arms, the army as a whole. I could not have asked for any better preparation for all of this in that period of service which included schools, teaching, and practical experience." Gen.Lyman Lemnitzer, Interviewed by Lt. Col Walter J. Blickston, U.S. Army Military History Institute Senior Officer Oral History Program, December 18, 1972, 24, USAMHI.

sailed from Norfolk, Virginia in thirty-nine ships. The Central task force under U.S. Maj. Gen. Lloyd R. Fredendall (GSS 1923, AWC 1925) sailed from England with 39,000 men in forty-seven ships to seize Oran. U. S. Maj. Gen. Charles W. Ryder (GSS 1926, AWC 1934) commanded the Eastern Task Force with the British ground force contingent. It sailed from England with 33,000 men in thirty-four ships with Algiers as the objective. The planners sequenced TORCH in two phases, the assault landings and the build up. (See Figure 7)

The plan did not look much beyond the landings and the initial race to Tunis. The final plan listed the objective, political considerations, and the missions of each task force, the aviation and naval support. The base plan included outline plans for each task force, the naval and aviation support as annexes. In the initial phase, the plan stressed the importance of the early seizure of airfields and consolidation of the ports to support a rapid build up of combat power.[35] The plan called for a bold use of airborne troops and Army Rangers. The Second Battalion, 503rd Parachute Infantry Regiment, was given the mission of seizing the airfields at Tafaraqui and La Senia near Oran. The British opposed this use of airborne troops flying directly from England, noting "that the paratroopers would have to be transported approximately 2,000 miles in darkness and hit a pinpoint target at a scheduled minute, involving a rather remarkable feat of navigation and timing."[36] Eisenhower and Clark favored the operation and retained the airborne assault. The plan tasked the First Ranger Battalion to seize the coastal defense batteries at Arzeu. Similarly, other forces specifically targeted coastal defense batteries, airfields, and the

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[35] Complete plan dated October 8, 1942, contained in RG 407.3, Box 24349, File 477, NARA.

[36] Clark, *Calculated Risk*, 62.

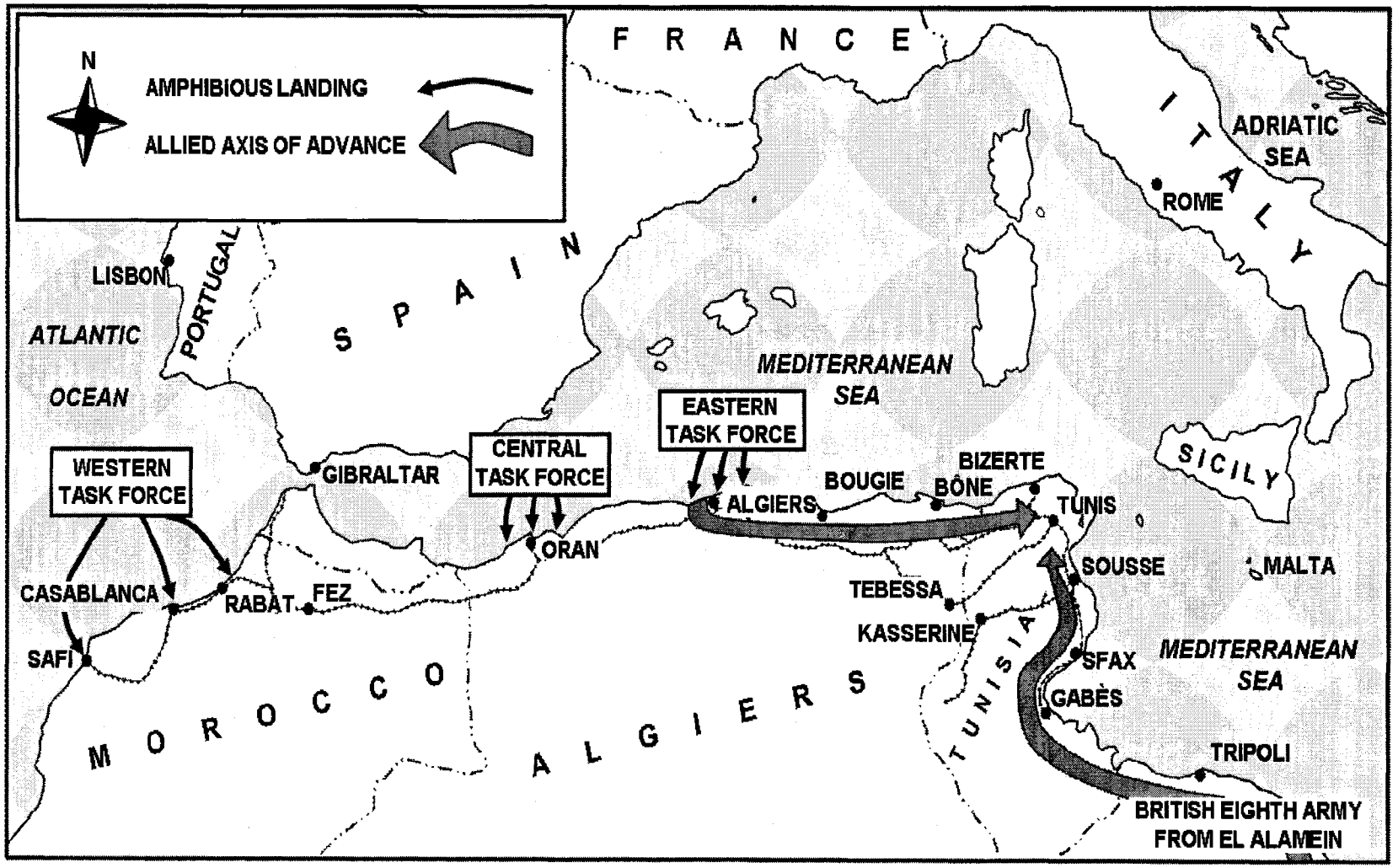

Figure 7: Operation Torch Oct 1942 – May 1943, Adapted by Klemens Schmidt from the U.S. Army War College Case Study: The North African Campaign, No vember 1942, 157.

ports. The planners hoped the small direct assaults on the harbors at Oran and Algiers would forestall French sabotage of vital port facilities.[37]

These tactical features of the plan represented bold, if not innovative, thinking. Operationally, the plan tasked the Eastern Task Force with getting ashore and pushing on to Tunis as quickly as possible. Although American troops with a small British contingent under General Ryder would make the initial landing, Eisenhower charged British Lt. Gen. Kenneth Anderson with quickly organizing the British First Army ashore and striking for Tunis. The plan directed the Western Task Force to build up forces to secure Morocco and prevent any Spanish intervention. Eisenhower planned to create the U.S. Fifth Army specifically for this purpose.[38] Beyond getting ashore, enlisting French cooperation, and building combat power in theater, there was little the Allies could do to prevent or resist rapid German reaction to the landings. The Allies possessed insufficient airpower to operationally isolate North Africa beyond the initial landing areas. The naval outline plan recognized "it is essential for the success of the Army plan that no substantial enemy reinforcements should reach Tunisia." Eisenhower asked the Navy "to use every endeavor to prevent sea borne traffic between Italy or Sicily and Tunisia."[39] Despite the many changes, Eisenhower's headquarters published the final plan by mid-October. The invasion date was set for November 8. Success now depended on Allied execution and German reaction.

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[37] Operation Reservist and Terminal see Howe, *Northwest Africa*, 202, 241.

[38]Dwight D. Eisenhower to Thomas T. Handy, December 7, 1942, in Chandler, *Eisenhower Papers*, 2: 814.

[39] Annex 2 to Outline Plan Operation TORCH, dated September 29, 1942, RG 407.3, Box 24351, File 492, NARA.

The Invasion and Race to Tunis

On November 5, 1942, Eisenhower and some of his staff flew to Gibraltar to supervise the operation. His concern for Axis airpower was well founded. The following day, two German JU 88 aircraft attacked a B-17 carrying Eisenhower's G-3 and the U.S. air commander, Maj. Gen. James Doolittle enroute to Gibraltar. When the pilot was wounded, Doolittle took to the controls while Brigadier General Lemitzer manned a 50 caliber machine gun.[40] The assault convoys had better luck and arrived off the coast of North Africa with little trouble.

Despite Allied efforts to win French cooperation, the Americans met significant resistance at Casablanca. The French Navy sortied, but the Allied naval covering force quickly crushed their resistance. The Western Task Force plan to seize Casablanca called for landings at Fedala, Mehdia, and Port Lyautey. American troops overcame resistance and concentrated for an attack on Casablanca. The French surrendered before Patton could order the assault on November 11. The Central Task Force also met determined resistance. The direct assault on the harbor with a small force in two Coast Guard cutters failed. Despite the resistance, the landings succeeded and a coordinated attack on Oran ended French resistance on November 10. At Algiers, the direct naval assault on the port also failed, but Allied forces soon surrounded the city which capitulated on the same day as Oran. The day after Algiers surrendered, Eisenhower directed General Anderson to push toward Tunisia.

In a letter to Maj. Gen. William D. Connor (AWC 1909), a former Commandant of the Army War College, Eisenhower explained his decision to rush Anderson's force

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[40] L. James Binder, *Lemnitzer: A Soldier for His Time* (London: Brassey's, 1997), 92, 93.

eastward before the Allied build up was complete. Some of his staff argued that the Allied force should build up before racing to Tunisia with inadequate numbers and poorly provisioned. Eisenhower commented:

> When that argument was going on, I recalled the particular War College problem that made such an impression on me. We had been working on a problem of resisting invasion in Connecticut, and all the statistical technicians had worked out in detail the most advanced line that they could defend consistent with getting the logistics properly arranged and the necessary forces on the field. Your criticism of the problem was that it was one that obviously called for instant and continuous attack. I remember you said: "Attack with whatever you've got at any point where you get it up, and attack and keep on attacking until this invader realizes that he has got to stop and reorganize, and thus give to us a chance to deliver a finishing blow. [41]

The Allies achieved operational, if not strategic surprise with their landings, but the Germans reacted quickly. Within a day of the invasion, the Germans established a bridgehead in Tunisia and began flying in ground troops and fighter aircraft. Despite repeated efforts by the Allied navies to cut the enemy's lifeline to Europe, Axis ships also carried men and equipment into Tunis and Bizerte. By the end of November, the Germans shipped 159 tanks and armored cars, 1,097 other vehicles, and 127 guns to Tunisia.[42] Eisenhower urged British forces under General Anderson eastward, but it was a case of too little too late. General Anderson attempted to get east using all possible means by land, sea, and air. The Eastern Task Force reserve, the British Seventy-eighth Division, landed at the small port of Bougie, 100 miles east of Algiers, on November 11. The next day, airborne and seaborne forces secured Bone, another 125 miles east of Bougie. From this point, a small British mobile group, "the Blade force," drove down the

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[41] Dwight D. Eisenhower to William D. Connor, March 22, 1943, in Chandler, *Eisenhower Papers*, 2: 1051.

[42] Howe, *Northwest Africa*, 258.

coastal road into Tunisia while airborne forces secured the railroad center at Souk el Arba and a southern airfield at Youks-les-Bains near Tebessa. Behind this thin screen of Allied troops, the bulk of the British Seventy-eighth Infantry Division moved east into Tunisia.

On November 17, the Allies clashed at Mateur with German forces twenty miles south of Bizerte. Anderson continued his advance with two prongs, one aimed at Bizerte and the other at Tunis. Eisenhower rushed American forces eastward as rapidly as possible to support the drive. On November 27, the British took Tebourba only twenty miles from Tunis. By the end of the month, Anderson still only had two brigade groups on line supported by a regiment of armor. On December 1, the Germans counterattacked and threw the Allies out of Tebourba, capturing over 1,000 prisoners. For the next three weeks, the Allies and Axis battled over the approaches to Bizerte and Tunis. Constant rains hampered Allied efforts at supply and support. Allied aircraft operated at the end of their operational range from airfields more than 125 miles distant. Axis aircraft gained local air superiority by massing airpower launched from nearby all-weather airfields.

The Allies planned one more major attempt to break through on Christmas Eve, but after visiting the front and personally observing battlefield conditions, Eisenhower realized his forces had reached their culminating point, the point at which any further attacks risked defeat by overextending his resources. He reluctantly called off the attack. The race for Tunis was over. Resigned to an operational pause, Eisenhower authorized a withdrawal to a more defensible position and now raced to build up combat power to finish the job. The Germans also rushed reinforcements into theater. In December, Hitler designated Gen. Juergen von Arnim to command the newly established Fifth Panzer Army in northern Tunisia.

The British Army's old nemesis, Field Marshal Erwin Rommel, eclipsed Von Arnim, by engineering the most serious Allied setback in Tunisia. Pressed by Montgomery's British Eighth Army, Rommel's forces withdrew from Egypt and across Libya to southern Tunisia. To avoid an attack in his rear from Eisenhower's forces in Tunisia, Rommel struck hard at the U.S. II Corps in February 1943. The defeat of American forces in the Battle of Kasserine Pass embarrassed Eisenhower. He weathered the storm by directing changes in command in II Corps, streamlining the command organization, and again rushing Allied reinforcements to the front. Montgomery's continuing pressure from the south, and the Allied forces in the west forced the Axis troops into a shrinking perimeter in the northeastern corner of Tunisia. The Allies launched the final assault in the first week of May. After hard fighting, U. S. forces entered Bizerte on May 7, and British forces captured Tunis the same day. Six months after the invasion, the Allies finally secured North Africa, capturing over 240,000 Axis prisoners, including 125,000 Germans.[43]

Assessment

Strategically, TORCH allowed the Allies to seize the initiative and cleared North Africa of Axis forces. It eventually achieved all its strategic and operational goals, but not on the original timeline and not as soon as hoped. At the operational level, the Allies learned important lessons in joint and combined operations. Since the combined planning staff included both British and American officers, it may be difficult to differentiate between operational perspectives beyond a few key decisions. Indeed, there

[43] Eisenhower, *Crusade in Europe*, 156.

must have been a good deal of common professional judgment on many topics. Key operational decisions revealed differences in the Allies' approach to modern warfare. The American commanders and planners emphasized the importance of logistics, airpower, and unity of command consistent with the interwar instruction they received at the Command and General Staff School and the Army War College.

The American planners' insistence on a cross-channel attack in 1943 rather than peripheral operations in the Mediterranean reflected both their strategic and operational culture. Massing forces in Britain allowed for an adequate logistics base, a suitable platform for airpower, and a chance to strike directly at the center of gravity, Germany. Once President Roosevelt decided to postpone the invasion of France in order to quickly get American troops into combat with the Axis in 1942, the American planners in Washington and England began to tackle the enormous operational challenges involved in invading North Africa. The combined planners' operational design synchronized three major operations in two phases. The OPD's insistence on the Casablanca landing at the risk of early seizure of Tunis fully reflected the American belief in the importance of logistics in modern war. Eisenhower also made some key operational decisions that affected the campaign and the later course of the war.

The Allied failure quickly to seize Tunis proved frustrating. Eisenhower cited four reasons for this failure: the weakness of General Anderson's force due to a lack of shipping, a shortage of motor equipment, poor weather, and the proximity of Tunis and Bizerte to Axis bases in Sicily and Italy.[44] The lack of shipping was a limitation of means. The weather and the close proximity of Axis bases were simply operational

[44] Ibid., 117.

realities. The lack of motor transport and the ways in which to deal with the proximity of enemy bases required operational decisions related to risk.

In organizing the invasion force, Eisenhower noted, "The Allied force was initially loaded and dispatched with a principal purpose of getting ashore and seizing three main ports. To accomplish this mission, it came woefully short in motor transport and other auxiliaries normally making up the tail of an army."[45] Concerned about French resistance, he insisted on more combat power and less tail.[46] He willingly accepted the risk of not being able to move quickly to Tunis in order to ensure capture of the key ports. Only the ports could provide the logistic infrastructure needed to sustain large operational forces. Eisenhower undoubtedly believed he was justified in taking this risk because the British intelligence estimate provided to him indicated that it would take two weeks for the Germans to get significant forces into Tunisia.[47] Eisenhower stripped American units in Casablanca and Oran of their trucks, in order to provide additional transportation to units moving east. By January, Eisenhower was pleading for more trucks. He personally asked Admiral King for additional escorts for a special convoy.[48] The War Department rushed 5,400 trucks into theater, which eased conditions considerably, but not until late February.[49]

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[45]Dwight D. Eisenhower to Winston S. Churchill, December 5, 1942, in Chandler, *Eisenhower Papers*, 1: 802.

[46]Dwight D. Eisenhower to George C. Marshall, August 9, 1942. Ibid., 454..

[47] F. H. Hinsley, E. E. Thomas, C. F. G. Ransom, R. C. Knight, *British Intelligence in the Second World War: It's Influence on Strategy and Operations*, 2 vols. (New York: Cambridge University Press, 1981), 2: 466.

[48] See Dwight D. Eisenhower to Ernest J.King, January 35, 1943, in Chandler, *Eisenhower Papers*, 2:920 and Dwight D. Eisenhower to George C. Marshall, February 4, 1943, Ibid., 937.

[49] Eisenhower, *Crusade in Europe*, 148.

Eisenhower believed that one of the most important contributions TORCH made to the Allied war effort was in the development of an effective combined command and staff organization.[50] Eisenhower insisted on the principle of unity of command and created the first combined and integrated staff in history. Allied command arrangements continued to evolve throughout the North African campaign. The campaign began with Eisenhower supervising six subordinate commanders. In January 1943, Eisenhower consolidated Allied air forces under U.S. Maj. Gen. Carl Spaatz (GSS 1936). A problem remained with the ground forces. The French refused to serve under British command, which split U. S. forces between Morocco and Tunisia. At the Casablanca Conference in January, the British chiefs recommended changes in command arrangements to help coordinate Montgomery's Eighth Army and Eisenhower's forces. In the new organization, a single ground commander coordinated all Allied land forces in North Africa, including the Montgomery's Eighth Army. (See Figure 8)

This arrangement provided the theater commander with single component commanders for land, sea, and air. The British succeeded in appointing their own officers to each of these subordinate commands.[51] British motivation for the change in command arrangements went beyond a rationalization of Allied organization. Field Marshal Lord Alan Brooke, Chief of the British Imperial Staff, noted in his diary, "We were pushing Eisenhower up into the stratosphere and rarefied atmosphere of a Supreme Commander, where he would be free to devote his time to the political and inter-allied problems, whilst we inserted under him one of our own commanders to deal with the

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[50] Ibid., 158.

[51] Gen. Sir Harold Alexander commanded the ground forces. Air Chief Marshal Sir Arthur Tedder commanded the Allied air forces. Adm. Andrew Cunningham commanded Allied naval forces.

military situations and to restore the necessary drive and co-ordination which had been so seriously lacking."[52]

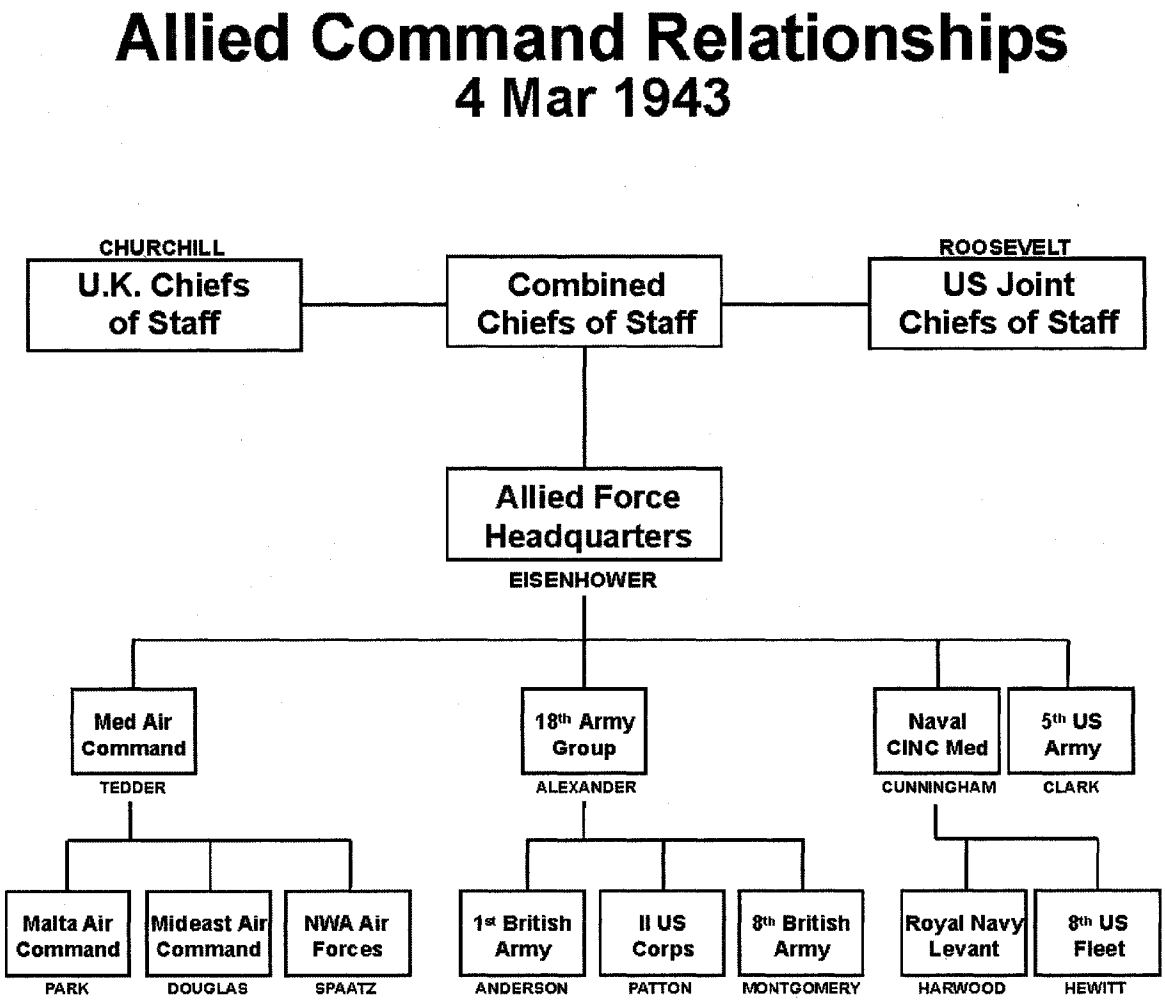

Figure 8. Allied command and control in North Africa March 1943. Adapted by Dr. John Bonin from multiple sources.

Eisenhower welcomed the new organization, but again insisted on an American understanding of unified command. He rejected what he called the British committee system, in which the component air, land, and sea commanders simply cooperated with each other in the planning and conduct of operations. He insisted on his right to organize,

[52] Arthur Bryant, *The Turn of the Tide: A History of the War Years based on the Diaries of Field Marshal Lord Alanbrooke, Chief of the Imperial General Staff* (Garden City, NY: Doubleday & Company, Inc., 1957), 455.

coordinate, and control the forces under his command.[53] Eisenhower's concept of operational control became a model for Allied command in Europe for the rest of the war and later for the North American Treaty Organization (NATO). This integrated combined command and staff organization provided the Allies with a significant operational advantage. In contrast to the Allies, the Axis failed to establish combined, integrated, or even joint command arrangements. (See Figure 9)

There was no unified Axis Mediterranean theater. The Italian Commando Supremo provided operational direction to the Italian North African Command in collaboration with the Germans. Although nominally subordinate to the German Italian Panzer Army, Rommel frequently received direct guidance from Hitler. Field Marshal Albert Kesselring headed the Luftwaffe in the Mediterranean and as senior officer directed Von Arnim's Panzer Army, but initially not Rommel. Not until April 15, 1943, did the Axis create an Army Group Africa in which Rommel commanded both the First Italian Army and the Fifth Panzer Army. At no time did the German or Italian navies come under the command of a single theater commander.

Eisenhower's employment of airpower reflected much of the prewar military instruction in American military schools. The strategic and operational circumstances combined with the ambitious objectives for TORCH precluded achieving air superiority or even parity prior to the campaign. Once ashore and in theater, Allied airpower consistently targeted enemy airfields in an effort to develop air superiority. Eisenhower's

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[53]Dwight D. Eisenhower to George C. Marshall, February 8, 1943, in Chandler, *Eisenhower Papers*, 2: 943, 944.

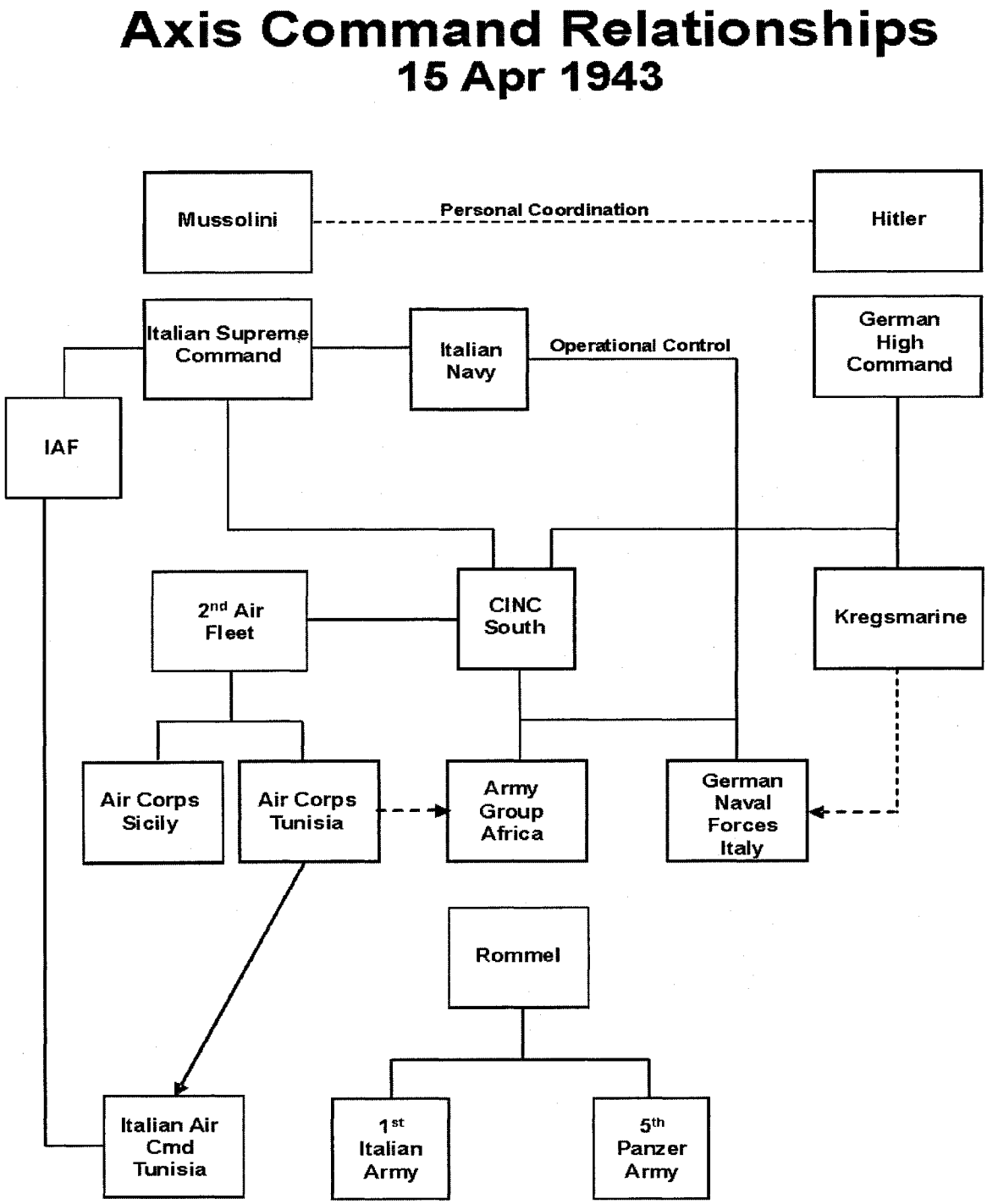

Figure 9. Axis command and control in North Africa April 1943. Adapted by Dr. John Bonin from multiple sources.

operational employment of airpower to hammer away at the enemy lines of communication and to isolate the enemy in theater was very much in keeping with

instruction at the General Staff School and the War College. To protect the Allied invasion force, Eisenhower made the submarine bases and operations in the Bay of Biscay the priority target for Carl A. Spaatz's U.S. Eighth Air Force.[54] This control of long range land-based aircraft for operational rather than strategic missions, set a precedent for future operations.

The Allies organized airpower for TORCH into two commands. Brig. Gen. James Doolittle commanded the newly organized Twelfth U. S. Air Force charged with supporting American forces in the West. The British Eastern Air Command supported the eastern push for Tunisia. Inevitably, Doolittle's outfit became involved in the battle for Tunisia. The Twelfth Air Force consisted of the XII Bomber Command, XII Fighter Command, and the XII Air Support Command. Bomber command handled the operational missions of attacking the enemy lines of communication and isolating Axis forces in North Africa. B-17's pounded the Axis ports in Tunisia and Sicily. B-24's attacked Axis shipping. Eisenhower was convinced, "The termination of the campaign in Tunisia depends largely on the extent to which we can interrupt the enemy's lines of communication."[55] The theater commander harnessed long range land-based aircraft to operational missions.

Tactically, American air-ground coordination was poor for much of the campaign. Eisenhower adhered to the prewar arrangement of letting ground commanders set priorities for the XII Air Support Command. Not until February did Spaatz convince Eisenhower that air commanders tasked with ground support should have more control

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[54]Dwight D. Eisenhower to Carl Spaatz, memorandum, October 13, 1942, in Chandler, *Eisenhower Papers*, 1:616.

[55]Dwight D. Eisenhower to the Combined Chiefs of Staff, February 3, 1943, Ibid., 935.

over their units.[56] U. S. air power benefited greatly from British experience in tactical air support gained by the Royal Air Force and Montgomery's Eighth Army. By the end of the campaign, tactical air commands such as Spaatz' Northwest African Air Force had been established and placed on a status equal to army commanders. Allied airpower became much more effective at all levels once the Allies sorted out the command organization.

Command arrangements for Allied airpower evolved during the campaign, demonstrating the need for centralized control and unified command under the theater commander. Eisenhower eventually appointed General Spaatz to command all Allied airpower with his forces. The Allied command reorganization that provided Eisenhower with a single subordinate ground commander, also led to a consolidation of Allied airpower throughout the Mediterranean. General Spaatz was left in command of what became the North African Air Command under the overall Allied Mediterranean air commander, Air Chief Marshal Arthur Tedder. This completed the Allied command model that endured for the rest of the war. Centralized control and direction of airpower was critical to its development as true instrument of operational art.[57]

From theater commander to squad leader, the Americans learned a great deal from the North African campaign. After the failure to win the race to Tunisia, a frustrated Eisenhower reflected, "I think the best way to describe our operations to date is that they have violated every recognized principle of war, are in conflict with all operational and

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[56] Davis, *Spaatz*, 183.

[57] By the end of the campaign, the Allies were finally in a position to isolate Axis forces in North Africa. Air commanders designed Operation FLAX to specifically interdict enemy air and maritime transport in an effort in order to prevent Axis withdrawal or reinforcement. In March and April 41.5 percent of Axis seaborne cargoes failed to reach Tunisia. Ibid., 190.

logistic methods laid down in text books, and will be condemned, in their entirety, by all Leavenworth and War College classes for the next twenty five years."[58] The textbooks and exercises of the interwar years stressed mass, concentration, the need for air superiority, and the necessity of adequate logistic support.

In the race to Tunis, Eisenhower hastily forwarded U. S. units piecemeal as they became available. Without regard to the Allied ability to sustain forward forces and in the face of Axis air superiority, the theater commander rushed to accomplish the ambitious objective most cherished by the British — seizure of Tunis before the Germans. Seizing Tunis would shut the back door on Rommel's *Afrika Korps* and finally trap the Desert Fox between two Allied forces. Well before the invasion, Eisenhower, Patton, and Clark believed the chances of beating the Germans to Tunisia at less than fifty percent. The only real chance the Allies had of denying Tunisia to the Axis lay not with Allied forces, but the French. By denying or resisting German access to French airfields and ports, the French could have bought the time for Allied occupation. Unfortunately, the French in Tunisia cooperated with the Axis not the Allies.

Ironically, the extended campaign for North Africa probably worked to the Allies' advantage. Strategically, the victorious campaign demonstrated the Allied ability to win, helping to sustain national will in a long and demanding war. One of the objectives of TORCH included engaging and drawing additional German forces into North Africa to relieve the Soviets. The Germans obligingly decided to contest the Allied offensive and

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[58] Dwight D. Eisenhower to Thomas T. Handy, December 7, 1942, in Chandler, *Eisenhower Papers*, 1: 811. Although there is little assessment of the North African campaign at the operational level, for a good tactical analysis of U.S. doctrine and effectiveness, see Peter Mansoor, *The G.I. Offensive in Europe: The Triumph of American Infantry Division: 1941-1945* (Lawrence: University of Kansas Press, 1999), 98 and Michael D. Doubler *Closing with the Enemy: How G.I's Fought the War in Europe: 1944-1945* (Lawrence: University of Kansas Press, 1994), 12-14.

poured even more troops into the bag. Operationally, the experience in conducting major amphibious operations, sorting out the Allied command and staff arrangements proved invaluable. Tactically, the benefit of combat experience for American commanders and troops provided many lessons.

American involvement in planning OPERATION TORCH reflected the best practices of the interwar instruction at Leavenworth and the War College. The plan was phased and included both contingency and deception plans. It provided political context and clearly linked strategic objectives to military operations in a theater of war. If the American emphasis on airpower and logistics contributed to a willingness to accept less risk in the operational design and execution, it was characteristic of the American study of war in the interwar years. The insistence on unity of command and a rationalized joint and combined staff organization represented real progress in operational art. All the lessons from Operation TORCH would be put to good use in the most important British and American major operation of World War II – OPERATION OVERLORD.

OPERATION OVERLORD

American planners always believed the cross-channel attack into France would be the decisive operation of World War II. Within four months of entering the war, Eisenhower sent a memorandum to Marshall arguing "that the principal target for our first major offensive should be Germany, to be attacked through Western Europe.[59] Marshall agreed and very quickly Eisenhower's Operations Division drafted BOLERO, an outline plan for an invasion of France in 1943. This early American vision of a cross-

[59]Dwight D. Eisenhower to George C. Marshall, memorandum, March 25, 1942, in Chandler, *Eisenhower Papers*, 1: 205.

channel attack served to drive production decisions to ensure that the equipment and men would be ready when needed, but it also contained much of the conceptual outline reflecting American military thinking from the interwar period. Moreover, much of substance of these early ruminations on a cross-channel attack survived into the final plan.

Early Planning for the European Theater of Operations

Marshall briefed President Roosevelt on BOLERO on April 2, 1942. The President approved the plan and directed Marshall to go to London to secure agreement with the British on the Allied main effort. The key operational features of this early plan centered on where to land, in what strength, to what purpose, and how to employ airpower. The final version of BOLERO called for a three-phased operation. The first phase included not only the necessary build up of forces but continuous raiding to gain combat experience and deceive the Germans. The second phase, the cross-channel attack, called for a six division attack between Le Havre and Boulogne. The final phase described the consolidation and expansion of the beachhead and the beginning of a general advance. (See Figure 10)

The Americans estimated the total force required 48 divisions, 5,800 combat aircraft, and 7,000 landing craft. Airborne troops would help secure the beachhead, and airpower would "prevent rapid movement of German reinforcements toward the coast." [60] Once the Allies established the beachhead, "strong armored forces would be rushed in to break German resistance and seize the line of the Oise-St. Quentin. A movement

[60] OPD to the Chief of Staff, memorandum, Operations in Western Europe, RG 407.3, Entry 427, Box 24325, File 308, NARA.

towards Antwerp will then follow to widen the salient and permit movement of additional forces across the channel between Boulogne and Antwerp."[61]

The key operational features of the plan reflected American military thinking during the interwar period. A direct assault on the main force of one's strongest enemy was the surest and shortest route to victory. The plan reflected an American optimism

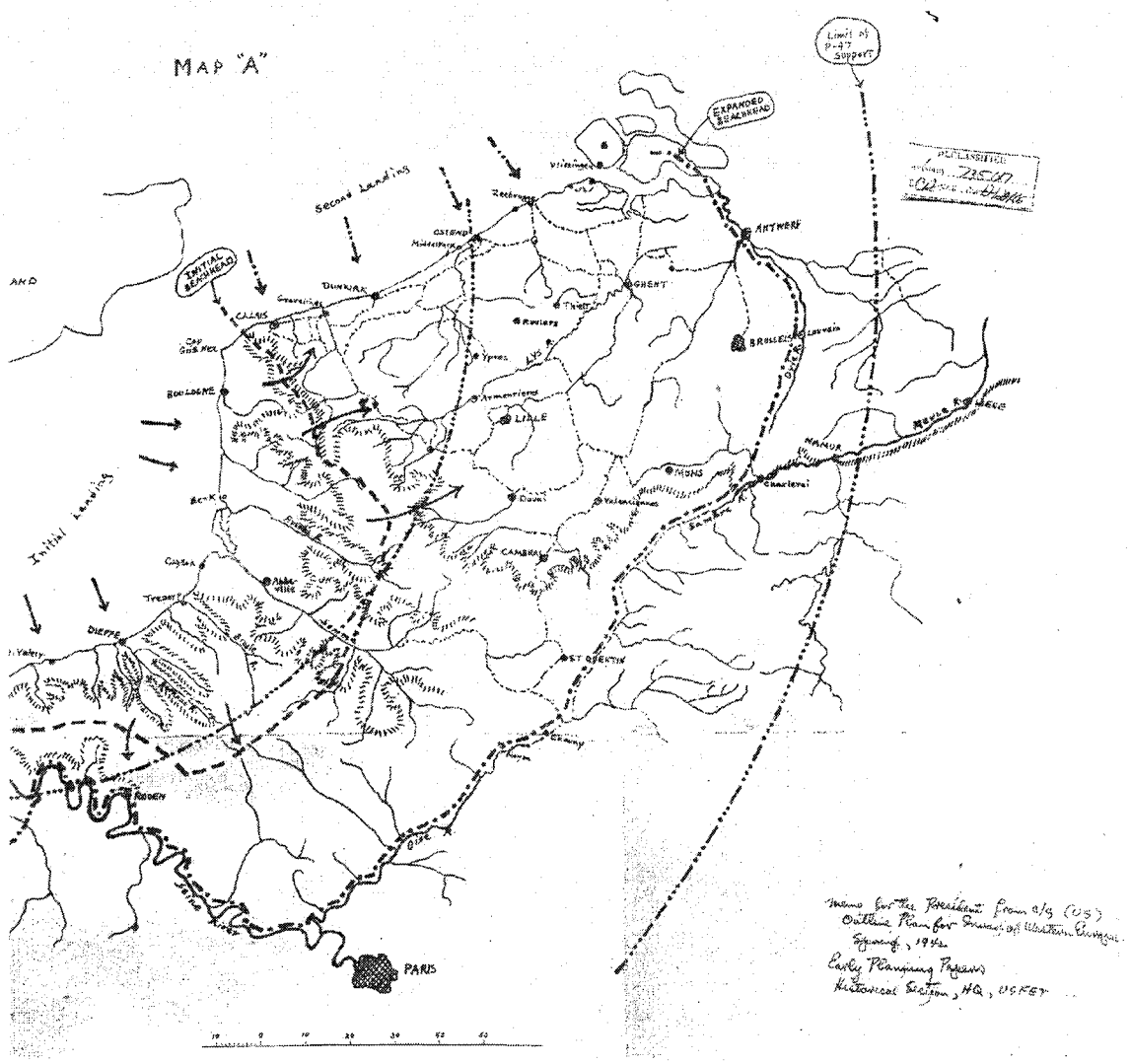

Figure 10. Concept of operations sketch for BOLERO March 1942. Source: RG 407.3, Entry 427, Box 24325, File 308, NARA.

[61] Ibid.

and faith in the tremendous industrial potential of the United States and the scale of logistical effort necessary. The American planners proposed employing airpower in keeping with interwar thinking, certainly at Leavenworth and the Army War College. Airpower would operationally isolate the battlefield, interdict or prevent enemy reinforcements and buy time for the buildup. The Allies would leverage airpower to shape the battlefield and buy time for the build up of forces and logistics necessary to defeat the German Army.

Hap Arnold shared his thinking on BOLERO with General Marshall in a memorandum dated March 27, 1942. Arnold proposed a four-phase operation: preparation, air offensive, surface invasion, and exploitation. Arnold foresaw that any invasion of France required air superiority over the landing area. He believed that airborne operations would probably play a decisive role. He noted, "Bombardment of all classes will be employed in close support of the invading force. It will be sound military procedure to return the major elements of the heavy bombers to their normal strategic role against vital industrial and or civil objectives as soon as the ground situation will permit."[62] Two years later in the final planning for OVERLORD, the employment of strategic airpower became a major point of contention between the Allies. Arnold rather presciently recognized the need to focus all elements of joint power to achieve the immediate operational goal before returning to the cherished concepts of strategic bombing.

A month after Arnold's memo, Maj. Gen. Carl Spaatz met with Marshall to present his concept of the operation. Spaatz believed an attritional air battle would be

[62] H. H. Arnold to the Chief of Staff, memorandum, March 30, 1942. RG 407.3, Entry 427, Box 24325, File 308, NARA.

necessary to defeat the Luftwaffe in order to gain air superiority for the invasion. To force the Luftwaffe to fight, Spaatz proposed striking targets of such economic importance that the Germans would have to defend them or lose the war.[63] This concept of the operation supported both the Air Force's interwar belief in strategic bombing and the War College's insistence on supporting the ground campaign. This plan conveniently matched strategic air theory with the operational requirement for air superiority over the invasion area.

In April 1942, General Marshall went to London and secured British approval for the plan. After a year of sobering defeats, the British welcomed the promise of deploying over one million American soldiers to Great Britain for operations in 1943. More bad news, however, soon followed. On June 21 in North Africa, Tobruk fell to Rommel's *Afrika Korps*. Churchill now became an advocate of using Allied forces to redress the situation. The British prime minister's eloquence combined with President Roosevelt's desire get U. S. troops in action on the ground with the Germans in 1942 led directly to Operation TORCH. The North African invasion refocused Allied resources and priorities on the North African (later Mediterranean) Theater of Operations.

The plan for an invasion of France recovered some momentum after the Casablanca Conference in January 1943. The British continued to push for a peripheral strategy in which the Allies would pursue operations in the Mediterranean. Marshall and the American planners continued to argue that priority should be given to the invasion of Northwest Europe and the establishment of the European Theater of Operations. In the end, the Allies agreed to continue operations in the Mediterranean, push the combined bomber offensive, and establish an Anglo-American planning staff for the cross-channel

[63] Davis, *Spaatz and the Air War in Europe*, 75.

attack. The British selected Lt. Gen. Frederick E. Morgan to become the Chief of Staff to the Supreme Allied Commander (COSSAC) for planning the invasion of Europe.

The COSSAC Plan

While the Combined Chiefs deferred the decision on the Supreme Commander for the European Theater of Operations, General Morgan went ahead with the planning effort anticipating a British commander. As a result, he asked for a British staff organization that amalgamated American staff officers. Morgan wanted a small staff modeled after the one that served Marshal Foch during the First World War.[64] This initial staff was not integrated but parallel. Each branch had a British and American principal staff officer with separate staff sections. Complete integration occurred in the fall when U.S. Maj. Gen. Ray Barker (GSS 1928, AWC 1940), Deputy Chief of Staff, reorganized the complete staff along functional rather than national lines.[65] By July, this staff produced an outline plan for Operation OVERLORD.

The COSSAC plan called for four phases: preliminary, preparatory, assault, follow up and build up. The preparatory phase included air operations to "reduce the effectiveness of the German Air Force in that area and will be extended to include attacks against communications more directly associated with the movement of German reserves

[64]General Morgan informed the staff, "If you will remember he had a really small board of selected officers who dealt with major decisions on broad lines, the day to day work of the war being delegated completely to commanders of army groups. This is what I have in mind." COSSAC Meetings Digest of Decisions. April 17, 1943. RG 407.3, Entry 427, Box 24234, File 296, NARA.

[65] Ibid., COSSAC Meeting August 27,1943.

which might affect the Caen area." [66] Three divisions would assault in the Caen area assisted by an airborne seizure of the town itself. This would secure the lodgment and establish a base for future operations. The planners envisioned a series of battles to gain the initial foothold, concentrate a sufficient force, and then to proceed "by bounds cracking the enemy lines with separate, massed, and carefully prepared attacks for each new objective."[67] The task of the COSSAC plan was not to annihilate the German Army, but to secure a lodgment.

At the Quebec conference in August 1943, the Americans finally got the British to agree to make Operation OVERLORD the priority effort for 1944. The Combined Chiefs of Staff approved the COSSAC plan. The Combined Chiefs also approved a request by the OVERLORD planners for a diversion against southern France and directed General Eisenhower, then the Allied commander in the North Africa Theater of Operations, to draw up the plans. The COSSAC plan resolved the issue about where to land and to what purpose, but in what strength became an issue. Churchill suggested at the Quebec conference that the assault should be strengthened by at least 25 percent.[68] The availability of landing craft remained the key factor. Logistics determined the art of the possible.

Landing craft had always been the key planning assumption in putting together a feasible plan to invade France. Initially, the British planners asked for 8,500 landing craft to lift ten divisions. Reviewing potential requirements for the Mediterranean

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[66] "Digest of Operation Overlord" contained in Gordon A. Harrison, *Cross-Channel Attack*, United States Army in World War II (Washington, D.C.: Center of Military History, 1951), Appendix A, 453.

[67] Ibid., 79.

[68] Winston Churchill, *Closing the Ring*, Vol. 6, *The Second World War* (Boston: Houghton Mifflin Company, 1950), 85.

theater, American planners believed that only 4,500 landing craft would be available. At a conference in Washington, D.C., in May 1943, the Allied planners agreed to the lower figure. This necessarily constrained the COSSAC planners to a five-division assault, with three divisions in the first wave followed by two more. While still commanding in North Africa, well before he knew he would command the European invasion, Eisenhower saw the COSSAC outline plan. Eisenhower shared with Montgomery his view that the amphibious assault with three divisions was inadequate and that the plan failed to provide for the quick capture of Cherbourg.[69] Montgomery came to the same conclusion and upon his return to England made his criticism known.

The Revised Plan

In December 1943 while visiting the Mediterranean theater, President Roosevelt informed General Eisenhower that he would command Allied forces for OVERLORD.[70] The next month Eisenhower arrived in London and began reviewing the plan with his new staff and making changes. The COSSAC staff formed the nucleus of a combined joint staff along the lines of Eisenhower's earlier experiences in the Mediterranean. As in North Africa, the British retained command of the component forces. Montgomery commanded the Twenty-first Army Group, the land force. Adm. Sir Bertram Ramsey commanded the Allied Naval Expeditionary Force, and Air Chief Marshal Sir Trafford Leigh-Mallory commanded the Air Expeditionary Force. (See

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[69] Eisenhower, *Crusade in Europe*, 217.

[70] General Eisenhower served as Commander in Chief, Allied Forces Mediterranean Theater of Operations, from December 10, 1942 to January 8, 1944. Ray Cline, *Washington Command Post: The Operations Division,* United States Army in World War II (Washington, D.C.: Center of Military History, 1990), 376.

Figure 11) Gen. Omar Bradley (GSS 1929, AWC 1934) commanded the American First Army under Montgomery's supervision during the initial invasion. When the subsequent flow of more numerous American forces into the continent required the creation of another army, Eisenhower planned to directly supervise both the British Twenty-First Army Group (which would become an all British affair) and a newly organized American army group without a separate land component commander. This arrangement reflected not only the Supreme Commander's belief that another level of command was unnecessary, but also his growing confidence as a theater commander. With command arrangements settled, the control issues surfaced again as Eisenhower made some key operational decisions.

It is sometimes difficult to distinguish between the operational approaches of Allies who plan and conduct joint and combined operations. American and British planners comprised both the COSSAC and OVERLORD combined staffs. Several key operational decisions in the planning for OVERLORD illustrate both similarities and differences between the American and British approach to operational art. The first major operational decision focused on the need to expand the amphibious assault to five divisions and enlarge the landings in the Cotentin Peninsula closer to Cherbourg. The COSSAC planners had long advocated a larger assault force, but they were constrained by the limitation on landing craft. Both Montgomery and Eisenhower insisted on the changes to ensure the success of the lodgment and to secure a port.[71] Subsequent decisions by Eisenhower on important operational matters generated more friction with his British allies.

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[71] See Dwight D. Eisenhower to the Combined Chiefs of Staff, January 23, 1944; Memorandum for Diary, February 7, 1944, in Chandler, *Eisenhower Papers*, 3: 1673, 1711.

Allied Chain of Command for Operation Overlord

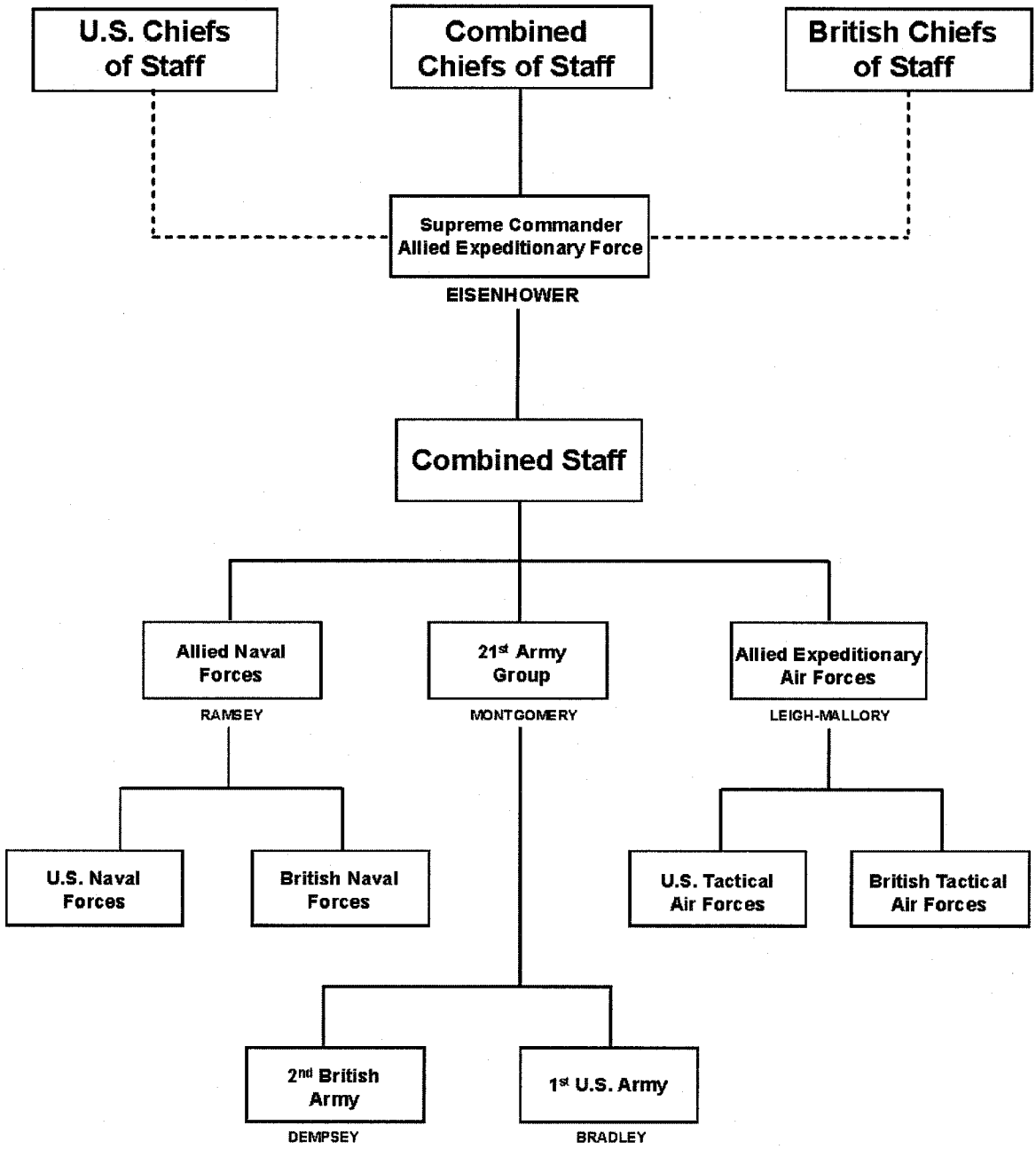

Figure 11. Allied Chain of Command for OVERLORD. Adapted by Marsha Glunt from multiple sources.

The Combined Chiefs of Staff allocated General Morgan's COSSAC planners two airborne divisions. Morgan planned to use the airborne forces to seize Caen and critical river crossings. Eisenhower decided against an airborne seizure of Caen. He wanted to increase the mass of the airborne drops and use them to help seal and then expand the lodgment. General Marshall endorsed an even bolder plan by Hap Arnold to drop airborne forces to threaten crossings over the Seine River and Paris itself.[72] Eisenhower thought this use of airborne forces too bold. He agreed that distant vertical envelopment was an operational advantage, but argued that the airborne forces are immobile once on the ground and that the initial assault force would not have the operational mobility to reach them. Eisenhower believed the Germans would ignore or contain the airborne units in order to strike at the more critical amphibious forces.[73] Recognizing the potential operational value of airborne forces, Eisenhower later authorized the creation of the First Allied Airborne Army commanded by U.S. Lt. Gen. Lewis H. Brereton (GSS 1926). Eisenhower used this joint and combined headquarters as a command and control and planning staff for the employment of his theater reserve. Constituting a permanent joint and combined headquarters to employ the theater reserve represents a unique operational innovation in World War II.[74]

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[72]George C. Marshall to Dwight D. Eisenhower, February 10, 1944, in *The Papers of George Catlett Marshall*, 4 vols., eds. Larry I. Bland and Sharon R. Ritenour (Baltimore: Johns Hopkins Press, 1996), 4:282.

[73]Dwight D. Eisenhower to George C. Marshall, February 19, 1944, in Chandler, *Eisenhower Papers*, 3: 1558.

[74] The Supreme Commander established the First Allied Airborne Army on August 8, 1944. It consisted of the British Airborne Corps and the U.S. XVIII Airborne Corps as well as the US IX Troop Carrier Command and 38 Group, Royal Air Force. The First Allied Airborne Army planned several operations but executed only two: OPERATION MARKET-GARDEN and VARSITY. MARKET-GARDEN conducted in September 1944 failed to secure crossings over the Rhine in Holland. OPERATION VARSITY in March 1945 provided the airborne component to Montgomery's large scale crossing of the northern Rhine. Eisenhower consistently used this theater reserve to weight the main effort

With regard to OVERLORD, Air Chief Marshall Leigh-Mallory, Eisenhower's air commander, objected to even the tactical drops in the American sector. He predicted losses as high as 75 to 80 percent. Eisenhower agreed with the risks, but insisted, "a strong airborne attack in the region indicated is essential to the whole operation and it must go on."[75] Eisenhower was convinced the U.S. airborne drops would hasten the capture of the Cotentin Peninsula and secure the port of Cherbourg, the prize so necessary to sustain the lodgment. He understood that sometimes the tactician must pay a premium price in order to assure operational results.

Another key operational decision revolved around the use of airpower. In the early BOLERO planning, Hap Arnold underscored the need to employ airpower to isolate the battlefield. Indeed, this had been a key feature of interwar instruction at both Leavenworth and the War College. Likewise, Eisenhower insisted that all airpower, including the strategic air assets should be utilized to insure the success of OVERLORD. From his perspective, the Allies agreed that OVERLORD would be the main effort in 1944; it would be the decisive operation of the war. The Allied Air Expeditionary Force, Eisenhower's air component, developed a plan for a three month bombing attack on rail and transportation centers in France and Belgium. The plan called for the American Fifteenth Air Force to attack targets in southern France from its bases in the Mediterranean. Additional targets would be attacked by the British Bomber Command.

General Spaatz, now commanding the U.S. Strategic Air Forces (which included the Fifteenth Air Force), objected to any diversion of strategic airpower from the

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in the North. See John J. Abbatiello, "The First Allied Airborne Army in OPERATION VARSITY: Applying the Lessons of Arnhem" (master's thesis, King's College, London, U.K., 1995), 1-5.

[75]Dwight D. Eisenhower to Sir Trafford Leigh-Mallory, May 30, 1944, in Chandler, *Eisenhower Papers*, 3:1895.

Combined Bomber Offensive. True to his roots in strategic bombing theory at the Air Corps Tactical School during the interwar years, Spaatz offered to attack German oil resources instead of diverting his forces to tactical targets. Eisenhower realized that the potential operational results of the rail plan far outweighed any tactical or strategic outcomes in the near term. OPERATION OVERLORD was a race to see whether the Allies or the Germans could build up sufficient force to either defeat the invasion or irrevocably secure a foothold on the continent. The Supreme Commander's early thinking on the matter was revealed to Spaatz just as they both assumed command early in January, "In establishing your headquarters," Eisenhower wrote, "please bear in mind that your command and Harris' organization [British Bomber Command] are to be the two big guns in the preparatory phase."[76] The British Bomber Command opposed the rail plan as adamantly as Spaatz, but their objections centered more on submitting to Eisenhower's control. Not too surprisingly, Air Marshal Charles Portal, chief of the Royal Air Force, opposed surrendering virtually all British airpower to Eisenhower. Churchill backed his air chief.

Eisenhower did not oppose continuing strategic bombing. He understood that the major operational advantage that accrued from strategic bombing was the destruction of the Luftwaffe — also crucial to the success of OVERLORD. Foremost in Eisenhower's mind, however, was the need to concentrate all Allied power on the immediate task at hand, getting Allied landpower back onto the continent of Europe. The Supreme Allied Commander remained determined: "If a satisfactory answer is not reached I am going to take drastic action and inform the Combined Chiefs of Staff that unless the matter is

[76] Dwight D. Eisenhower to Carl Spaatz, January 5, 1944, Ibid., 1654.

settled at once I will request relief from this command."[77] Now Churchill backed down and the subsequent compromise left Allied heavy bombers under the direction but not the command of the Supreme Commander for the duration of OVERLORD. Still, the British War Cabinet debated for two weeks over authorizing an operation that would result inevitably in significant French and Belgian civilian casualties. With the insistence of the British Chiefs of Staff and the Prime Minister's support, the War Cabinet gave its approval. On April 14, Eisenhower took over direction of the heavy bombers and within days issued his directive for attacking the French rail system.

Eisenhower's determination to mass Allied airpower was no less evident in his desire to concentrate Allied landpower to ensure the success of OVERLORD. As early as August 1943, OVERLORD planners requested an additional assault into southern France as an important diversion to assist the main attack. Eisenhower became an insistent advocate for this operation code named ANVIL. The Supreme Commander viewed ANVIL not only as a diversion for German forces in France, but also as a key avenue of approach that would get as many as ten more Allied divisions into the fight for France, open up additional lines of communication, and secure the port of Marseilles. He insisted to the Combined Chiefs as early as January that "OVERLORD and ANVIL must be viewed as one whole."[78] He even suggested delaying the invasion for thirty days in order to obtain the necessary lift for a two-division assault. The British saw it differently. Montgomery favored cancelling ANVIL in order to strengthen the OVERLORD assault. The British Chiefs believed that the 500 miles of rugged terrain that would separate the

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[77]Dwight D. Eisenhower, memorandum for Butcher Diary, March 22, 1944, Ibid., 1784.

[78]Dwight D. Eisenhower to the Combined Chiefs of Staff, memorandum, January 23, 1944, Ibid., 3:1675.

two operations precluded any real support for forces engaged in OVERLORD.[79] Likewise, Churchill, with an eye on the Mediterranean Theater of Operations, did not want to launch ANVIL by sacrificing prospects for the Italian campaign.[80]

In an effort to overcome the stalemate in Italy, the Allies landed two divisions at Anzio in order to bypass stiff German resistance and threaten Rome. By February, this effort stalled and the requirement for amphibious lift to continue to support Allied forces in this operation from the sea temporarily killed the prospects for a landing in southern France. By March, Eisenhower conceded ANVIL was no longer possible given the current state of Allied resources. He remained interested in ANVIL, not only out of a desire to concentrate Allied forces but also because he suspected that the Norman ports might be slow to open even if OVERLORD met most other expectations.[81] Concentration, the importance of logistics, and the role of airpower dominated Eisenhower's operational design for the revised plan for invasion.

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[79] Letter from British Chiefs to Field Marshall Dill cited in Ibid, 3:1707.

[80] Churchill convinced the Allies to continue operations in the Mediterranean after the fall of North Africa. On July 9, 1943, the Allies invaded Sicily. After two months of hard fighting, they captured the island and positioned their forces for the invasion of Italy. On July 24, the Italian High Command overthrew Mussolini and sought an armistice with the Allies. Hitler quickly ordered the occupation of Italy and moved additional forces south to Italy. On September 9, 1943, Lt. Gen. Mark Clark's U.S. Fifth Army landed at Salerno on the Italian mainland, beginning a long an tough fight up the Italian peninsula. By October 1943, the Allies consolidated southern Italy. The Allies committed two armies to the Italian campaign the British Eighth Army and the U.S. Fifth Army. Throughout the rest of 1943 and the first six months of 1944, the Germans stalemated the Allies in terrain ideally suited for the defense.

[81] Dwight D. Eisenhower, memorandum for diary, August 7-17, 1944, in Chandler, *Eisenhower's Papers*, 3:2057.

The Campaign

The Combined Chiefs directed Eisenhower to "enter the continent of Europe and, in conjunction with other United Nations, undertake operations aimed at the heart of Germany and the destruction of her armed forces."[82] The Allies designed OPERATION OVERLORD to secure the lodgment from which further operations would carry their forces into the heart of Germany. The cross-channel attack was the first and the most critical of the series of major operations that would achieve the strategic objective of defeating Germany in Europe. Planning focused on this immensely complex and detailed undertaking of just getting and staying ashore.

The OVERLORD planners envisioned a secure lodgment area eventually expanding to the Seine River within ninety days of the assault. Eisenhower believed that the Ruhr, Germany's great industrial center, constituted the heart of Germany. To get there, Eisenhower's concept of operations following OVERLORD called for an advance on a broad front with two army groups with the main effort in the north to secure the Belgian ports to sustain the drive. He hoped to complete the destruction of enemy forces west of the Rhine while looking for any opportunities to seize bridges over that river. To take the Ruhr, Eisenhower envisioned a double envelopment in the north and in the south by way of Frankfurt.[83] According to Eisenhower, this plan of campaign was thought out well before the first infantrymen stepped ashore in France. It was certainly consistent

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[82] *Report by the Supreme Commander to the Combined Chiefs of Staff on the Operations in Europe of the Allied Expeditionary Force 6 June 1944 to 8 May 1945* (Washington, D.C.: Government Printing Office, n.d.), vi.

[83] Eisenhower, *Crusade in Europe*, 229.

with the earliest American thinking outlined in BOLERO, but the first, the most important task was to get onto the continent.

By the end of May 1944, the Allies massed 37 divisions, 3,134 aircraft, and 3,601 serviceable landing ships and craft in England. The naval force included six battleships, 22 cruisers, and 93 destroyers.[84] To oppose this armada, the German forces in France had sixty divisions of all types and 400 fighter aircraft, only half of which were available for support in Normandy.[85] The German Navy could offer little serious resistance. Naval forces amounted to two destroyers, 33 operational torpedo boats, and a few smaller patrol craft and minesweepers.[86] German submarines could not operate in the close confines of the channel. German hopes for success depended on the army, but German weaknesses almost fatally handicapped them in precisely the areas the Allies excelled: command and control, logistics, intelligence, and airpower.

In 1942, Hitler appointed Field Marshal Gerd von Rundstedt as the Commander in Chief in the West. Despite the title, Rundstedt only directly controlled Army forces, with only limited control over German SS and Luftwaffe parachute units. The German forces had no joint command or unity of command. As his chief of staff noted after the war, "The chain of command was very complicated and muddled; there was no absolute responsibility as was given to Field Marshal Montgomery or General Eisenhower."[87]

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[84] Figures for serviceable landing craft from Samuel Eliot Morison, *The Invasion of France and Germany 1944-45*, Vol. 11, *History of the United States Naval Operations in World War II* (Boston: Little, Brown and Company, 1957), 57. Figures for the combat forces from *Report by the Supreme Commander*, 8-10.

[85] Harrison, *Cross-Channel Attack*, 266.

[86] Ibid., 261.

[87] Gunther Blumentritt, "Report of the Chief of Staff" in *Fighting the Invasion: The German Army at D-Day*, ed. David C. Isby (London: Greenhill Books, 2000), 20. This book contains the

(See Figure 12) German naval and air forces did not report to Rundstedt and he could only request their cooperation in the defense. In any case, they had little to contribute; the successful defense of the Atlantic Wall depended upon the German Army. The German Army in the West was organized into two army groups. Rommel's Army Group B consisting of the Seventh and Fifteenth Armies defended the channel coast.

Since Rommel's appointment as the commander of Army Group B in December 1943, Rommel did his utmost to physically strengthen German defenses, but the German high command could not agree on the best way to defeat the coming invasion. The debate centered on whether the Germans should conduct a linear or mobile defense. Rommel's experience convinced him that German panzer reserves must be positioned close enough to the invasion beaches to immediately counterattack Allied forces while they were most vulnerable. He believed, "Elements which are not in contact with the enemy the moment of invasion will never get into action, because of the enormous air superiority of the enemy. If we do not succeed in carrying out our combat mission of warding off the Allies or hurling them from the mainland in the first 48 hours, the invasion has succeeded and the war is lost."[88] Rundstedt and General Geyr von Schweppenburg commanding Panzer Group West favored a more conventional mobile defense. The static coastal divisions would attrite and funnel the Allied attack while local reserves would immediately counterattack to fix the enemy until a large-scale counterattack with theater reserves could be mounted to throw the Allies back into the sea. In the end, the Germans

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interviews of senior German commanders taken immediately after the war with regard to the invasion of France.

[88] Rommel quoted by Generalleutnant Hans Speidel in "Ideas and views of Generalfeldmarschall Rommel on Defense and Operations in the West in 1944," Ibid., 43.

German Chain of Command in the West May 1944

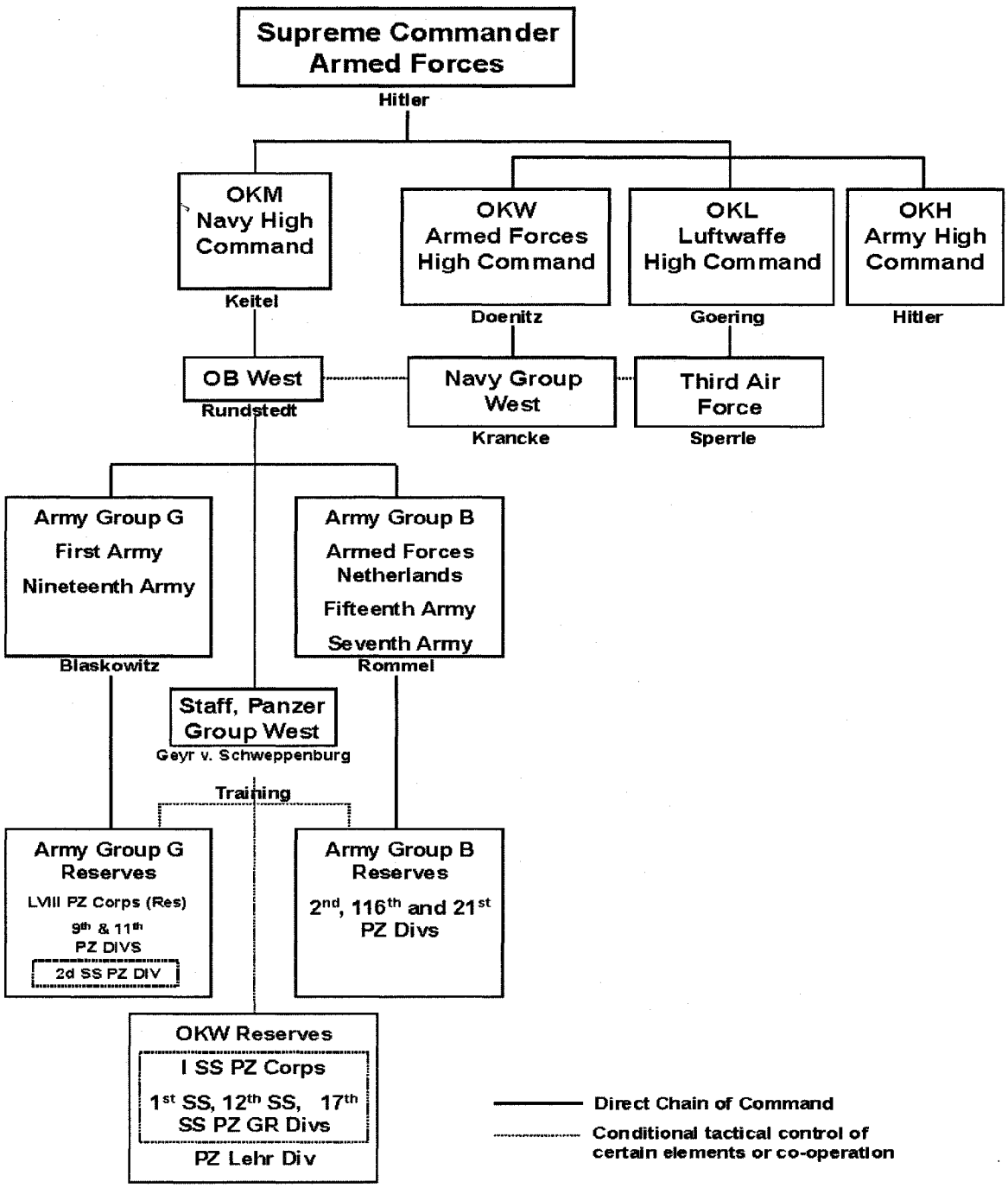

Figure 12. German chain of command in the West, May 1944. Adapted by Marsha Glunt courtesy of the U.S. Army Center of Military History from Harrison, *Cross-Channel Attack*, 244.

adopted a compromise of sorts, driven more by the limited means available than operational theory.

German intelligence was abysmal. Spies in England could gather little information and photo reconnaissance was limited. Logic alone convinced the German high command that the Allies would invade through the Pas de Calais. The Pas de Calais was the shortest route to France and to the Ruhr. [89] The Allied deception plan FORTITUDE reinforced this German misassumption by using Lt. Gen. George S. Patton's fictional First U.S. Army Group as a decoy. Accordingly, Rommel gave his Fifteenth Army covering this area priority in building fortifications and strengthened it with 25 divisions, six of which were panzer divisions. In the Seventh Army covering Normandy, Rommel concentrated nine divisions and one panzer division. In keeping with his belief in defeating the Allies at the water's edge, he moved his local reserves close to the coast. Rundstedt held only three panzer divisions and one panzer grenadier division as a theater reserve. Even to employ these, however, he needed Hitler's express approval. Unhindered and with effective command and control the Germans could still mass considerable force at the vulnerable five assault divisions wherever they might come ashore.

On June 6, the Allies launched OVERLORD. The Germans fought tenaciously with their usual tactical skill. The Allies completely outfought the Germans, however, at the operational level. Thanks to poor German intelligence, the Allies achieved both tactical and operational surprise. The complicated and muddled German command and control inhibited anything other than a tactical response. The high command remained so convinced that the main Allied attack would come in the Pas de Calais, that the first

[89] Blumentritt, "Report of the Chief of Staff," 26.

substantial German reinforcements did not arrive until well past Rommel's estimate of the crucial 48 hours. Aided by the German fixation with the Pas de Calais, the Allies successfully isolated the battlefield with airpower. Rundstedt's chief of staff noted, "The crippled rail net forced us to unload troops and supplies far behind the front and resulted in an extraordinarily long supply line."[90] Another German general asserted more pointedly, "This decisive role [Allied airpower] is not so much to be seen in the support of the Allied landing units, but rather in the fact that all movements of the German forces and their supply troops, were made almost impossible during the day by the Allied air force."[91] Airpower's greatest impact was at the operational rather than tactical level, Eisenhower's insistence on the transportation plan paid handsome dividends.

Schweppenburg agreed that "the supply system depended too much on railroads and on centralized supply depots."[92] The inadequate German supply system also fatally handicapped German defense efforts not only because of Allied attacks on German lines of communication, but also because the German system in general was flawed. General Blumentritt complained that "the unusual command channels in the service of supply made strategic leadership more difficult."[93] Much of this sounds very much like the criticism of American War College students noted in their study of German supply methods in World War I.

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[90] Ibid., 22.

[91] Maj. Gen. Freiherr von Gersdorff, "Preparations Against the Invasion," in *Fighting the Invasion*, 35.

[92] General de Panzertruppen Leo Freiherr Geyr von Schweppenburg, "Preparation by Panzer Gruppe West Against Invasion," Ibid., 77.

[93] Ibid.

Regardless of difficulties in supply or in rushing reinforcements to the front, the tenacious German tactical defense upset the Allied timetable and general plan for expanding the lodgment. The Germans quickly contained the British efforts to break out. Although the Americans took Cherbourg, but the German defenders destroyed the port facilities. The Allies quickly secured the lodgment, the Germans succeeded in containing Allied forces and preventing a breakout. Eisenhower again urged ANVIL as part of the operational solution to prevent a stalemate. Two weeks after D-Day, Eisenhower sent a cable to the Combined Chiefs that argued "It is imperative that we concentrate our forces in direct support of the decisive area of northern France. ANVIL provides the most direct route to northern France where the battles for the Ruhr will be fought."[94]

Eisenhower solicited support from Marshall and British Gen. Maitland Wilson, the Supreme Allied Commander Mediterranean Theater of Operation. Wilson would command ANVIL forces until they physically linked up with Eisenhower's. The slow expansion of the Normandy lodgment helped to overcome British objections. By the time the Allies got round to launching ANVIL, however, the breakout was well underway. The Allies finally invaded southern France on August 15. Two weeks earlier, Operation COBRA provided the long awaited breakout of the Normandy beachhead, signaling a general collapse of the German defense in western France. ANVIL forces quickly drove up the Rhone Valley and in fourteen days effectively destroyed a German army, capturing close to 80,000 prisoners, and more importantly, the ports of Toulon and Marseille. U.S. Gen. Jacob Devers' (GSS 1925, AWC 1933) Sixth Army Group linked up with Bradley's Twelfth Army Group on September 11, 1944. This bold and well

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[94]Dwight D. Eisenhower to Combined Chiefs, June 23, 1944, in Chandler, *Eisenhower Papers*, 3: 1943.

executed operation was characteristic of the American insistence on concentration and concentric attack.

In an ironic stroke, following the breakout in the American sector, the Allies reached the Seine River just slightly over the ninety days stipulated in the original plan. Once past the Seine, the campaign followed the course outlined by Eisenhower prior to the invasion. The Supreme Commander insisted on a broad front strategy making the main effort in the north to secure ports. After arriving at the German border, the Allies secured crossings over the Rhine, enveloped the Ruhr and systematically eliminated German resistance.

Assessment

The American official history of the cross-channel attack noted the difference between Americans and British in strategy. The British took a more opportunistic approach, the Americans took the longer view. The debate on when to return to the continent dominated the strategic discussions between to the two Allies for the first three years of the war. "The British said in effect, 'how can we tell what we should do six months or a year hence until we know how we come out of the next month's action.' The Americans retorted, 'how do we know whether next month's action is wise unless we know where we want to be a year from now."[95] In part, the military planning system established and taught in the advanced American military schools in the interwar years may help to explain this difference. The planning system as taught at the War College for twenty years, insisted that once the national authorities established strategic objectives, a joint plan, followed by a theater plan, must follow. This hierarchical planning system

[95] Harrison, *Cross-Channel Attack*, 94.

ensured that all plans, from the tactical to the operational and the strategic would be nested and harnessed to national objectives.

At the operational level, OVERLORD demonstrated differences in approach and capabilities between the Americans, the British, and the Germans. Marshall and Eisenhower consistently advocated focusing combat power at the decisive point in the decisive theater of operations. Both British and American planners recognized the importance of logistics and airpower, but when decisions had to be made with competing priorities or military views, Eisenhower relied on his military education and hard won experience. His insistence on his prerogatives as a commander, expanding the invasion area in order to ensure the quick capture of Cherbourg, the rail plan, and OPERATION ANVIL, was consistent with principles taught at both Leavenworth and the War College. Eisenhower fundamentally grounded his understanding of operational art in his firm conviction on concentration at the decisive point, leveraging joint power, logistics, and unity of command.

The Allies, of course, made mistakes as well. Martin Van Creveld criticizes the Allied High Command for allowing the logisticians to dominate planning.[96] Russell Weigley and many other historians are quick to point to the failure of the Allies to close the Falaise Gap and thereby miss an opportunity to destroy the German Seventh Army.[97] The Allies, however, did not have to be perfect, only better than the Germans. The

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[96] Martin Van Creveld, *Supplying War: Logistics from Wallenstein to Patton* (London: Cambridge University Press, 1977), 215.

[97] See Russell F. Weigley, "Normandy to Falaise: A Critique of Allied Operational Planning in 1944" in Michael D. Krause and R. Cody Phillips, ed., *Historical Perspectives of the Operational Art* (Washington, D.C.: United States Army Center of Military History, 2005), 408, and Williamson Murray and Allan R. Millett, *A War to Be Won: Fighting the Second World War* (Cambridge, MA: Harvard University Press, 2000), 432.

Germans did not emphasize logistics or intelligence to the degree the Allies did. Eisenhower concluded that "throughout the struggle, it was in his logistical inability to maintain his armies in the field that the enemy's fatal weakness lay."[98] The Supreme Commander credited Allied airpower for this circumstance, but the German Army did not hold logistics in the same high regard as the Americans. The German General Staff system was dominated by the operators. Unlike the American staff system, in which the intelligence, logistics, and operations sections were co-equal, the operations officer was always the senior and dominant staff officer in the German system.[99] This bias did not serve the German Army well when it came to intelligence. As one German general noted, "A weakness of the German Army was the lack of instinct and knowledge in practical intelligence work. In the unwritten tradition of the *Heer*, intelligence work had a slight odor of not being respectable — at any rate, not as important as the work of operational personnel who controlled the fighting."[100] They simply failed to recognize that operational art is more than drawing arrows on a map. It is the ability to project, sustain, and employ force in theaters of operations to achieve strategic objectives.

OVERLORD's success, and in sum, Allied operational success in the entire European theater of war lay in the fact that the Allies simply proved more capable, better at projecting, sustaining, and conducting operations in the theater than their opponents. It was not simply a matter of greater means, but how the Allies used those means. In contrast to the Allies, the Germans proved tactically superb, but operationally inept. Particularly in intelligence, logistics, and command and control, the German

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[98] *Report by the Supreme Commander*, 121.

[99] Hittle, *The Military Staff*, 71.

[100] Schweppenburg, *Fighting the Invasion*, 76.

operational art was flawed. The Allies matched their strengths against German weaknesses, effectively leveraging landpower, seapower, and airpower. This is the essence of modern operational art. Yet, for all its success, American operational art reached its peak, not in Europe, but in the Pacific.

CHAPTER 6

THE PACIFIC WAR

For America, the war began and ended in the Pacific. Unlike American involvement in the war in Europe, the war in the Pacific was long anticipated in both fact and fiction. Homer Lea's *The Valor of Ignorance*, published in 1909, predicted an inevitable war in the Pacific with the Japanese capturing the Philippines, Hawaii, and even portions of the United States western coast.[1] Hector C. Bywater publicly suggested the probable strategies for a Pacific war as early as 1922 in *Sea-power in the Pacific, A Study of the American Japanese Naval Problem.*[2] Three years later, he described the conflict in a novel, *The Pacific War, the Campaign of 1931.* Bywater was not so prophetic in his vision of the war, but expressed forward looking views on the role of naval aviation and the continued reliance on decisive main fleet surface engagements.[3]

The American military had been intellectually preparing for war with Japan since 1906. War Plan Orange, the plan for hostilities with Japan, was the most realistic of the war plans developed in the interwar period. More importantly, an entire generation of

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[1] A colorful character, Homer Lea was born in Colorado in 1876. After attending Stanford University for several years he traveled to China to offer his military services to reform the Chinese government. An associate of Dr. Sun Yat-Sen, he served as a general with Chinese reform forces. His travels through Asia convinced him to write about his perception of the Japanese threat to America. Once published, *The Valor of Ignorance* caught the attention of William Randolph Hearst who reworked Lea's thesis into his yellow journalism approach boosting circulation. Lea died in California in 1912. See Claire Boothe Luce's introduction to Homer Lea, *The Valor of Ignorance*, (New York: Harper & Brothers, 1942).

[2] Bywater assumed the Japanese would strike without warning and seize Guam and the Philippine Islands. He believed they must achieve a decisive naval battle or lose the war. He suggested U.S. strategy would focus on retaking Guam and conducting a distant blockade. He saw a great future for carrier aviation in the vast distances of the Pacific theater. See, Hector C. Bywater, *Sea-power in the Pacific: A Study of the American-Japanese Naval Problem* (Boston: Houghton, Mifflin Co., 1921).

[3] In his fictional account of a future war in the Pacific, Bywater predicted the Japanese would defeat the U.S. Asiatic Squadron, capture the Philippines, mine Hawaiian and west coast waters, and raid Dutch Harbor in Alaska. In this account the U.S. eventually takes Truk, Jaluit, Ponape and threatens Yap (all in the Japanese mandated islands). A decisive naval battle takes place off Yap and following a bloodless air raid on Tokyo, the Japanese sue for peace.

American officers studied and exercised the probable course and requirements for such a conflict with Japan in the senior service colleges. For most of War Plan Orange's existence, it called for a powerful drive across the Central Pacific to relieve the American garrison in the Philippines and progressively obtain bases from which to blockade and defeat Japan. In the smoking ruins of the Pacific Fleet after December 7, 1941, however, the United States found itself without much combat power to even defend its Pacific possessions let alone drive across that vast ocean to threaten Japan. The Japanese attack at Pearl Harbor initiated a series of near simultaneous offensives that within six months led to the capture of Malaya, the Netherlands East Indies, and the Philippines. By July 1942, the Japanese pushed into the Bismarck and Solomon Islands. At the beginning of the Pacific war, the United States assumed a defensive strategy not only out of necessity, but out of choice. Strategic choice, almost unilateral American direction, and the nature of the Pacific theater ensured that the war there would be fought differently than the war in Europe.

The Arcadia Conference held in Washington in December 1941 officially confirmed the Europe first strategy, making the Pacific a secondary theater of war. By March, the Allies agreed on the general strategic responsibilities for the global war. Together, Britain and the United States would oversee the main effort — the European theater of war, but the British had primary strategic responsibility for India and Burma, while the United States assumed strategic responsibility for the Pacific to include China.[4] These basic decisions fundamentally affected how the war in the Pacific would be fought not only strategically, but operationally. In Europe, both Eisenhower and the senior

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[4]Maurice Matloff and Edwin M. Snell, *Strategic Planning for Coalition Warfare 1941-1942*, United States Army in World War II (Washington, D.C.: Center of Military History, 1953), 166.

commander in the Mediterranean theater of operations reported to the Combined Chiefs of Staff, but the senior American commanders in the Pacific reported to the U.S. Joint Chiefs of Staff. The Pacific would largely be an American show. Although in both Europe and the Pacific, senior American leaders and planners shared a common view of staff organization, process, and large-unit operations thanks to their staff and war college experience, the Pacific provided a much better opportunity for the exercise of American operational art. The expeditionary nature of the Pacific theater, with its vast distances and almost unilateral American direction, gave full scope to the development of American operational art as studied during the interwar years.

Unity of Command and Theater Organization

In the War College exercises dealing with the Pacific theater during the interwar period, the students expressed a strong preference for joint staffs with a single theater commander. Joint staffs became a reality, but the effort to develop a single unified command for the Pacific theater ran aground on the rocks of inter-service rivalry as well as senior officer personalities. As Marshall wrote to Douglas S. Freeman, "To one in my position the matter of personalities of higher commanders will always be a major consideration, having far more importance than the blue-print solutions of Leavenworth and the War College would lead the student officers to anticipate."[5] Virtually all senior American military leaders, including the President, understood the advantages of a single

[5] George C. Marshall to Douglas S. Freeman, April 7, 1943, in Bland, *George C. Marshall Papers*, 3: 355.

theater commander.[6] The problem was, who would it be? By the summer of 1942, General MacArthur was a well known public figure cast in a heroic light by his doomed defense of the Philippines and leading the fight against Japan from Australia. Admiral Nimitz (NWC 1923), the new commander of the Pacific Fleet, remained relatively unknown to the public and very junior to General MacArthur. The Army could not ignore MacArthur, but Admiral King, Chief of Naval Operations, would not entrust the Pacific Fleet to an Army officer. In the end, the Joint Chiefs concluded that creating two theaters of operations in addition to the China-Burma-Indian Theater: the Pacific Ocean Areas (POA), with Admiral Nimitz as commander, and the Southwest Pacific Area (SWPA) for General MacArthur. (See Figure 13)

At the end of March 1942, the Joint Chiefs of Staff appointed MacArthur as the Supreme Commander of the Southwest Pacific Area (SWPA). His area of responsibility included Australia, the Bismarck Archipelago, and all of the Netherlands East Indies except Sumatra. MacArthur's designation as Supreme Commander resulted from the inclusion of Australian and New Zealand forces into his command. As an Allied commander, he quickly organized his force into component Allied air, naval and land commands. Initially, Vice Adm. Herbert F. Leary (NWC 1932) commanded SWPA naval forces, Lt. Gen.George Brett (GSS 1930, AWC 1936) commanded the Allied Air forces, and Australian Gen. Sir Thomas A. Blamey commanded the Allied land forces. Unhappy with his air and naval commanders, MacArthur replaced them within a year, with Maj. Gen. George C. Kenney (GSS 1927, AWC 1933) and Rear Adm. Thomas C. Kinkaid (NWC 1930). Throughout the war, MacArthur depended heavily on

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[6] Louis Morton, *The War in the Pacific: Strategy and Command the First Two Years* (Washington, D.C.: Office of the Chief of Military History, 1962), 244.

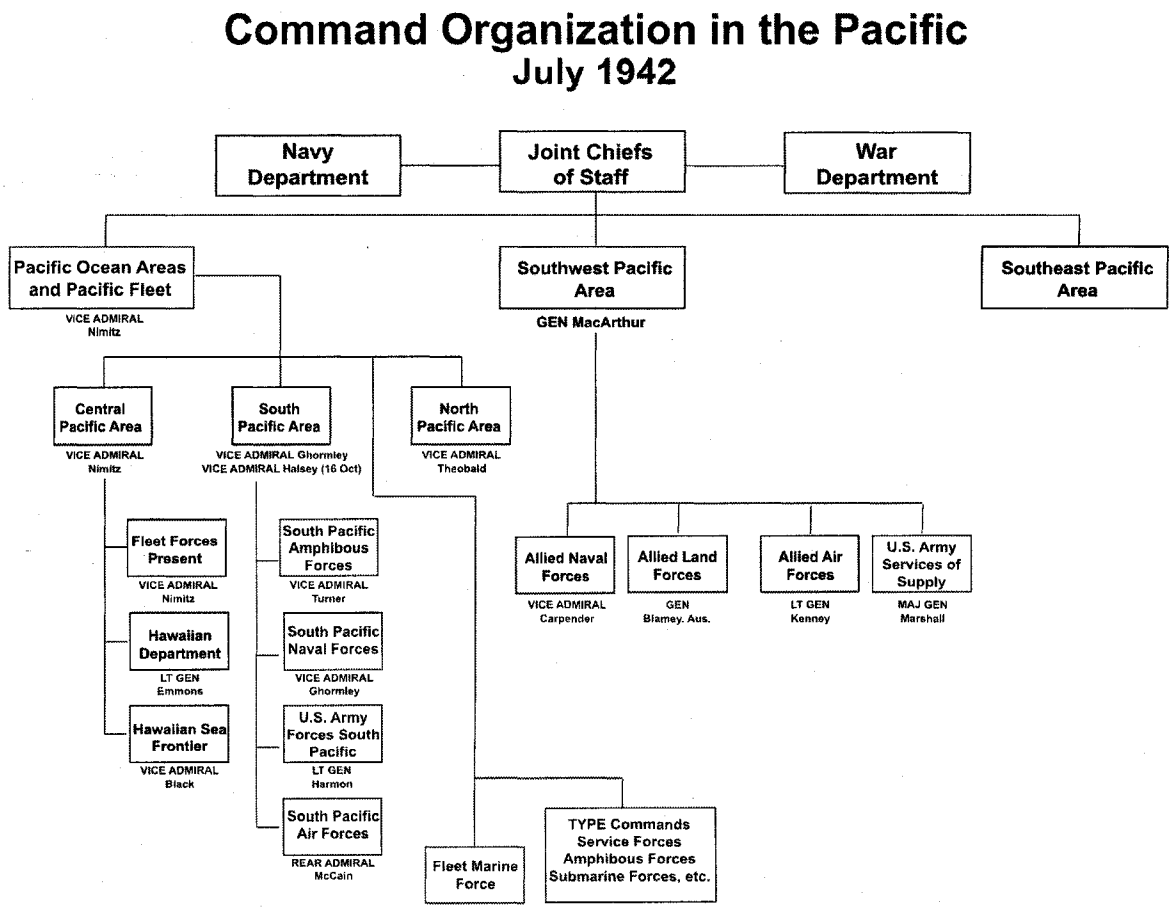

Figure 13. Command organization in the Pacific. Adapted by Marsha Glunt courtesy of the Army Center of Military History from Morton, *Strategy and Command*, 254.

Kenney and Kinkaid, but generally ignored General Blamey. As soon as American Army units began arriving in large numbers, MacArthur began to rely directly on American task forces and units outside Blamey's control.

In January 1943, MacArthur asked Marshall to transfer Lt. Gen. Walter Krueger (GSS 1907, AWC 1921) to the Southwest Pacific, along with a field Army headquarters. MacArthur's command eventually included two American field armies, the Sixth commanded by Kruger and the Eighth under Lt. Gen. Robert L. Eichelberger (GSS 1926, AWC 1930). Kruger, however, became MacArthur's primary land force subordinate. Despite being an Allied commander, MacArthur reported directly to the U.S. Joint Chiefs

of Staff rather than the Combined Chiefs of Staff. Also uniquely, the establishing directive for SWPA insisted the "the Joint U.S. Chiefs of Staff will exercise jurisdiction over all matters pertaining to operational strategy."[7]

At the same time the JCS created MacArthur's command, they appointed Admiral Nimitz as the Commander in Chief of the Pacific Ocean Areas (POA). Nimitz's command included the rest of the Pacific except for the band of ocean off the coast of Central and South America.[8] This area of responsibility was further divided into North, Central and South Pacific areas. Unlike MacArthur, Nimitz did not function as an Allied commander and directly controlled all U.S. forces in the North and Central Pacific areas. He exercised control over the South Pacific area through a subordinate naval commander. Even though there was no single unity of command in the overall theater of war, both Nimitz and MacArthur exercised unity of command in their respective areas of responsibility.[9]

Many of the commanders in the Pacific and, certainly, most historians of the Pacific campaigns criticized the failure to unify the command under a single theater commander.[10] Clearly, inter-service rivalry and personality conflicts provided root causes for this failure. If national rivalry between British and American officers plagued Eisenhower, U.S. inter-service rivalry plagued the Pacific theater. MacArthur was deeply

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[7] Directive to the Supreme Commander in the Southwest Pacific Area (CCS 57/1) March 30, 1942, contained in Appendix C, Morton, *Strategy and Command.*

[8] Ibid., 249.

[9] Directive to the Commander in Chief of the Pacific Ocean Area (CCS 57/1) March 30, 1942, contained in Appendix D., Ibid., 617.

[10] Ibid., 250. Also see Ronald H. Spector, *The American War With Japan: Eagle Against the Sun* (New York: Free Press, 1985), 145.

suspicious of the Navy.[11] Admiral King, Chief of Naval Operations, rightly considered the Pacific a maritime theater and firmly believed the Navy should run the show. With regard to the Army, Marshall tried to suppress inter-service rivalry by edict and personal example.[12] If the theater had to be separated into naval and Army areas of responsibility, the question was how to make it work? Much as anticipated in the interwar college exercises, the solution lay not just in the ultimate goodwill of senior commanders, but the development of joint staff organizations and planning.

Development of Joint Staff Planning

In Europe, Eisenhower as Supreme Commander could make major operational decisions and shift resources — although carefully, under the eyes of the Combined Chiefs of Staff. Even though a Supreme Commander, national and political considerations shaped and limited Eisenhower's exercise of theater command in coalition warfare. In the Pacific, certainly Nimitz, and to a lesser degree, MacArthur, were less constrained than Eisenhower in this regard. For the Pacific theater, the Joint Chiefs of Staff balanced the needs of global war and reserved the right to not only to make theater strategic decisions but even the major operational decisions. The JCS left the conduct and detailed planning of operations to the American commanders in theater, but it

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[11] Gen. Thomas Handy recalled in later years, "MacArthur hated the Navy. Practically accused them of running off and leaving him, and they never forgave him. General Marshall said one time, and the Navy just threw a fit, when the question of unified command out there was raised, "If we set up a unified command, the commander can't be anybody but MacArthur on the basis of pure competence alone. That was the word he used. And I think it was the truth, but it wouldn't work, they wouldn't agree to it and, after all, the United States Navy was in the war." Gen. Thomas T. Handy, Interviewed by Lt.Col. Edward M. Knoff, *Senior Officer Oral History Program*, Vol. 2, 1974, 35. USAMHI.

[12] Marshall wrote in a memorandum to the Army's senior commanders, "It is apparent that vigorous action must be taken to suppress service jealousies and suspicions." Memorandum for Higher Commanders, September 11, 1942, in Bland, *The Papers of George C Marshall*, 3: 355.

participated in the campaign planning for the Pacific in both a directive and collaborative fashion. Historians often overlook the role of the JCS staff planners in shaping the Pacific campaigns. Strategic and operational direction of the Pacific was a collective enterprise, as MacArthur and Nimitz put forward recommendations and the JCS deliberated and decided after considering their own operational concepts. The Joint Chiefs, and Marshall in particular, quickly realized that modern war on a global expeditionary scale required joint staffing for realistic planning.

Curiously, the initial impetus for improved joint staff planning came about not from a desire to better prosecute the war against the Axis, but to more effectively compete in the councils of strategy with American Allies. Within a month of the U.S. entry into the war, the Allies agreed to form the Combined Chiefs of Staff to provide for military cooperation with the British. The U.S. Joint Chiefs of Staff appeared soon there after, though without any formal charter or directive detailing its functions or responsibilities. The Army and the Navy agreed to organize a small Joint Staff to support the Joint Chiefs and provide representation on the Combined Planning Staff. This small staff included a Joint Intelligence Committee and a Joint Planning Staff (JPS). (See Figure 14) The Joint Planning Staff consisted of an Army, a Navy, and an air planner. A Joint U.S. Strategic Committee integrated from the old Joint Board supported the Joint Planning Staff (JPS) for detailed studies. In comparison to the longer established British planning system, the initial American attempt at joint planning demonstrated many shortcomings.

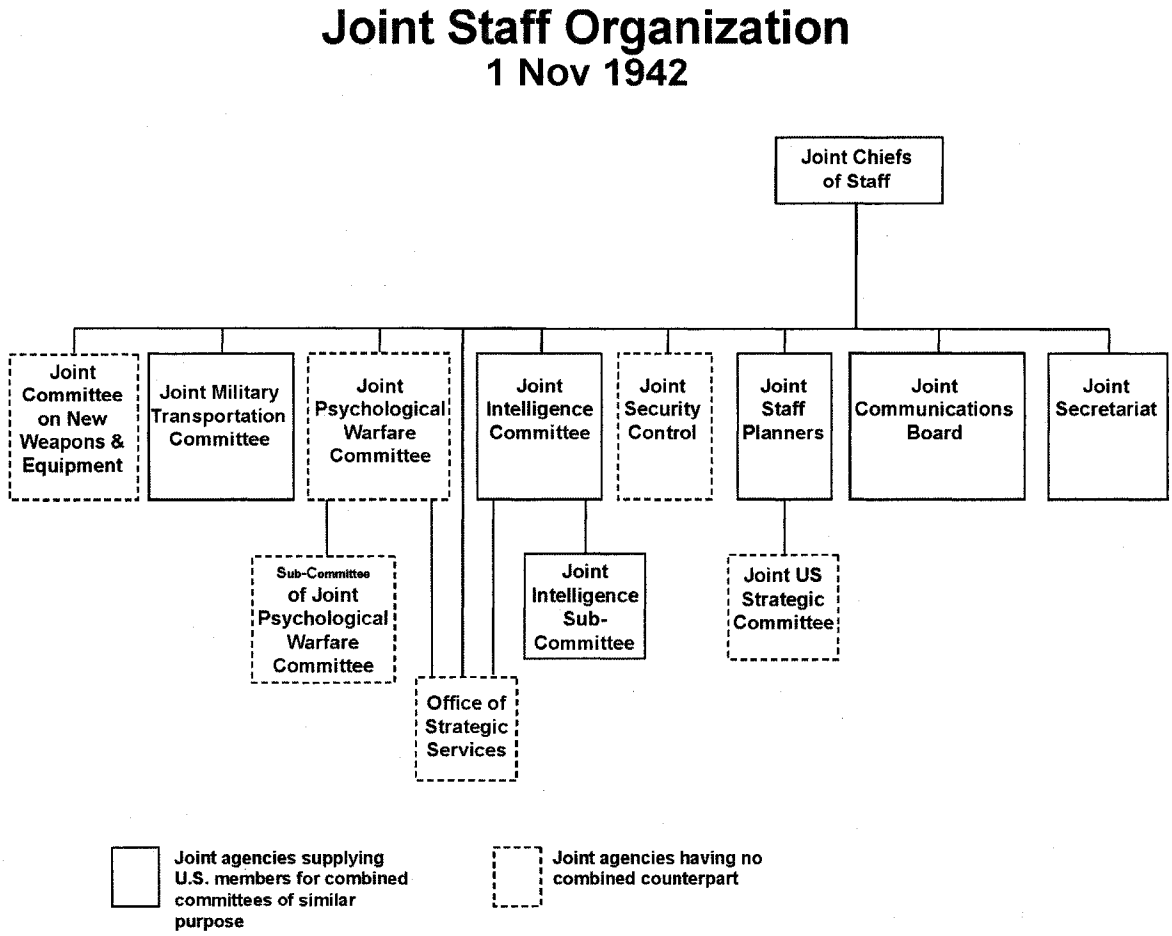

Figure 14. Joint Staff Organization November 1942.
Adapted by Marsha Glunt from *A Concise History of the Organization of the Joint Chiefs of Staff 1942-1978* (Washington, D. C.: Joint Chiefs of Staff History Office, 1979).

In April 1942, Brig. Gen. Albert C. Wedemeyer (GSS 1936) became the Army planner on the Joint Planning Staff. Wedemeyer accompanied General Marshall to the Casablanca Conference in early 1943. Marshall believed the Casablanca Conference was crucial to move the Allied focus from the Mediterranean to the invasion of France. The British were much better prepared to present their case. Wedemeyer noted the presence of "swarms of British officers of all ranks, representing the three services." He identified several "weaknesses in the planning work of the American staff: we lacked pre-prepared

studies, and were forced to rely on memory."[13] In a letter to Maj. Gen. Tom Handy, Chief of OPD, Wedemeyer paraphrased Julius Caesar to complain: "We came, we listened, and were conquered."[14] Gen. Joseph T. McNarney (GSS 1926, AWC 1930), Marshall's Deputy Chief of Staff, agreed and recommended a committee to provide a thorough study of the Joint Chiefs and all its subordinate agencies.[15]

The special committee reported in March 1943, and the JCS adopted its recommendations. The reforms included the creation of Joint War Plans Committee (JWPC), a Joint Logistics Committee (JLC), and a reorganized Joint Intelligence committee (see Figure 15). The JWPC was at the heart of the Joint Chiefs' strategic and operational planning. The JCS directed the Joint War Planning Committee to make sure "all studies of combined action and joint war planning should be undertaken by joint action from the time the studies or war plans are initiated."[16] In other words, war plans should be born jointly. From the time it was established until the end of the war, this committee produced over 1,000 studies and plans. The JWPC studies covered every major strategic decision and every major operation. Not surprisingly, these studies took the form of staff studies as taught at Leavenworth.[17] The Staff School taught the basics of the military problem solving process, and this process provided a systematic way to analyze and solve the complex problems of modern global war. The operational art and

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[13] *Wedemeyer Reports!*, 175, 192.

[14] Ibid.

[15] Cline, *Washington Command Post*, 237

[16] Directive quoted in Cline, *Washington Command Post*, 240.

[17] See *Records of the Joint Chiefs of Staff*, Part I, 1942-1945: Pacific Theater (Frederick, MD: University Publications of America, 1981), Reel 13, USAMHI.

campaign planning taught at the war colleges, likewise, provided method, format, and insight into developing the operational plans drafted by the Joint Chiefs.

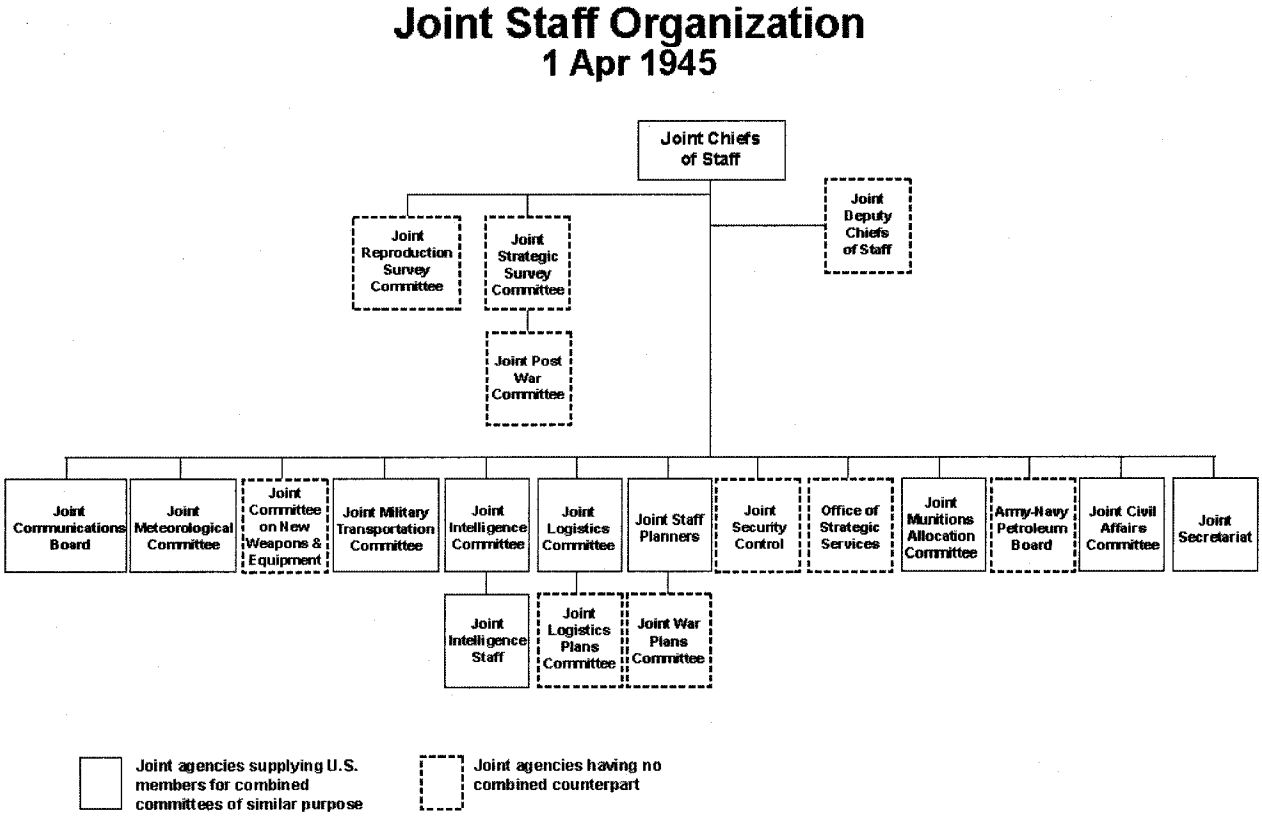

Figure 15. Joint Staff organization after reorganization.
Adapted by Marsha Glunt from *A Concise History of the Organization of the Joint Chiefs of Staff 1942-1978* (Washington, D. C.: Joint Chiefs of Staff History Office, 1979).

Supported by the Joint Intelligence and Logistics Committees, the JWPC developed operational outline plans for all the major operations in the Pacific theater. Inasmuch as the theater commanders worked directly for the Joint Chiefs, this joint planning played a crucial role in the development of the final operational plans. The JWPC developed incredibly detailed plans. For example, the JWPC outline plan to recapture the Philippines ran to over 100 pages of analysis and planning. The campaign

plan was phased, major operations sequenced and timed. The plan included a political and economic estimate, and detailed relief maps.[18] The outline plans routinely included detailed logistic and intelligence estimates provided by those committees. In summary, these plans in form and format followed the interwar methodology as taught in the service schools and colleges.

The Joint Logistics Committee provided expertise to both the Joint Planners and the Joint Chiefs. The committee advised "the joint staff planners in the consideration and preparation of joint war plans as to the logistic aspects of such plans in order that the Joint Staff Planners may insure the integration of logistics with strategy in joint war plans."[19] The planners were keenly aware of the overriding importance of logistics in waging global war. The JLC kept the Joint Chiefs informed on the "logistic implications of proposed U.S. commitments relating to joint and combined operations."[20] Utilizing a parallel structure to the Joint War Plans Committee, the JLC created the Joint Logistics Planning Committee to prepare detailed logistic plans and studies. The structure of the joint planning staff in Washington highlighted the American recognition of the importance of jointness, logistics, and intelligence at the highest levels.

The joint planning in Washington did not duplicate planning efforts in the theater. The Joint Staff Planners developed outline plans for future operations. They provided the Joint Chiefs with an informed way to adjudicate resources, evaluate proposals from the theater, and direct operations in the Pacific. For Nimitz and MacArthur's staffs, the

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[18] Joint Staff Planners, Operations to Recapture the Philippine Islands, September 24,1943, *Records of the Joint Chiefs of Staff*, Part I, Pacific Theater, Reel 12, USAMHI.

[19] Cline, *Washington Command Post*, 264.

[20] Ibid.

detailed work of the joint planners provided an excellent starting point and wealth of information. Most important, the joint work accomplished in Washington provided for U.S. service consensus on the major decisions facing the President, the Allies, and the theater of operations commanders. The mechanism of joint planning developed in Washington shaped and directed the campaigns in the Pacific beginning in 1943.

Joint planning in Washington alone could not overcome the potential friction and failure that might be generated by inter-service rivalry in theater. Final planning and conduct of operations required a good deal of cooperation both between and within the separate theaters of operation in the Pacific. The very nature of the Pacific theater demanded more intimate cooperation between land, sea, and air forces than in Europe. Nimitz's Pacific Ocean Area required Army garrisons, engineers, and logistics for captured islands in its drive across the Central Pacific. MacArthur, obviously, could go nowhere in the Southwest Pacific without the Navy, and everybody needed airpower, both land-based and carrier aviation. The development of joint staffs and joint operations in the Pacific theater varied according to the service and the personalities of the commanders.

In reluctant compliance with a presidential order, General MacArthur left the Philippines before their capture in March 1942 in order to organize Allied defenses in Australia. He took with him fifteen members of his staff, including Maj. Gen. Richard K. Sutherland (GSS 1928, AWC 1933), his chief of staff, and Col. Charles A. Willoughby (GSS 1931, AWC 1936), his G-2. Brig. Gen. Stephen J. Chamberlin (GSS 1925, AWC 1933) and Col. Lester J. Whitlock (GSS 1928), already in Australia, served as MacArthur's G-3 and G-4, respectively. The President suggested to Marshall that a few

senior Australian or Dutch staff officers might be welcome. Marshall passed the suggestion, but MacArthur replied that there were no "qualified Dutch officers present in Australia and that the Australians with a rapidly expanding army did not have nearly enough staff officers to meet their own needs, let alone to serve on his staff."[21] Marshall also pushed for a more joint staff in the Southwest Pacific, but MacArthur stuck to a traditional Army staff only modestly integrated with his Allies and the Navy.

Admiral King and General Marshall recognized the need for joint staffs and a clearer definition of unity of command in the theater. In April 1943, the JCS published a directive on "Unified Command for U.S. Joint Operations." This directive set the pattern for U.S. joint operations for the rest of the war and beyond. The directive unequivocally stated that joint force commanders' "responsibilities are the same as if the forces involved were all Army or all Navy." In practice, this meant joint force commanders assigned missions to subordinate forces but kept their involvement in administration to a minimum and left military discipline up to the respective service. Most important, "a joint staff of appropriate size will be organized to assist the Joint Force Commander. It will comprise representatives of each of the several component parts of his force in such a manner as to insure an understanding of their several capabilities, needs and limitations, together with the knowledge essential to maximum efficiency in integration of their efforts."[22] Progress in providing more joint representation was slow on MacArthur's staff. By April 1944, MacArthur reported he had twelve naval and two Marine officers on

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[21]Samuel Milner, *The War in the Pacific: Victory in Papua,* United States Army in World War II (Washington, D.C.: Center of Military History, 1957), 23.

[22] Joint Chiefs of Staff Directive: Unified Command for U.S. Joint Organizations, April 20, 1943 in Appendix L, Morton, *Strategy and Command,* 642.

his staff with two more on the way.[23] Jointness in MacArthur's command was achieved through staff coordination, and primarily through the interaction of his subordinate commanders.

Admiral Nimitz's path to joint staffing was more complete, but indirect. Until 1943, as commander of the Pacific Fleet, Nimitz had a well established naval staff, but no separate joint staff as a unified commander of the Pacific Ocean Area.[24] General Marshall assigned Army officers to Navy staffs, both in the Central and South Pacific areas to look after Army interests and assist in operations. Marshall also designated Lt. Gen. D. C. Emmons (GSS 1934), and later Lt. Gen. Robert C. Richardson, Jr. (GSS 1924, AWC 1934), to be Nimitz's Army component commander, responsible for providing and administering all Army assets operating under Nimitz.[25]

Army concerns over logistics renewed Marshall's interest in providing Nimitz with a joint staff. Brig. Gen. Edmond H. Leavey (GSS 1938), an Army logistician, assigned to the Pacific Fleet's supply service wrote a blistering letter to his former boss, Gen. Brehon Somervell (GSS 1925, AWC 1926), Commanding General Army Services Forces. Leavey soundly criticized the lack of a true theater staff and noted, "there was no section or officer in Nimitz' headquarters or elsewhere either designated for or capable

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[23] George C. Marshall to Ernest J. King, memorandum, April 10, 1944, in Bland, *The Papers of George C. Marshall*, 4: 393.

[24] The JCS directive mandating joint staffs for unified commanders "will not function in a dual capacity as joint force commander and as commander of a component of his force, unless so directed by the Joint Chiefs." King argued that the JCS established Nimitz as Commander of POA knowing that he was already commander of the Pacific Fleet as well. Morton, *Strategy and Command*, 477.

[25] Emmons and later Richardson commanded the Hawaiian Department. On August 14, 1943, the War Department activated U.S. Army forces in the Central Pacific Ocean Areas under General Richardson to specifically command and administer all Army forces in Nimitz's theater of operations. The War Department redesignated Richardson's command as U.S. Army Forces, Pacific Ocean Areas on August 1, 1944. Cline, *Washington Command Post*, 378.

of, coordinating and controlling the Service of Supply activities in the theater."[26] Leavey's reports and others on the same subject reached Marshall. Marshall pressed King. Naval planners in Washington had already begun to study the problem, even requesting information on Eisenhower's joint and combined organization.[27] On September 6, 1943, Nimitz pre-empted further discussion by announcing the formation of a joint staff. Nimitz appointed Navy officers for the operations and plans sections, while Army officers filled in as chiefs of the intelligence and logistics staff sections, the later officer being Brig. Gen. Leavey. (See Figure 16)

Nimitz's joint staff represented a significant step forward in American operational art, yet like with MacArthur, jointness in the conduct of operations largely depended upon his component commanders. Both MacArthur and Nimitz's theaters of operations provide excellent examples of the development of American operational art in the planning and conduct of operations in World War II. For MacArthur, the defining moment of his service in the war was his triumphant return to the Philippines. In fact, the Philippines Campaign was the largest and most decisive campaign in the Pacific War. In Nimitz's area of responsibility, the Central Pacific, OPERATION ICEBERG, the Battle for Okinawa, provided the final expression of American operational art in World War II.

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[26] Quoted in Morton, *Strategy and Command*, 491.

[27] George C. Marshall to Ernest J. King, memorandum, April 10, 1944, in Bland, *Papers of George C. Marshall*, 4: 393. Also see Morton, *Strategy and Command*, 498-500.

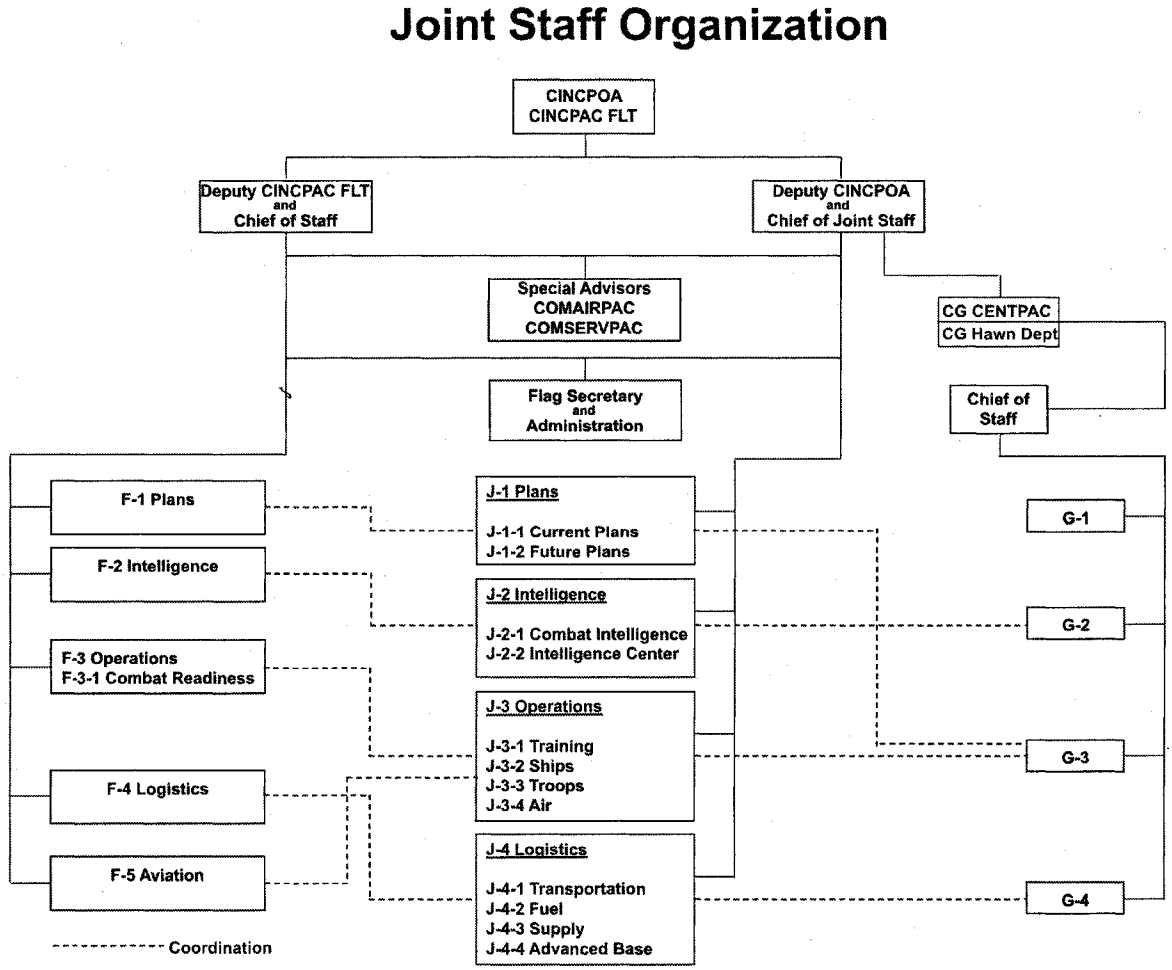

Figure 16. Admiral Nimtz's Pacific Ocean Areas Joint Staff. Adapted by Marsha Glunt courtesy of the U.S. Army Center of Military History from Morton, *Strategy and Command*, 497.

Return to the Philippines

The Japanese pressed their advantage for most of 1942. In July, Imperial forces expanded into the Solomons and New Guinea. Following the Battle of Coral Sea in May and the clear Japanese defeat in the Battle of Midway in June, American forces began to assume limited offensive operations. Nimitz's forces in the South Pacific contested Japanese advances at Guadalcanal in the Solomon Island chain, and MacArthur attacked the Japanese in New Guinea. Tactical opportunism within a general defensive theater strategy characterized early American efforts. By early 1943, the Americans were no

longer interested in just defending in the Pacific. In May, the Joint Chiefs approved a general strategic plan for the defeat of Japan.

That JCS "Strategic Plan for the Defeat of Japan" proposed recapturing Burma, the Philippines, and "an overwhelming air offensive against Japan from bases in China."[28] In keeping with the formula of the old War Plan Orange, the planners favored progressively developing bases from which American air and seapower could isolate and destroy Japanese war-making capacity, followed by an invasion only if necessary. General Hap Arnold especially wanted to obtain bases for the new long range B-29 bombers. He remained convinced these new instruments of airpower could subject Japan to the kind of bombing necessary to win. The debate centered on which line or lines of operations best suited Allied strategic and operational needs. By 1944, three options became apparent: bomb Japan into submission from air bases along the China coast, advance from the Southwest Pacific through the Philippines, or advance in line with the old War Plan Orange through the Central Pacific.

Both MacArthur and Nimitz agreed in their recommendations for 1944 that the Philippines should be re-taken, at least in part. MacArthur's Plan RENO III, submitted to Marshall in October 1943, provided for a five-phase campaign plan leading to the invasion of Mindanao, the southernmost of the Philippine Islands. [29] The Joint Staff Planners studied these recommendations and agreed that Mindanao was necessary as a base to neutralize Japanese air power on Luzon, the major and most important island in

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[28] Joint Chiefs of Staff Memorandum, Strategic Plan for the Defeat of Japan, May 19, 1943 (JCC 287/1) contained in Appendix M, Morton, *Strategy and Command,* 645.

[29] Headquarters, SWPA, RENO III: Outline Plan for Operations of the Southwest Pacific Area 1944. USAMHI.

the Philippines. The planners' eyes, however, were fixed on Formosa as the prize that would yield the greatest operational advantage due to its proximity to both China and Japan.[30] The Joint Chiefs made their decision and issued instructions to their Pacific theater commanders on March 12, 1944. This directive informed Nimitz and MacArthur "that the most feasible approach to the Formosa-Luzon-China area is by way of Marianas-Carolines-Palau-Mindanao area."[31] The JCS charged MacArthur to occupy Mindanao with a target date of November 15, 1944, "preparatory to a further advance to Formosa either directly or via Luzon."[32] Furthermore, planning responsibilities for Formosa fell to Nimitz while MacArthur planned for an invasion of Luzon, if required.

At last the JCS ordered MacArthur to return to the Philippines, but only in part. MacArthur argued passionately to both President Roosevelt in person and to the Chiefs of Staff through his representatives for an invasion of Luzon.[33] The Joint Chiefs debated the wisdom of bypassing Luzon for Formosa. Formosa may have been strategically the best option, but after further study it appeared operationally impractical. For Nimitz to take Formosa, he would need U.S. Army troops, lots of them. The Joint Logistics Committee and Army planners estimated that Nimitz would need between 77,000 and 200,000 service troops to build and maintain the air bases and infrastructure. The Army planners

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[30] Joint Staff Planners, "Future Operations in the Pacific," March 10, 1944, *Records of the Joint Chiefs of Staff*, Reel 9, USAMHI.

[31] Radio Nos. 5171 and 989 to Douglas MacArthur and Chester W. Nimitz, March 12, 1944, in Bland, *Papers of George C. Marshall*, 4: 336.

[32] Ibid.

[33] MacArthur met with President Roosevelt and Admiral Nimitz in Pearl Harbor on July 10, 1944. No decision was made at the time of the conference, and there is debate among historians about whether MacArthur actually persuaded FDR to approve his return to Luzon. Apparently, MacArthur did persuade Admiral Leahy of his point of view which carried great weight with the other Chiefs of Staff. Larrabee, *Commander in Chief*, 344.

calculated this could not be obtained until troops could be transferred from the European theater. MacArthur, however, could invade Luzon before the end of 1944 with the troops on hand.[34] On October 3, 1944, just weeks before the return to the Philippines, the JCS authorized MacArthur to invade Luzon. MacArthur's staff completed the final planning for the largest operation in the Philippines while the campaign was already underway.

Campaign Planning

The campaign plan to liberate the Philippines reflected some of the best practices studied in the interwar years, as well as the hard earned experience gained from two years of war in the Pacific. MacArthur had long planned to return to the Philippines. He submitted his first RENO plan for that purpose in February 1943. The Southwest Pacific planners constantly updated the RENO series of plans to reflect the evolution of the Joint Chief's decisions on Pacific strategy. MacArthur submitted the last of the RENO plans, RENO V, to the Joint Chiefs in June 1944. The campaign plan provided for a series of major operations leading to the reoccupation of the Southern and Northern Philippines. The plan adhered closely to the JCS directive of March 1944. The overall strategic objective was to penetrate into the Formosa-Luzon-China area to "establish bases for a final assault upon Japan."[35] The JCS assigned the operational objective to MacArthur's forces to occupy Mindanao in order to establish "air forces to reduce and contain

[34] Robert Ross Smith, "Luzon Versus Formosa" in *Command Decisions*, Kent Roberts Greenfield, ed. (Washington, D.C.: Center of Military History, 2000), 471, 472.

[35] Headquarters, SWPA, RENO III: Outline Plan for Operations of the Southwest Pacific Area 1944. USAMHI

Japanese forces in the Philippines preparatory to a further advance to Formosa, either directly or via Luzon."[36]

The campaign mutually leveraged airpower, seapower, and landpower. The key element in the scheme of maneuver depended on airpower — extending the reach of land based bombers through the occupation of successive bases. Airpower also protected the flanks of the SWPA drive, and in combination with seapower delivered the ground forces. Ground forces would "displace forward by water and air, covered by naval and air forces, to seize and establish air bases in each successive objective." [37] The plan called for bypassing or neutralizing enemy strength "by air, land, and sea action."[38] The planners organized the campaign into four phases, all sequenced and timed, ending in the invasion of Luzon by January or February 1945. (See Figure 17)

Once the JCS approved RENO V, MacArthur quickly produced a more detailed campaign plan, MUSKETEER, that dealt solely with operations in the Philippines. Like the RENO plans, MUSKETEER went through several iterations. The MUSKETEER plans directed a series of major and minor operations to complete the liberation of the Philippines. The planners codenamed the major operations KING, LOVE, MIKE, and VICTOR. In KING ONE, Southwest Pacific forces would secure Saragani Bay in southern Mindanao by November 15, 1944, and in KING TWO secure Leyte on December 20. OPERATION LOVE was designed to seize bases in Central Luzon in January and February. OPERATION MIKE would capture key positions and secure

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[36] Ibid.

[37] Ibid.

[38] Ibid.

Luzon in April and May. Finally, OPERATION VICTOR would destroy bypassed enemy garrisons and free the rest of the Archipelago.[39]

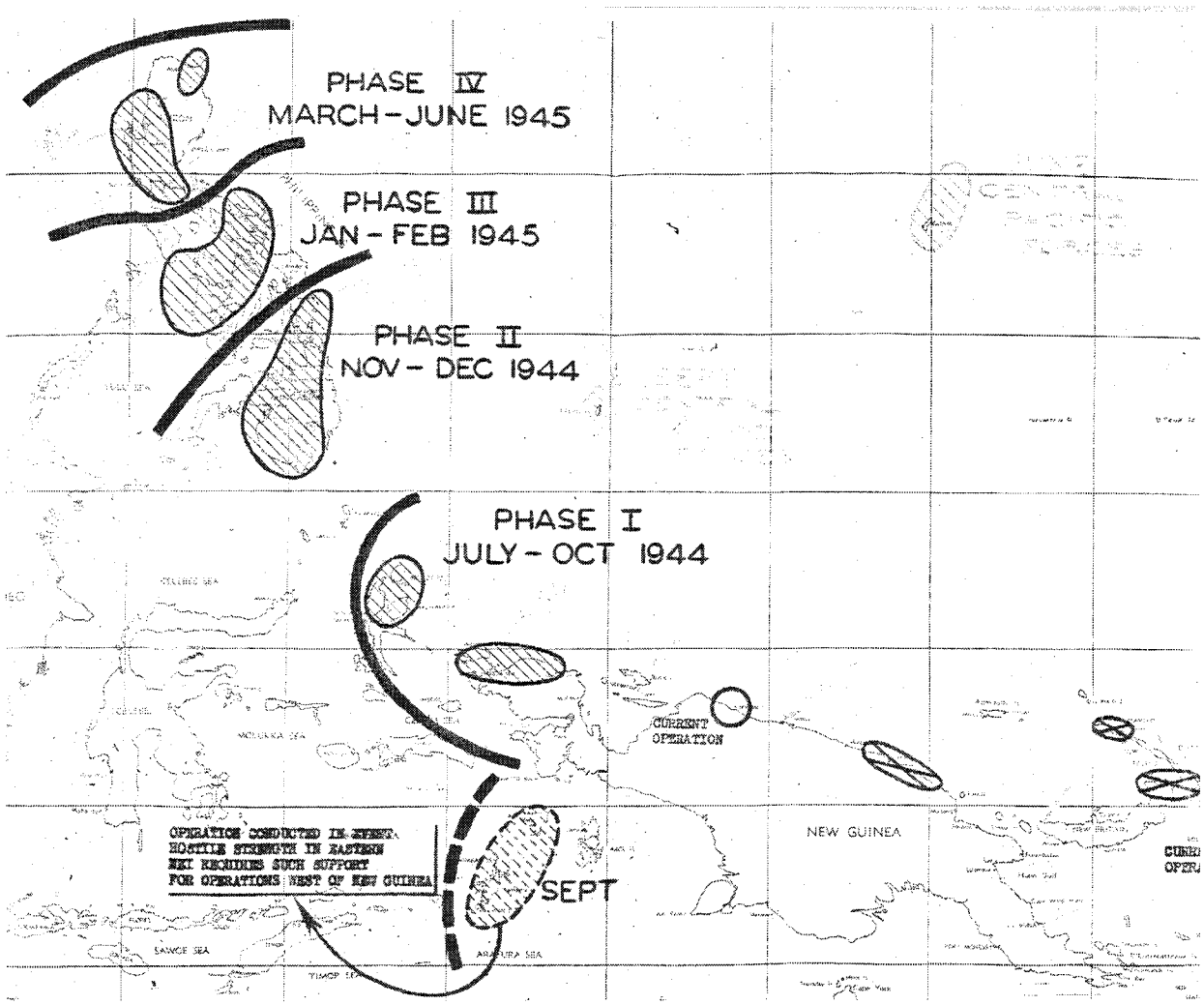

Figure 17. Concept of operations sketch for Outline Plan RENO V. Source: Outline Plan RENO V dated June 1, 1944, USAMHI.

While MacArthur planned his return to the Philippines, both his forces and Nimitz's Central Pacific forces maintained continuous pressure on the Japanese. MacArthur advanced on the island of Morotai just north of New Guinea and ever closer to the Philippines. This shaping operation was designed to keep extending the

[39] *The Campaigns of MacArthur in the Pacific*, Vol. 1, *Reports of General MacArthur*, Prepared by his General Staff, (1950; repr., Washington, D.C.: Center for Military History, 1994), 170.

operational reach of MacArthur's air component, the Fifth Air Force. Nimitz's Central Pacific forces took Saipan, Guam, and Tinian in the Marianas between June and August. In a coordinated move with MacArthur's assault on Morotai, Nimitz's forces struck at Pelelieu in the Palau Islands. In support of these operations, Halsey's Third Fleet fast carriers attacked Yap and swept the Philippine coast from September 7 to 14. Halsey encountered little resistance, and immediately recommended to Nimitz that his planned attack on Yap should be cancelled and MacArthur should by-pass Mindanao and advance directly on Leyte.

Nimitz agreed and relayed these recommendations to the Joint Chiefs of Staff then meeting with the Combined Chiefs at the Quebec Conference. Nimitz offered not only to cancel the planned operation to Yap, but to loan MacArthur the Army's XXIV Corps, then loading at Pearl Harbor for that operation. Marshall immediately sent a message to MacArthur requesting his views. MacArthur was unavailable, aboard ship and enroute to observe the Morotai landing under radio listening silence. No doubt with some trepidation, his chief of staff, Maj. Gen. Richard K. Sutherland, accepted the proposed change in operations in MacArthur's name. Sutherland's message reached the Chiefs while they were attending a formal dinner for the Canadian Prime Minister. They excused themselves from dinner and deliberated in another room. Within an hour and a half the Chiefs ordered Nimitz and MacArthur to cancel the intermediate operations and invade Leyte on October 20.[40] This extraordinary example of strategic and operational flexibility advanced the war in the Pacific by thirty days and changed the direction of the campaign.

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[40]Larry I. Bland, ed., *George C. Marshall Interviews and Reminiscences for Forrest C. Pogue*, (Lexington, VA: George C. Marshall Foundation, 1996), 568.

In keeping with the new decision to bypass Mindanao, MacArthur updated his plans. His staff published the final version of MUSKETEER III on September 28, 1944. Like previous plans, this version took the form of the five paragraph field order, but included assumptions on both friendly and enemy forces. This plan reflected the decision not only to bypass Mindanao and go straight to Leyte, but the Joint Chiefs decision to invade Luzon. The plan listed two operational objectives: occupation of the Manila-Central Plain area of Luzon and the establishment of bases as directed by the Joint Chiefs in support of further operations against Japan. The plan also listed the ultimate or strategic objective to "re-establish and defend the constituted government of the Philippine Islands."[41]

The campaign plan retained most of the major operations identified in the earlier versions of the plan. These major operations included a preliminary operation to seize Mindoro (LOVE THREE) and several contingent operations. The main effort (MIKE ONE) called for an amphibious assault at Lingayen Gulf and overland operations through the Central Plain to Manila by Krueger's Sixth Army. One of the contingency operations (MIKE TWO) directed a landing at Dingalen on the eastern coast of Luzon by Lieutenant General Eichelberger's Eighth Army. This contingency operation would be executed "if required to turn the eastern flank of hostile defense force in the northern Central Plains or exploit southward."[42] An excellent example of operational art, the final campaign plan included a series of timed, phased, even contingent major operations to secure operational and strategic objectives in the theater.

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[41] General Headquarters Southwest Pacific Area, Basic Plan for MUSKETEER III Operations, USAMHI.

[42] Ibid.

The RENO and MUSKETEER campaign plans looked beyond immediate operations to forecast future operations. They served as "a guide covering the larger phases of allocation of means and of coordination between projected operations of Southwest Pacific forces."[43] MacArthur's headquarters also published more detailed operational instructions. These operations orders provided the necessary details to allow MacArthur's subordinate commanders to complete their own tactical plans. These major operation orders also took the form of the five-paragraph field order developed during the interwar period. The orders included tasks for each of the components — land, air, and sea. In both the instructions for Leyte and Luzon, the theater services of supply (USASOS), the organization responsible for logistics, was treated as a major separate component. Ultimately, the Services of Supply would take responsibility for base infrastructure, but the operations plans specifically tasked Krueger's Sixth Army "to initiate the establishment of naval, air and logistic facilities for the support of subsequent operations."[44] Landpower would be used to build air and sea bases, so that jointly all elements of the theater commander's combat power could be brought to bear. (See Figure 18)

Just as planning was a collective enterprise between the Joint Staff and the theater staffs, it was also a collective effort at the theater level. After publication of the RENO plan in June, MacArthur's headquarters held a series of planning meetings in Brisbane, Australia, with the component planners from July 20 to August 6, 1944. For two weeks, Allied air, naval, and ground planners met to hammer out requirements and coordinate

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[43] Ibid.

[44] See Operations Instructions Number 70, dated September 21, 1944 and Operations Instructions Number 73, dated October 12, 1944, Stephen J. Chamberlin Papers, Box 3, USAMHI.

their efforts. Following the conference, each component headquarters made its own detailed plans and issued its tactical plans.[45] By the end of September, the campaign plan, the major operations plan for Leyte, and the component tactical plans were finalized. All that remained was execution.

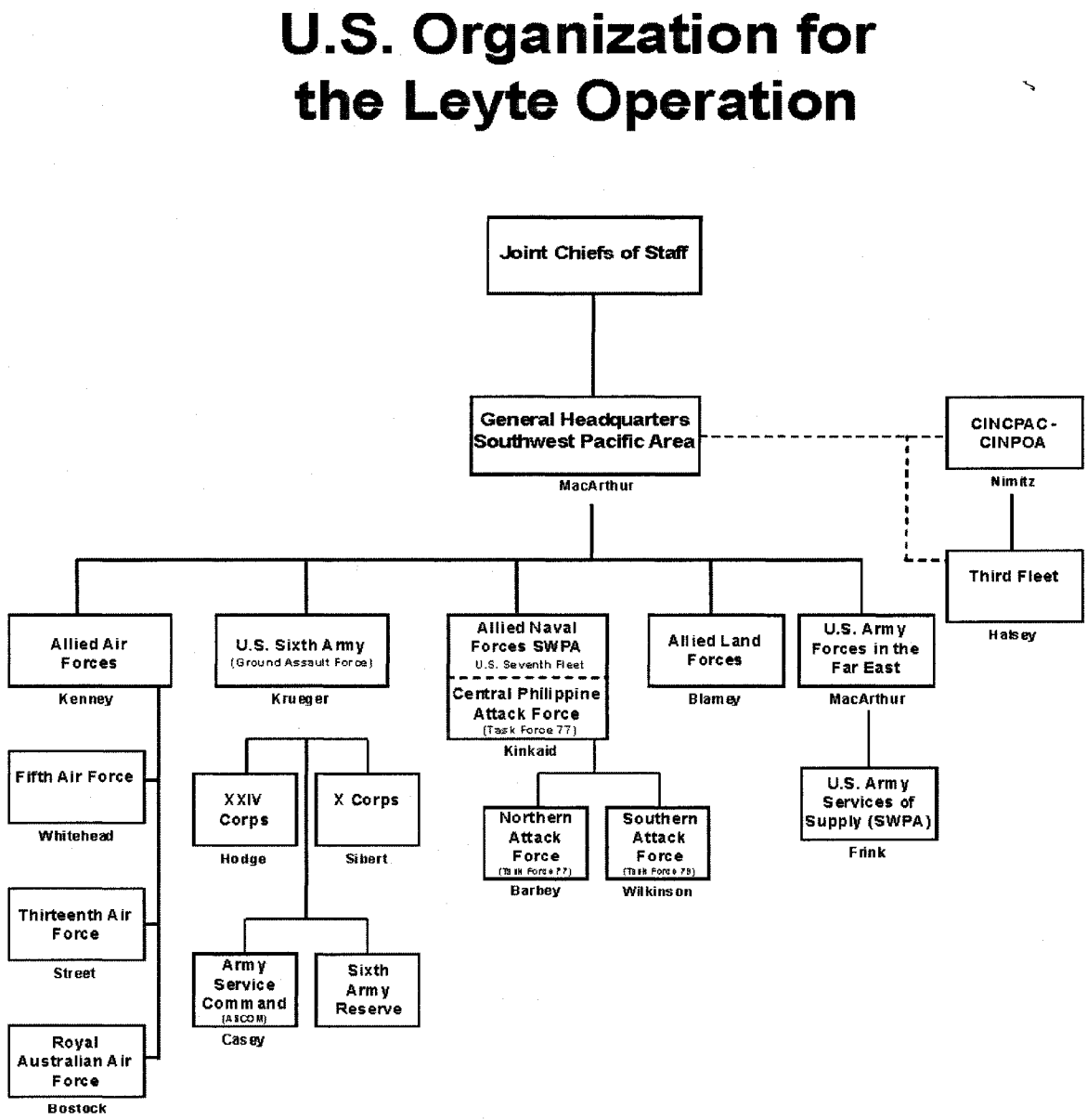

Figure 18. Organization for Leyte Operation. Adapted by Marsha Glunt courtesy of the U.S. Army Center of Military History from M. Hamlin Cannon, *Leyte: The Return to the Philippines* (Washington, D.C.: Center of Military History,1954), 25.

[45] Walter Krueger, *From Down Under to Nippon (Nashville*, TN: Battery Press, 1989), 141.

The Campaign

The Philippine Islands are centrally located between China, Japan, Malaya and the Dutch East Indies. Luzon in the north, the Visayan Islands including Leyte and Samar in the central portion, and Mindinao in the south make up the Philippine Archipelago. The Philippines lay directly across Japan's lines of communication to its resource area in the Dutch Indies, Malaya, and Sumatra. The need to protect this line of communication prompted the Japanese decision to capture the Philippines early in the war.[46] To remain in the war with access to oil and other critical resources, the Japanese needed to defend the Philippines at all costs.

In the summer of 1944, the Japanese began to strengthen their positions in the Philippines and develop plans for the archipelago's defense. The steady Allied advance along New Guinea and the invasion of the Marianas threatened the empire's inner defense area. The Japanese high command developed the SHO-GO (Victory) plans for the defense of the Philippines, Taiwan, and the Japanese home islands.[47] Once the main enemy effort could be determined, the Imperial General Headquarters intended to wage a decisive battle against any enemy penetration into the inner defense area. The SHO- I plan dealt with the defense of the Philippines. Although the Japanese had suffered considerable losses through the attrition of their naval and air power in the Allied offensives in the Central and Southwest Pacific, they still possessed the capability to mass significant combat power to oppose American forces in the battle for the Philippines. Tactically, the Japanese had often proved superior to their opponents, but

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[46] Louis Morton, "Japan's Decision for War" in *Command Decisions*, ed., Kent Roberts Greenfield (Washington, D.C.: Center of Military History, 2000), 106.

[47] Milan Vego, *The Battle for Leyte, 1944: Allied and Japanese Plans, Preparations, and Execution* (Annapolis: Naval Institute Press, 2006), 47, 48.

there were significant weaknesses in the Japanese military machine at the strategic and operational levels.

Strategic direction for Japan's Pacific war effort resided with the Imperial General Headquarters (IGHQ). If Army-Navy rivalry occasionally complicated the American prosecution of the war in the Pacific, it was nothing compared to the rivalry and lack of cooperation that plagued the Japanese Army and Navy at virtually every level. Separate Army and Navy sections made up the Imperial General Headquarters. The Imperial General Headquarters met twice a week with both the Chiefs of Staff of the Navy and Army presiding. The IGHQ was not a joint command and possessed none of the staff or joint mechanisms of the American Joint Chiefs of Staff. As one historian of the war observed, "Rather it was a façade to cover two separate organizations with strong competing interests and rivalries."[48] Both services developed their plans and orders separately, issuing them through their own chains of command. (See Figure 19).

At the operational level, the Japanese did not organize their land, sea, or air forces under a single joint commander. They did not establish separate geographic areas under a theater commander, but simply maintained separate army or fleet headquarters commanded through their own service channels. Coordination between the Army and the Navy was based on the principle of cooperation which did not always extend to the routine practice of keeping each service informed of their activities.[49] The Japanese emphasized fighting spirit, offensive operations, and maneuver. The Japanese military gave less emphasis to supply and intelligence.

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[48] Morton, *Strategy and Command*, 235.

[49] Ibid., 237.

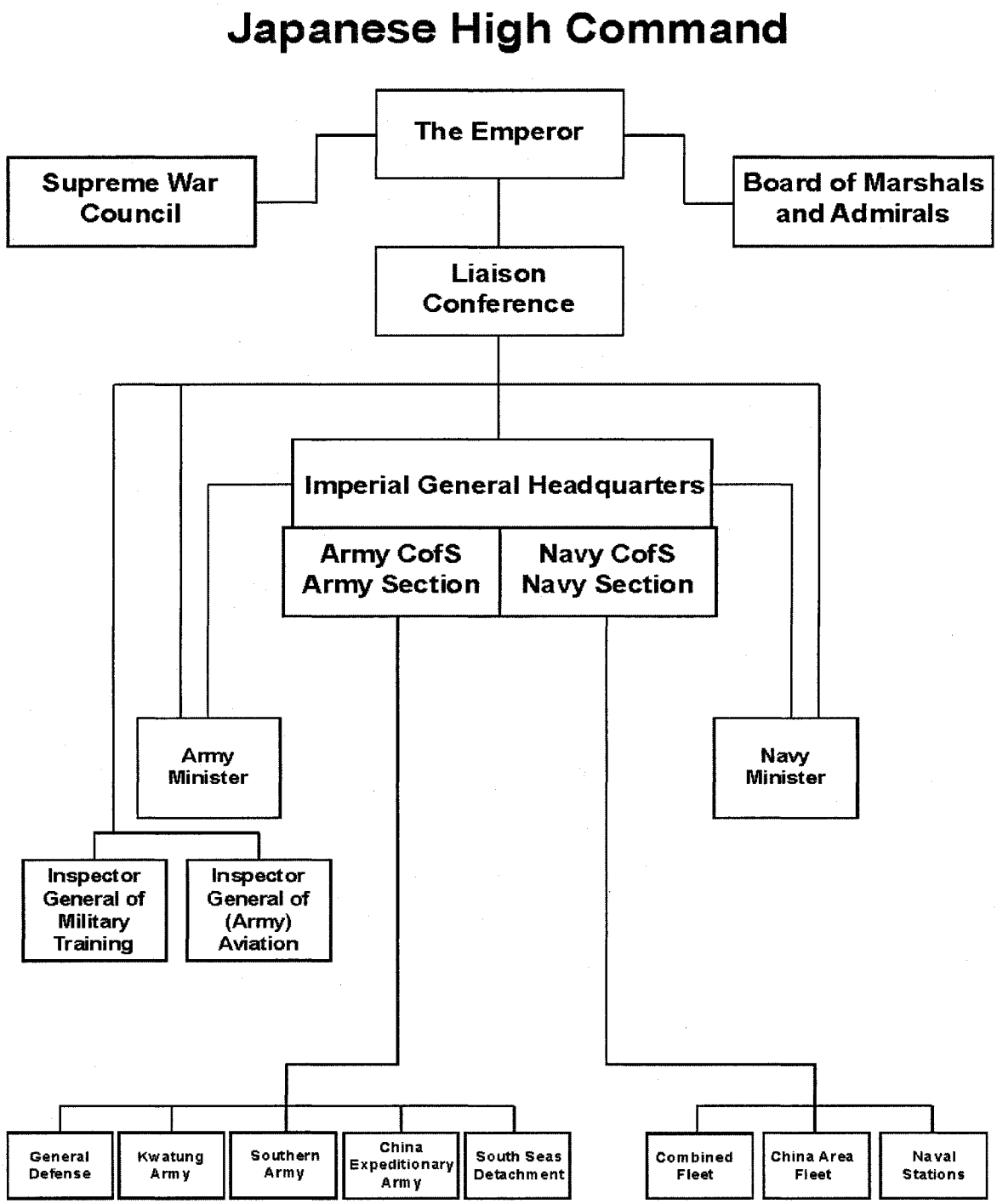

Figure 19. Organization of the Japanese High Command. Adapted by Marsha Glunt courtesy of the U.S. Army Center of Military History from Morton, *Strategy and Command*, 238.

There were no logisticians on the either the Japanese Army or Navy General Staffs. Responsibility for supply was vested in the Ministries of War and the Navy.[50] The Japanese did not devote many resources to developing a system of sophisticated intelligence gathering or analysis at any level. Despite the lack of an effective intelligence service, major American offensives were easy to predict. For example, it was obvious that the carrier raids on the Philippines, Palau, and Formosa in September 1944 portended American operations aimed at the Philippines. The question was when and where in the Philippines the Americans would strike.

The SHO-1 plan called for the Japanese Army to delay in the southern and central Philippines and conduct the decisive battle on Luzon. A late change in plans and disagreement among the senior Japanese Army leaders complicated efforts for an effective defense. Field Marshal Count Hisaichi Terauchi, commanding the Southern Army, had the Fourteenth Area Army and the Fourth Air Army to defend the Philippines. The Japanese Navy also stationed the First Air Fleet in the Philippines, but this unit reported directly to the Commander of the Combined Fleet in Tokyo. The Imperial General Headquarters and Field Marshal Terauchi decided to place their hopes on airpower and abandoned the plan to make the main effort on Luzon. They believed that land based airpower could win at least temporary air superiority from American carrier based air, enough to allow them to reinforce Japanese garrisons on the other islands. Lt. Gen. Shigenori Kuroda, commander of the Fourteenth Area Army, had little faith that

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[50] Chihaya, Masataka, "The Organization of the Japanese Naval General Staff Headquarters in Tokyo" in *The Pacific War Papers: Japanese Documents of World War II*, Donald M. Goldstein and Katherine V. Dillon, eds. (Washington, D.C.: Potomac Books, Inc., 2004), 38, 39. and U.S. War Department, *Handbook on Japanese Military Forces* (1944; repr., Baton Rouge: Louisiana State University Press, 1991),10.

Japanese airpower was up to defeating the invasion and stressed that the decisive battle would be fought on land.[51] Less than two weeks before the invasion the Japanese high command replaced Kuroda with Lt. Gen. Tomoyuki Yamashita.

Yamashita was convinced that a decisive battle on Leyte or any island other than Luzon would waste Japanese resources and fail. Terauchi overruled Yamashita and insisted that every effort be made to reinforce Leyte.[52] On October 19, Terauchi issued this order: "The Southern Army, assembling all its fighting power, will seek decisive battle with the main strength of the enemy forces landing in the Philippines."[53] Dutifully, Yamashita ordered his subordinate responsible for the Southern and Central Philippines, Lt. Gen. Sosaku Suzuki, commander of the Thirty-fifth Army (equivalent to a U.S. Army Corps) to make the maximum effort to defend Leyte. The Southern Army committed ten divisions and five brigades, almost 180,000 men to the defense of the Philippines. An additional division and one brigade in China and Formosa stood by in reserve. At the time of the American landing, 16,000 men of the Japanese Sixteenth Division occupied Leyte. Throughout the battle, Yamashita shuttled as many reinforcements as possible to Leyte, while the Southern Army made every effort to provide air and ground reinforcements to the Philippines.

On October 17, troops from the U.S. Sixth Ranger Battalion landed on Sulaun Island and Dinagat to secure the approaches to Leyte Gulf. Two days later, a vast armada of 700 ships carrying 200,000 men of Kruger's Sixth Army arrived off Leyte Gulf. On

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[51] M. Hamlin Cannon. *Leyte: The Return to the Philippines,* United States Army in World War II (Washington, D.C.: Center of Military History, 1954), 50.

[52] "Interview with Maj. Gen. Yoshiharu," October 14, 1947, *Interrogations of Japanese Officials on World War II,* (English Translations) General Headquarters, Far East Command, USAMHI.

[53] *The Campaigns of MacArthur in the Pacific,* 370.

the morning of October 20, after a heavy naval bombardment, the Sixth Army went ashore with two corps abreast. The X Corps and XXIV Corps made rapid progress against light resistance. By midnight, more than 132,000 men and 200,000 tons of supplies and equipment were put ashore. Two days earlier, as soon as the Japanese became aware of the preliminary operations by the Rangers, the Imperial Navy issued its order for SHO-1, setting in motion the largest naval battle of the war.

The Combined Fleet moved from widely scattered bases to the long awaited decisive battle with the U.S. Pacific Fleet. The Japanese planned to lure away Halsey's powerful carrier groups with Vice Adm. Jisaburo Ozawa's Northern Force consisting of four aircraft carriers, two battleships, three cruises and eight destroyers. With Halsey's covering force gone from the immediate area, three other Japanese naval strike forces converged on Leyte to destroy MacArthur's landing and supporting forces. Kurita's Center Force with five battleships, twelve cruisers, and fifteen destroyers approached from Malaya and Borneo toward the San Bernadino Strait between Samar and Luzon. The Southern Force commanded by Vice Adm. Shoji Nishimura, consisting of two battleships, one heavy cruiser, and four destroyers, was supported by another force of two heavy and one light cruiser with four destroyers commanded by Vice Adm. Kiyohide Shima. The Southern Force was to pass through the Suriago Strait between Leyte and Mindanao.

The great naval battle of Leyte Gulf exposed one of the chief problems with American command and control. MacArthur did not command Halsey's Third Fleet with its fast carriers and battleships. Under a compromised solution worked out by Marshall, MacArthur provided Halsey with operational direction. In practice this meant, that

MacArthur could task but not command Halsey's force. Halsey worked for Nimitz. In the latter's instructions to Halsey to support MacArthur, Nimitz indicated that if Third Fleet got the opportunity to destroy the Japanese Fleet, Halsey should take it. Indeed, in MacArthur's Operational Instructions Number 70, he also tasked Halsey "with containing or destroying the Japanese fleet."[54] Following his own aggressive instincts and his own interpretation of his orders, Halsey took the bait and chased the Japanese carriers far to the north.

Only good luck and hard fighting saved MacArthur's forces crammed into Leyte Gulf. Halsey initially detected Kurita's Center Force and struck hard on October 23 and 24, sinking the super battleship *Musashi*. Kurita turned away, and Halsey decided to pursue the Northern Force. Kurita turned around, however, and resumed course toward Leyte. MacArthur's naval component commander, Vice Admiral Kinkaid, moved his naval fire support group of six old battleships to intercept. The Japanese Southern Force ran a gauntlet of torpedo boats and destroyers in the Surigao Straits only to be destroyed by Kinkaid's Seventh Fleet battleships. Kurita's Center Force showed up in the vicinity of Leyte Gulf on the morning of October 25. The escort carriers of the Seventh Fleet put up such a valiant fight that Kurita believed he was under attack by Halsey's powerful carrier force. Kurita withdrew leaving the Japanese Army and land-based Air Forces in the Philippines to their fate. The same day, Halsey's carriers found and crushed the Japanese Northern Force, sinking all four of the enemy carriers. This naval battle eliminated Japanese seapower as a factor in the campaign for the Philippines and for the

[54] Operations Instructions Number 70, September 21, 1944 and Operations Instructions Number 73, 12 October, Stephen J. Chamberlin Papers, Box 3, USAMHI.

rest of the war. Now, MacArthur had only to deal with Japanese land and airpower to win the campaign.

The air battle for the Philippines began well before Krueger's troops waded ashore. The operational strikes delivered by Halsey's fast carriers long before the invasion not only alerted the Japanese, but also triggered the inevitable process of attrition that would win the battle for air superiority. The Japanese determined to make a maximum effort in the air as well as on the sea and ground. The Fourth Air Army and the Imperial Navy's land based air force mustered nearly 400 aircraft of all types to initially oppose the landings.[55] On October 24, they began a coordinated and sustained effort, sending 150 to 200 aircraft to attack MacArthur's forces. With American naval aircraft involved in sea fights, Krueger desperately tried to establish airfields ashore to bring forward fighters from Kenney's Fifth Air Force. The Japanese mounted over 250 sorties on October 25 and 26, but by the twenty-seventh, U.S. fighters started operating out of the airstrip at Tacloban. Soon the Japanese began to limit their air activity to piecemeal raids at dusk and dawn.

The Japanese rushed air reinforcements to the Philippines, but Kenney's Fifth Fighter Command rose to the challenge. Beginning on October 27 and for the next five weeks, American pilots shot down 314 enemy aircraft while losing only sixteen of their own aircraft in aerial combat.[56] Beset by declining air strength and pilot quality the Japanese introduced the *Kamikaze*, suicide attacks by volunteer naval pilots. The small

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[55] *Japanese Operations in the Southwest Pacific Area*, Vol. 2, *Reports of General MacArthur*, Prepared by his General Staff, (1950; repr., Washington, DC: Center for Military History, 1994), 385.

[56] The Fifth Fighter Command lost a total of 203 aircraft from bombing, accidents and other causes. Herman S. Wolk, "George C. Kinney: MacArthur's Premier Airman" in *We Shall Return!: MacArthur's Commanders an and the Defeat of Japan*, ed. William M. Leary (Lexington: University of Kentucky Press, 1988), 110.

number of *Kamikaze* strikes, though effective, could not be decisive. This method of attack, however, suggested the still lethal potential of Japanese airpower. By January 1945, the Americans had won air superiority over the Southern Philippines. Vice Adm. Shigeru Fukudome, commander of the Japanese land based naval air force, admitted "by the early part of January, I had lost practically all of my planes, my air force had been practically wiped out."[57] The delay in winning the air battle, however, was costly in terms of the land battle. While American airpower was weak in the early days of the operation, the Japanese reinforced their garrison in keeping with their plan to fight the decisive battle on Leyte. Between October 23 and December 11, the Japanese moved 45,000 men and 10,000 tons of supply to Leyte aboard destroyers, barges, and small ships of all sizes.[58]

Krueger's Sixth Army drove north through the Leyte Valley to the Carigara Bay area. (See Figure 20) The Japanese Sixteenth Division fought delaying actions while the Thirty-fifth Area Army absorbed reinforcements arriving through Ormoc on the west coast. Tropical storms, rainfall, and the subsequent mud slowed American operations, particularly efforts to build airstrips. To get at Ormoc, Krueger pushed one corps over the tough central mountain ridge along with a division up from south on the west coast of Leyte. American forces used amphibious as well as overland routes to break into the Ormoc Valley on the Japanese right flank. To make the amphibious landing in the Ormoc area, MacArthur borrowed another Army division from Admiral Nimitz's Central Pacific

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[57] *Japanese Operations in the Southwest Pacific*, 237.

[58] Cannon, *Leyte*, 102.

resources. In what amounted to a double envelopment of the Japanese Thirty-fifth Army, Krueger sent another corps along the east coast to the north also by amphibious and

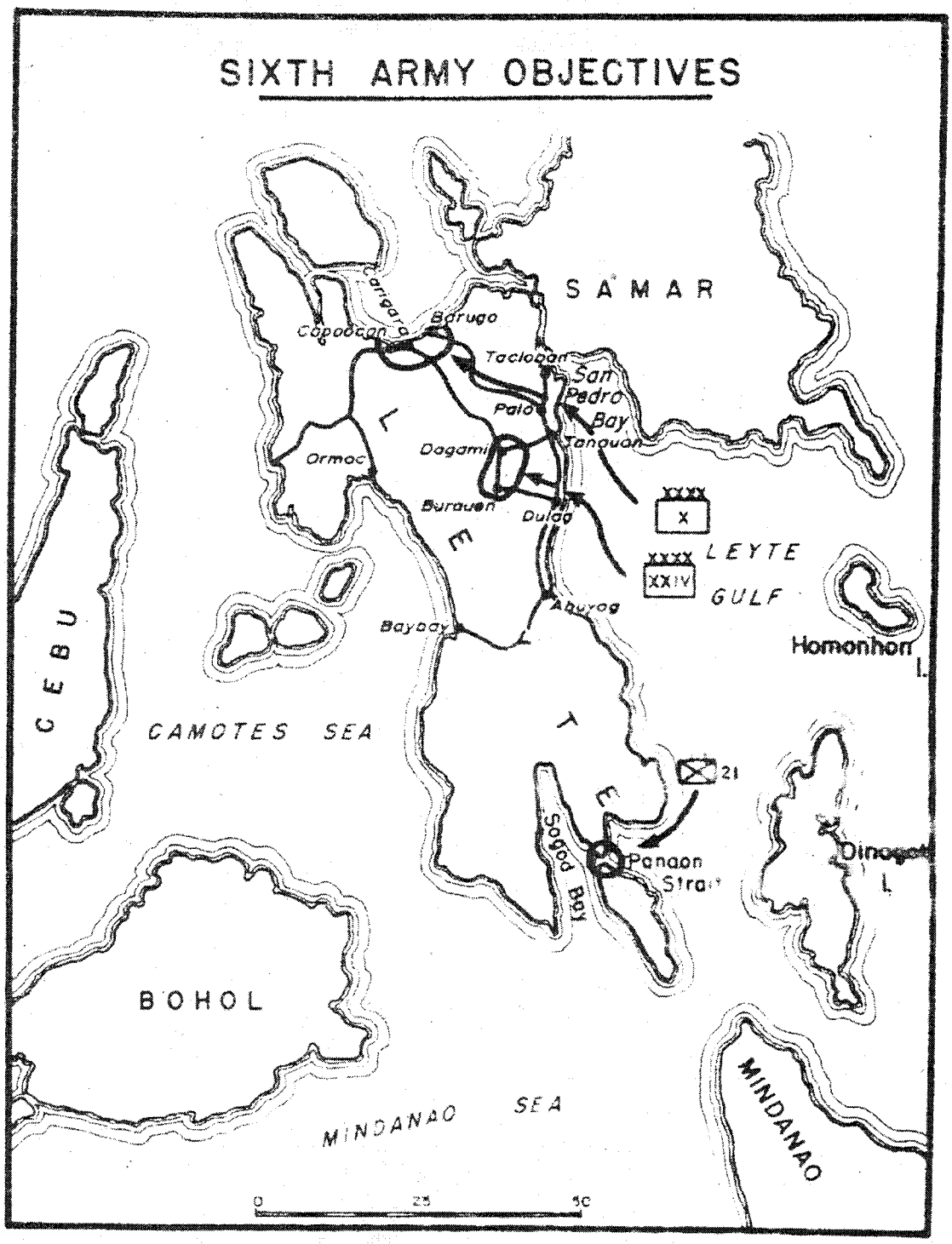

Figure 20. Sixth Army Objectives. Source: Chamberlin Papers, Box 6, USAMHI.

overland routes to secure Limon on the Japanese left flank. By Christmas Day, after eight weeks of tough fighting, Japanese resistance collapsed. Yamashita's effort to defeat the American effort to take Leyte failed. His efforts now shifted to the defense of Luzon. Although the Japanese lost Leyte, they made the Americans pay a high price. The Sixth Army suffered over 15,500 casualties. Although Japanese losses are difficult to determine, the Sixth Army estimated them at 56,263 killed and 389 captured.[59]

With Leyte in hand, MacArthur moved on to OPERATION MIKE ONE, the invasion of Luzon. Without control of the sea, it was difficult for the Japanese to provide any significant ground reinforcements or supplies for the defense of Luzon, but they could still fly aerial reinforcements from the home islands and Formosa. Although much weakened, Japanese airpower remained a serious threat for the invasion fleet. MacArthur coordinated for a good deal of the available airpower in the Pacific to provide operational fires for the Luzon invasion. Halsey's carrier force and the Twentieth Air Force with B-29's based in the Marianas and China reached out to Formosa, the Ryukyus, and the south China coast to destroy enemy air and naval forces. Kenney's Fifth Air Force needed to provide close air support for the invasion, but a combination of factors inhibited Kenney's ability to accomplish his mission. Airfield construction on Leyte continued to be hampered by bad weather, poor soil, and enemy activity. It became apparent that Leyte would never become the air base as originally planned.

As early as September, a staff study anticipated the potential need for a contingency plan to take Mindoro, the island just south of Luzon, as an advanced air base to support future operations. In November, MacArthur decided Minodoro must be taken to extend Allied air cover. Sixth Army troops landed on Mindoro on December 15 and

[59] Ibid.

within five days, Army engineers had the first airfield in operation. On January 9, Krueger's Sixth Army, under cover of Kenney's Fifth Air Force and the guns of Kinkaid's Seventh Fleet, came ashore at Lingayen Gulf on Luzon.

MacArthur directed Krueger's forces to land in Lingayen Gulf as the most direct route to the Central Plains and Manila. Manila was the political prize closest to MacArthur's heart, but militarily Clark Air Field was the key to extending Allied airpower in the Pacific. The Japanese commander, Lieutenant General Yamishita, fully anticipated the American landing at Lingayen Gulf, but there was little he could do about it. Facing American naval and air superiority, Yamashita fashioned a defense plan that maximized his ground force's ability to delay and attrite the American Army. Yamashita divided his 275,000 troops into three mountain strongholds. The Shobu Group with 152,000 troops under Yamashita's direct command, defended the mountainous region east and northeast of Lingayen Gulf. The Kembu Group with 30,000 troops defended the mountainous country overlooking Clark Field. Finally, the Shimbu Group with 80,000 troops defended all of southern Luzon, but concentrated in the mountains east and northeast of Manila.[60]

The Sixth Army landed at Lingayen Gulf with two corps abreast, four divisions simultaneously assaulting the beachhead. Krueger turned one corps south along the Central Plains toward Clark Airfield and Manila, while his other corps continued to attack to the north and east protecting his flank. Since Yamashita had already decided not to oppose the Americans in the Central Plains, Krueger made rapid progress moving

[60] *Japanese Operations in the Southwest Pacific Area,* 451-54.

south toward Manila. By January 28, Maj, Gen. Oscar W. Griswold's (GSS 1925, AWC 1929) XIV Corps occupied Clark Field. To assist Krueger's southern drive on Manila, Eichelberger's Eighth Army made two amphibious landings north and south of Manila. On January 29, Maj. Gen. Charles P. Hall's (GSS 1925, AWC 1930) IX Corps landed north of Manila to isolate Japanese forces and prevent any withdrawal into the Bataan Peninsula. Meeting little initial resistance, the IX Corps continued south and east to assist in securing Manila Bay. Using amphibious and airborne operations, the Eighth Army also sent the Eleventh Airborne Division to strike south of Manila on January 31. Closing in from the north and the south, Krueger positioned his forces to retake Manila.

MacArthur's intelligence chief, Maj, Gen. Charles Willoughby, predicted that the Japanese would not fight for Manila. Krueger's Sixth Army intelligence disagreed. In fact, Yamashita did not want to fight for Manila, but problems with Japanese command and control led to a brutal fight and destruction of the capital. Rear Adm. Mitsuji Iwabuchi commanded the Manila Naval Defense Force numbering some 16,000 naval troops. Prior to leaving Manila, Iwabuchi's senior commander transferred operational command of the Naval Defense Force to the Shimbu Group under Yamashita's original defense scheme. The Shimbu Group commander wanted the naval troops to expedite the evacuation of Manila and execute limited demolitions to delay the Americans. In staff conferences between the two forces, the naval officers announced their determination to defend Manila to the last, contrary to Yamashita's orders.[61] As a result, Krueger's forces had to fight their way into Manila block by blood-splattered block. MacArthur would not permit bombing, but the tank and artillery fire proved just as destructive. It took three

[61] Robert Ross Smith, *Triumph in the Philippines,* The United States Army in World War II (Washington, D.C.: Center of Military History, 1991), 242.

divisions and four weeks to secure Manila at a cost of 6,500 U.S. casualties and virtually all of the 16,000 Japanese killed.[62]

From March to August the Sixth Army turned to reducing the remaining Japanese mountain strongholds on Luzon. Beginning in February, MacArthur launched the VICTOR series of operations to liberate the rest of the Philippines. Eichelberger's Eighth Army moved to clear the Central Philippines and from April to July conducted operations to eliminate the Japanese garrison on Mindanao.[63] In every phase of the campaign, Filipino guerillas and reconstituted army units provided invaluable intelligence and additional combat power, particularly in the final reduction of isolated Japanese forces. Still, Yamashita executed his defense plan with the usual Japanese tactical fanaticism. Long after Yamashita's forces lost any operational significance, they fought on in the northeast mountains of Luzon. Yamashita finally surrendered at the end of the war with some 50,000 troops still under his command.

Assessment

The Philippine Campaign was the largest and longest in the Pacific theater of war. It absorbed two U.S. armies with a total of sixteen divisions as well as the bulk of the naval and air power in the Pacific when required. The campaign achieved its strategic and operational objectives. It severed the Japanese line of communication to the vital

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[62] Ibid., 306

[63] Curiously, the original directive from the Joint Chiefs directed MacArthur to take Luzon, there was no explicit order authorizing MacArthur to liberate the rest of the Philippines. In March 1945, Marshall sent MacArthur a draft of the directive outlining future final operations against Japan which included the authorization "to conduct such additional operations toward completing the liberation of the Philippines as can be mounted without prejudice to the accomplishment of the overall objective. The JCS issued the directive on April 4, 1945. George C. Marshall to Douglas MacArthur, March 29, 1945, in Bland, *Papers of George C. Marshall*, 5: 104.

resources necessary to continue the war. Politically, it redeemed the American pledge to defend and liberate the Philippine people. Operationally, it provided additional bases for the advance on the Japanese homeland, but most significant of all was the Japanese decision to offer decisive battle to retain the Philippines. Their determination to mass air, land, and sea forces to wage a decisive battle gave the Americans the opportunity to crush Japanese combat power not only in the Philippines, but also in the Pacific.

The destruction of Japanese naval and air forces gave the Americans tremendous operational advantages. The Japanese had few, if any, operational cards left to play. Their losses in this campaign reduced them to only tactical expedients in delaying the Allied advance on the home islands. Tenacious defense on land and increasingly fanatical and desperate attempts in making their remaining airpower more effective constituted their remaining options. The defense of the Philippines had taken 380,000 Japanese troops out of the war and brought about the decisive defeat of the Imperial Japanese Navy. The American Sixth and Eighth Armies suffered 47,000 battle casualties.[64]

When interviewed after the war, senior Japanese officers involved in the fight for the Philippines pointed out Japanese problems in intelligence, logistics, and command and control. Col. Takio Shindo, Yamashita's intelligence officer, remarked "In my opinion, American intelligence was so far superior that a comparison is useless. It seemed to me that we were fighting our battles blindfolded, while the enemy seemed to have ten

[64]This figure does not provide the whole picture of U.S. casualties. From January to June, the Sixth Army suffered 93,400 non-battle casualties mostly for illness. Obviously, the great majority of these were returned to duty. Smith, *Triumph in the Philippines*, 652.

times the intelligence we possessed."[65] The move to bypass Mindanao and strike directly at Leyte surprised the Japanese. The ability of the Americans to conduct multiple amphibious operations at various points throughout the campaign constantly took the enemy by surprise. The ability of U.S. forces to integrate and use Filipino sources of information proved most useful at both the tactical and operational level.[66]

American intelligence certainly made its share of mistakes. General Willoughby, MacArthur's intelligence officer, routinely underestimated Japanese strength, particularly on Luzon. Krueger's intelligence section, however, usually painted a more accurate picture of Japanese strength and intentions.[67] From the beginning of the war, American efforts in cryptographic intelligence decoding Japanese message traffic paid tremendous dividends at both the strategic and operational levels.[68] Unlike the Japanese, the Americans devoted considerable resources and effort to focus on integrating intelligence into operations at all levels.

Similarly, American expertise in logistics organization and management far surpassed their opponents. Without secure lines of communication the Japanese faced tremendous difficulties. Control of the seas and air superiority allowed the Americans to isolate Japanese garrisons from sources of supply and reinforcement. Still, the Japanese

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[65]Interview with Col. Takio Shindo, December 19, 1947, *Interogations of Japanese Officials on World War II*, (English Translations) General Headquarters, Far East Command, USAMHI, 253.

[66] Interview with Maj. Gen. Yoshiharu Tomochika, Chief of Staff, 35th Army, October 14, 1947, Ibid., 7, 13.

[67] Willoughby initially estimated Japanese strength on Luzon at 158,000 and later revised the figure in January to 195,000. Krueger's staff initially estimated Japanese strength at 234,500 and then raised their estimate in January to 287,000. The actual Japanese strength on Luzon in January 1945 was 267,000. Murray and Millett, *A War to Be Won*, 495, 496.

[68]Early in the war the United States broke the Japanese naval and diplomatic codes. The codebreakers named these intercepted and decoded messages MAGIC. They proved enormously useful in determining Japanese operations such as in their attack on Midway Island in 1943.

logistics system was inefficient and poorly organized. There was no operational logistics organization, each service attempted to centrally manage supply. There was no single logistical authority in Manila. Yamashita did not control his own supply organizations until after January 1945.[69] His chief of staff remembering the lack of organization in Manila recalled that supplies and equipment "were piled in an unsystematic helter-skelter way."[70] The Americans constantly attacked road and rail networks to disrupt enemy transportation. Regardless, the Japanese division did not even contain sufficient transportation to help sustain their own supply needs.[71]

The Americans also faced significant challenges in sustaining large expeditionary forces over long lines of communication stretching all the way back to the United States. Unlike the Japanese, the Americans devoted considerable effort and attention to logistics planning and organization. There was no provision for joint logistics in the Southwest Pacific Theater. Supply chains ran through service channels, but MacArthur's headquarters established priorities, supervised the planning and control of logistics operations. The United States Army Services of Supply (USASOS) under Maj. Gen. James L. Frink (GSS 1929, AWC 1926) handled logistics for the Army and Air Forces throughout SWPA. Before beginning the campaign, MacArthur created an Army Service Command (ASCOM) and appointed his chief engineer, Maj. Gen. Hugh J. Casey, to command. This organization provided logistic services and base construction directly to Sixth Army until the theater service of supply could take over. It tasked a single

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[69] Smith, *Triumph in the Philippines*, 92.

[70] Ibid.

[71] Ibid., 91.

commander with responsibility for arguably the most important mission during the campaign, the construction of air and naval bases.

Perhaps the greatest operational American advantage lay in combining air, sea, and landpower. After the war, the chief of staff of the Japanese Thirty-fifth Army regretted the lack of joint command in the Philippines: "a great many of the strategic plans failed in the battle of Leyte due to mix up in the commands of the air and land forces. A joint command would, undoubtedly, have integrated the units into a closer coordinating force, which would have helped the situation tremendously."[72] The lack of a single unified theater command did put the campaign at risk in the naval battle of Leyte Gulf, but the level of cooperation between Nimitz, Halsey, and MacArthur was still remarkable. Nimitz willingly offered MacArthur additional Army and even Marine reinforcements. Nimitz loaned MacArthur an entire Marine Air Wing that contributed 180 aircraft and almost one third of the Fifth Air Force sorties on Luzon. This was the first time Marine aircraft provided close air support to Army ground forces.[73] General Kenney functioned as a joint air component commander.

Even more impressive, MacArthur's component commanders, Kinney, Kinkaid, and Krueger, all practiced a degree of jointness noticeably lacking in their opponents. MacArthur's headquarters coordinated the planning for Leyte in a series of conferences from July 20 to August 6. For the invasion of Luzon, MacArthur specifically charged Krueger with coordinating ground, air, and naval plans. Krueger created a planning

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[72] Interview with Maj. Gen. Yoshiharu Tomochika, Chief of Staff, 35th Army, October 14, 1947, *Interogations of Japanese Officials on World War II*, 28.

[73] Robert Sherrod, *History of Marine Corps Aviation in World War II* (San Rafael, CA: Presidio Press, 1952), 311.

group headed by his chief of staff at Hollandia. Staff conferences between all the services on Hollandia and Leyte hammered out the final details and briefed MacArthur in November. Likewise in the conduct of operations, the American demonstrated a high degree of flexibility in supporting operations of each of the services.

Historians have rightly pointed to American mistakes in operational manuever. Some question MacArthur's failure to make an early assault on Ormoc, the point of entry for Japanese reinforcements on Leyte, or, indeed, MacArthur's insistence on liberating the rest of the Philippines after securing sufficient bases on Luzon.[74] The Japanese also committed significant operational mistakes in ground, air, and naval operations. Yamashita, the Japanese ground commander, conducted a tenacious and capable tactical defense on Luzon, but operational failures in logistics, intelligence, and most critically in command and control handicapped the Japanese. Senior Japanese officers were less impressed with American tactical prowess but one Japanese general provided the best explanation for American victory in observing, "As compared to our relatively small scale operations, the enemy's big scale operations enabled them to take our positions with comparative ease. Their minor operations were just as well planned in detail as their major ones, all operations utilizing the vast coordinated striking power of their combined land, air, and naval forces"[75] In his return to the Philippines, MacArthur proved that American operational art could project, conduct, and sustain joint operations sufficient to beat a determined enemy. The Philippine campaign was an impressive military

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[74] See Murray and Millett, *War to Be Won*, 502, 503 and Vego, *Battle for Leyte*, 342.

[75] Interview with Maj. Gen. Yoshiharu Tomochika, Chief of Staff, 35th Army, October 14, 1947, *Interogations of Japanese Officials on World War II*, 21.

achievement, but the best expression of modern American operational art can be found in the last battle, the battle for Okinawa.

OPERATION ICEBERG

American operational art reached its peak by 1945. In Europe, the Allies developed combined staffs that proved capable of conducting and sustaining large-scale operations. In the Pacific, the American military fully developed the promise of the interwar studies on joint expeditionary warfare. By the end of the war, American operational art excelled in joint planning, organization, and logistics.

Theater strategic planning in the Pacific in 1944 focused on breaking into the China-Formosa-Luzon area. The Joint Staff plan to defeat Japan following the proposed seizure of Formosa called for "concurrent advances through the Ryukyus, Bonins, and Southeast China coast for the purpose of intensifying the blockade and air bombardment of Japan."[76] These sequenced major operations led to an invasion of the home islands to capture the industrial heart of Japan located on the Tokyo plain. After the Joint Chiefs made the decision to invade Luzon rather than Formosa, the Joint Staff Planners remained committed to the move into the Ryukyu Island chain as the logical next step in maintaining unremitting pressure on Japan. In the same directive ordering MacArthur to take Luzon, the Joint Chiefs directed Nimitz to occupy one or more positions in the Ryukyu Islands by March 1, 1945.[77]

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[76] Joint Staff Planners, "Future Operations in the Pacific," September 23, 1944, *Records of the Joint Chiefs of Staff*, Reel 9, USAMHI.

[77] "Future Operations in the Pacific," October 3, 1944, *Records of the Joint Chiefs of Staff*, Reel 9, USAMHI.

The Ryukyu chain consists of a number of islands between the Japanese home island of Kyushu and the Japanese colony of Formosa off the China coast. American occupation of key positions in this island chain, would place American air and seapower within 405 miles of Kyushu, and provide excellent staging bases for the invasion of the home islands. Okinawa is the largest island in the Ryukyus and the obvious key objective. In November 1944, the Joint War Plans Committee in Washington, D.C., developed a plan for this major operation. The JWPC plan called for as many as five phases to seize six islands in the Ryukyus chain. The Joint Staff Planners believed the key objective, Okinawa, "to be strongly fortified," possessing few good beaches and offering terrain as difficult and easy to defend as any yet encountered in the war against Japan.[78] The planners wanted to take two local islands prior to assaulting Okinawa to clear the approaches and provide land based air cover for the invasion. This plan called for a two-division assault on the west coast of Okinawa and a subsequent one-division assault at Yonabaru on the southeast coast.[79] The JCS referred the plan to Admiral Nimitz for review.

In January 1945, Nimitz's joint staff submitted their own outline plan codenamed ICEBERG, to the Joint Staff in Washington, D.C. This plan called for three phases. The first phase would seize the southern part of Okinawa to establish air bases and develop the port of Naha for the Navy. The second phase secured the remainder of Okinawa and Ie Shima, a small island to the north. The final phase exploited the initial lodgments by securing additional islands as necessary. Unlike the joint staff plan, Nimitz's planners

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[78] Joint War Plans Committee, "Plan for the Seizure of the Ryukyus," November 6, 1944, *Records of the Joint Chiefs of Staff*, Reel 7, USAMHI.

[79] Ibid.

envisioned a single three-division assault over the Hagushi beaches in the west. This assault would drive across the narrow isthmus, cutting the island in two and isolating the northern and southern portions of the island. The main effort then pushes south to seize and develops the most useful part of Okinawa. The Joint Staff Planners reviewed Nimitz's plan and concluded that it was "suitable and feasible" but questioned the plans for the initial assault.[80] Once approved, the Central Pacific outline plan for OPERATION ICEBERG became the basis for coordination and detailed planning.

While Nimitz's subordinates tackled the details, his theater staff worked the coordination between the other Pacific theater of war commanders. The JCS directive mandating the invasion of the Ryukyus further directed the support of MacArthur's Southwest Pacific Theater, Wedemeyer's China Theater Forces, and the strategic Twentieth Air Force. This coordination aimed at maximizing the airpower available to provide operational fires to shape and set the conditions for success in ICEBERG.[81] MacArthur quickly agreed to order Kenney's Fifth Air Force to hit Formosa, but coordination for B-29 bomber support from the Twentieth Air Force proved more difficult. (See Figure 21)

Gen. Hap Arnold organized the Twentieth Air Force in April 1944 specifically to take advantage of the long range capabilities of the B-29 bomber. Without a unified command in the Pacific and to ensure the bombers would be used in a strategic role striking directly at the Japanese homeland, Arnold retained command even

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[80] Joint War Plans Committee, "Examination of ICEBERG," January 2, 1945, *Records of the Joint Chiefs of Staff*, Reel 7, USAMHI.

[81] Nimitz was worried about Japanese airpower. There were 55 airfields on Kyushu and 65 airfields on Formosa. With no other major combat operations going on in the Pacific, the Japanese would be able to mass their airpower against Central Pacific forces assaulting Okinawa. E. B. Potter, *Nimitz* (Annapolis: Naval Institute Press, 1976), 368.

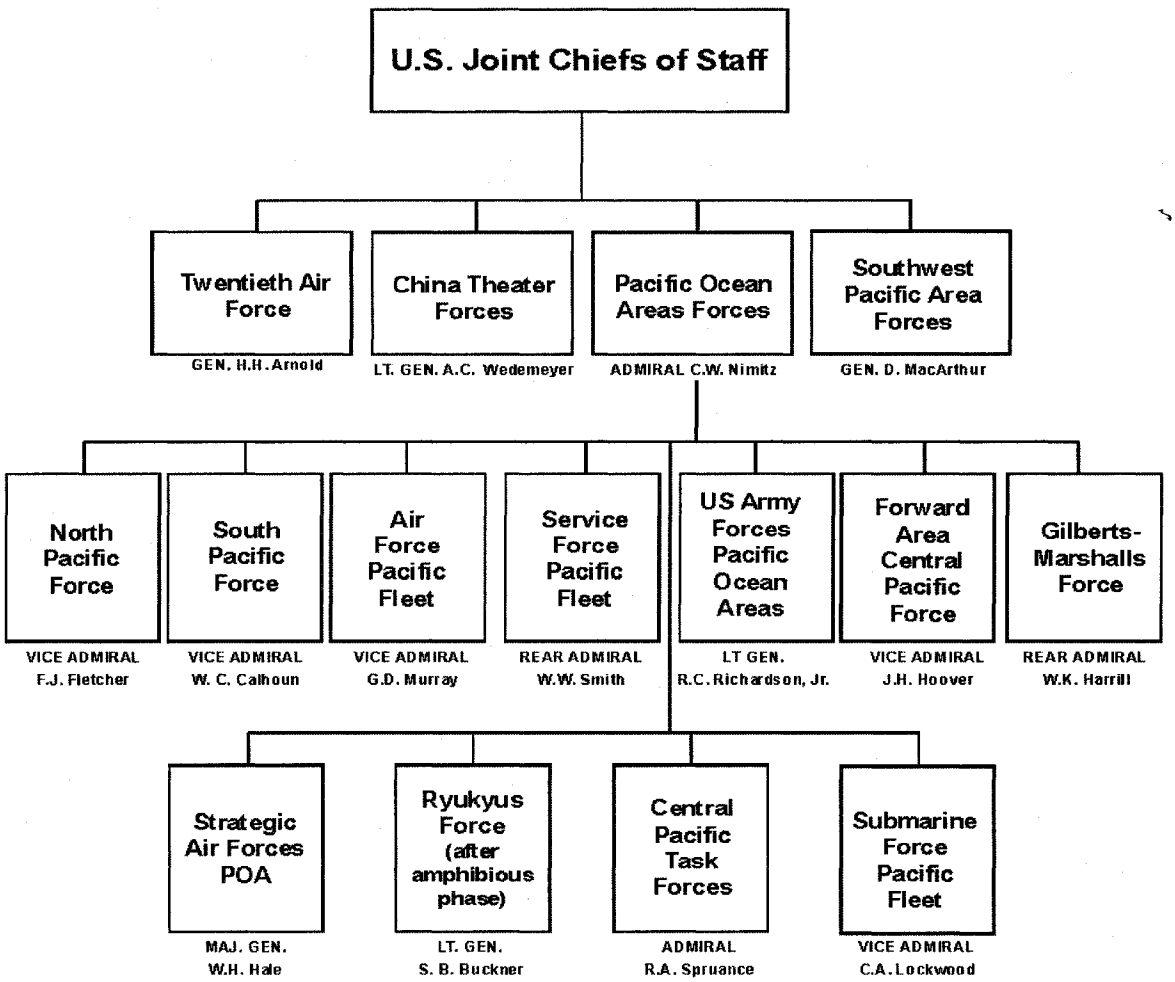

Figure 21 Theater organization for ICEBERG. Adapted by Marsha Glunt courtesy of the U.S. Army Center of Military History from Roy E. Appleman, James M. Burns, Russell A. Gugeler, and John Stevens, *Okinawa: The Last Battle*, United States Army in World War II (Washington, D.C.: Center of Military History, 1993), 20.

though still a member of the Chiefs.[82] In establishing the Twentieth Air Force as a strategic force, the JCS mandated that the Pacific theater commanders might direct the

[82] The official Air Force history noted, "None of the theater commanders — Nimitz, MacArthur, Stilwell — had shown himself an enthusiastic advocate of the type of mission for which the B-29 was being prepared, and it was not unnatural that theAAF should be reluctant to assign permanently to those

employment of the bombers "only in the event of a tactical or strategic emergency."[83] Faithful to the interwar doctrine of strategic bombing, Hap Arnold and his commander on the ground, Maj. Gen. Curtis Lemay, hated to use the B-29 against anything other than strategic targets. On March 7, 1945 representatives from Nimitz's headquarters and Lemay's XXth Bomber Command met to draw up the final plan for B-29 support. The plan targeted permanent installations in the Japanese home islands. Reluctantly, Arnold approved the plan, but he made sure that Lemay understood that his primary interest "was to ensure the success of ICEBERG at minimum cost and casualties."[84] Essentially, Nimitz gained control of the strategic bombers for five weeks. Nimitz did not have quite the struggle Eisenhower had in OVERLORD in gaining control of strategic airpower to support operations, suggesting Hap Arnold's greater flexibility than his British counterparts.

Joint Organization

Nimitz and his subordinate commanders devised the most joint command and control organization to execute ICEBERG than in any previous American operation in World War II. Beginning with Nimitz's own joint staff as theater commander to the organization and command of the expeditionary troops, jointness remained a key feature of this operation. Nimitz formed three joint task forces to execute OPERATION ICEBERG. Adm. Raymond A. Spruance (NWC 1927) commanded the Central Pacific

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leaders its most potent bomber." Wesley Frank Craven and James Lea Cate, *The Army Air forces in World War II, 5 vols.* (Chicago: University of Chicago Press, 1953), 5: 35.

[83]Ibid., 630.

[84] Ibid.

Task Forces. This task force included the Covering Force and Vice Adm. Richmond Kelly Turner's Joint Expeditionary Force. The Covering Force, personally commanded by Admiral Spruance, included an American and a British fast carrier force. Turner's command included the actual assault forces with the amphibious shipping and local covering force. The third joint force was formed around the Tenth Army under Lt. Gen. Simon Bolivar Buckner, Jr (GSS 1925, AWC 1929). The Tenth Army served as the headquarters for the Expeditionary Troops under the direction of Vice Admiral Turner.

The Tenth Army's mission to seize Okinawa came resulted from the decision to bypass Formosa. The Tenth Army was originally formed in September 1944 to secure and develop Formosa. Its commander, General Buckner, lacked combat experience and had prepared for this important assignment only through his military education. The son of a Confederate general, Buckner saw no combat in World War I and spent most of the interwar years as a student or instructor at both the Staff School and the Army War College. He spent the first three years of World War II as the Army commander in Alaska. Despite lacking combat experience, Buckner rose steadily through the ranks and received orders in June 1944 to report to Hawaii to organize and take charge of the Tenth Army. Having at last got a chance to command an army in combat, Buckner took the unusual but completely professional step of recommending against the Formosa operation on September 26, 1944, after reviewing the troop requirements.

The resulting CINCPOA study of other projected operations determined that it was beyond the ability of the Marine Corps alone to take Okinawa; it required an army-size force to sustain and conduct large scale operations. The new mission now fell to Buckner's Tenth Army. From the beginning, however, it was clear that the Marine Corps

would play a significant role in capturing the island. The requirement to coordinate and plan Army and Marine tactical operations supported by the Navy drove Buckner to organize a joint staff at army level.

Buckner's entire Tenth Army staff was joint. Although an Army officer headed each staff section, senior Marine and Navy officers were present in every one. The G-3 operations section included six Army, seven Marine, and five Navy officers. The G-4 logistics section included seven Army, three Marine and five Navy officers.[85] In addition to organizing a joint staff, Buckner commanded his own ground, sea, and air components. (See Figure 22) The Army XXIV Corps commanded by Maj. Gen. J. R. Hodge (GSS 1934, AWC 1935) and the III Amphibious Corps (Marine) commanded by Maj. Gen. Roy S. Geiger (GSS 1925, AWC 1929), made up Buckner's ground component. Buckner had known General Geiger since they had been students together at the Army General Staff School. He insisted that Geiger, a Marine, assume command of the Tenth Army in the event he became a casualty.[86]

Marine Maj. Gen. Francis P. Mulcahy (GSS 1929, AWC 1936) commanded the Tenth Army's Tactical Air Force. Mulcahy functioned as a joint air component commander. His tactical air force grew to include nine Marine fighter squadrons, ten Army fighter squadrons, and sixteen Army bomber squadrons.[87] General Mulcahy organized his Tactical Air Force into an Air Defense Command, an Anti-Submarine Unit, a Photographic Unit, a Bomber Command, and an Air Support Control Unit. He

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[85] "Tenth Army After Action Report for March 26 to June 30," September 3, 1945, USAMHI.

[86] Buckner Diary entry, February 7, 1945, in Nicholas Evan Sarantakes, ed. *Seven Stars: The Okinawa Battle Diaries of Simon Bolivar Buckner, Jr., and Joseph Stilwell* (College Station: Texas A & M University Press, 2004), 19.

[87] Sherrod, *History of Marine Corps Aviation in World War II*, 374.

centralized control of the air assets "in order to maintain the inherent flexibility of air power and to permit the employment of its whole weight against selected areas."[88] With air, naval, and ground components, Buckner organized and staffed the Tenth Army like a modern joint task force.

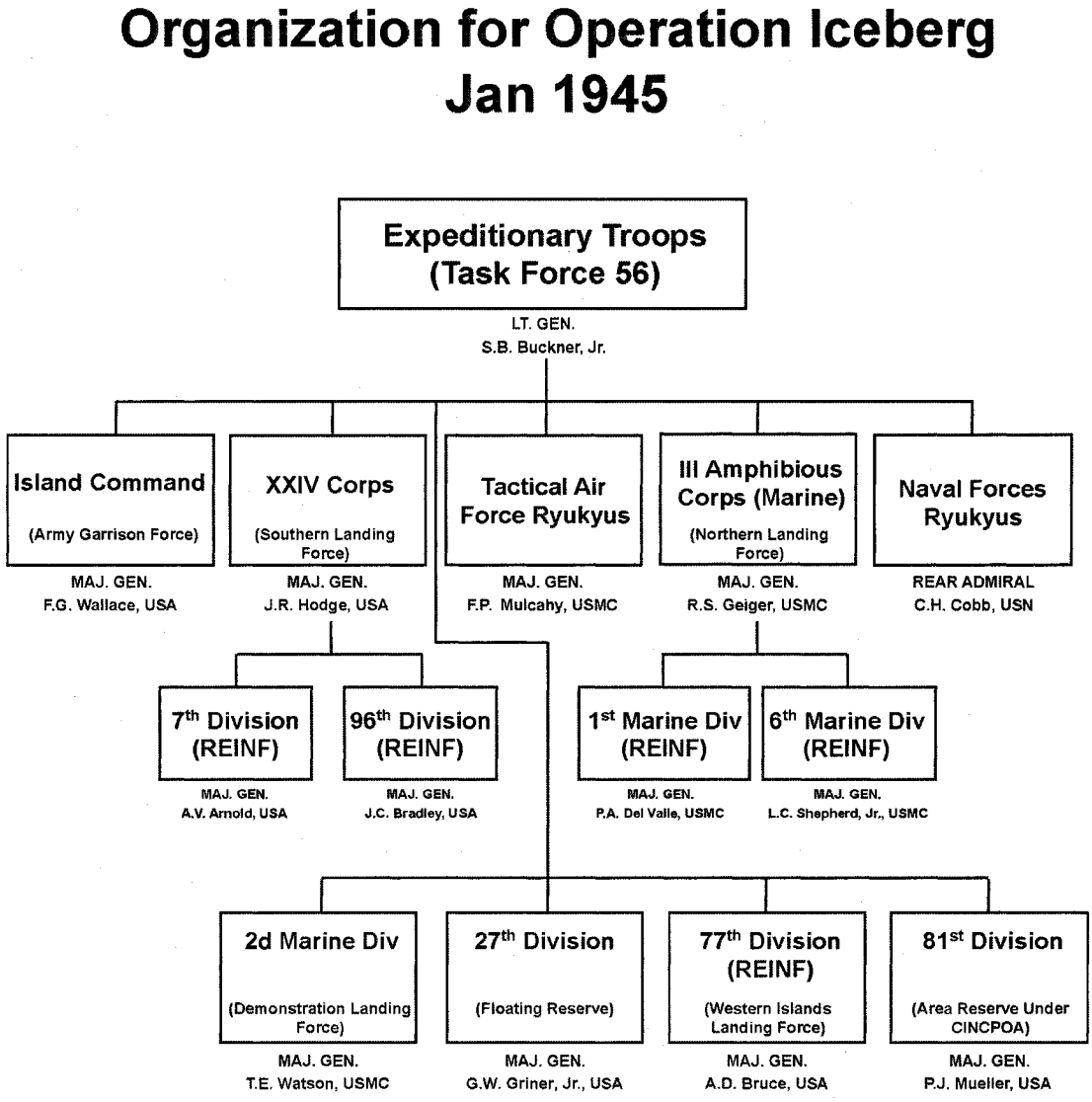

Figure 22. Organization of Tenth Army. Adapted by Marsha Glunt courtesy of the U.S. Army Center of Military History from Appleman, *Okinawa: The Last Battle*, 24.

[88] Headquarters Tenth Army, Tentative Operations Plan 1-45, ICEBERG, January 6, 1945. USAMHI.

The Tenth Army's primary mission was to secure Okinawa in order to build bases. In a similar fashion to MacArthur's use of a separate organization to sustain and develop bases, Buckner created the Island Command under Army Maj. Gen. Fred C. Wallace (GSS 1931, AWC 1936). Unlike MacArthur's logistics command, the Tenth Army's Island Command took joint organization to an unprecedented degree.

Joint Logistics

Joint logistics reached their highest level of development in World War II in the Central Pacific. On March 7, 1943, the Army and Navy agreed on supply distribution in order to avoid the duplication of effort. As a result, the services published the Joint Logistics Plan. This plan entrusted joint commanders with full responsibility for all logistical services and directed that a single service would provide supplies common to both services whenever possible.[89] Nimitz announced a basic charter for joint logistics in the Pacific on September 1943 in the form of a basic supply policy for advanced bases.[90] Common user responsibilities in the Central Pacific meant that the Army provided subsistence and ammunition, while the Navy provided fuel regardless of service. Each service supplied and maintained service-specific equipment and requisitioned such items through their own service channels. The joint logistics staffs at the various echelons of command supervised the entire effort, reviewing requirements, assigning priorities, and developing plans and policies for base development.[91] By the time of OPERATION

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[89] Robert W. Coakley and Richard M. Leighton, *Global Logistics and Strategy: 1943-1945* (Washington, D.C.: Center of Military History, 1989), 428.

[90] Ibid., 448.

[91] Ibid., 449.

ICEBERG, the Central Pacific logistics organization was expert in sustaining expeditionary warfare. The joint organization and operation of Tenth Army's Island Command represented the most modern logistics operation of the war.

General Wallace's Island Command constituted a thoroughly joint organization. A joint staff supervised a diverse and massive multi-service organization that included combat, engineer, antiaircraft artillery, military government, communications, and supply units. (See Figure 23) Eventually, Island Command grew to over 154,000 troops. It provided administrative and logistic support to all elements of the Tenth Army regardless of service. In addition, Buckner charged it with developing bases, establishing military government, and defending the island. To build bases, Island Command eventually controlled thirty-eight Army and naval construction battalions. At times, the Island Command took operational control of the U.S. Twenty-Seventh Infantry Division and Marine Amphibious Reconnaissance units to eliminate Japanese resistance in rear areas.[92]

By the end of the operation, Island Command had built eighteen air strips, reconstructed over 164 miles of road, supplied well over 183,000 troops from all services throughout the battle, and provided military government to over 196,000 Okinawans.[93] This significant logistics achievement was possible not just because of the resources available, but through the time, attention, and expertise afforded to logistics by the American military. Expertise in sustaining expeditionary warfare made success possible, but did not guarantee victory. Victory at Okinawa came only through the combination of air, sea, and land power that by 1945 was a hallmark of American operational art.

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[92] Headquarters Island Command, "Action Report Island Command Okinawa, June 30, 1945," USAMHI.

[93] Roy E. Appleman, James M. Burns, Russell A. Gugeler, and John Stevens, *The War in the Pacific, Okinawa: The Last Battle* (Washington, D.C.: Center of Military History, 1948), 419.

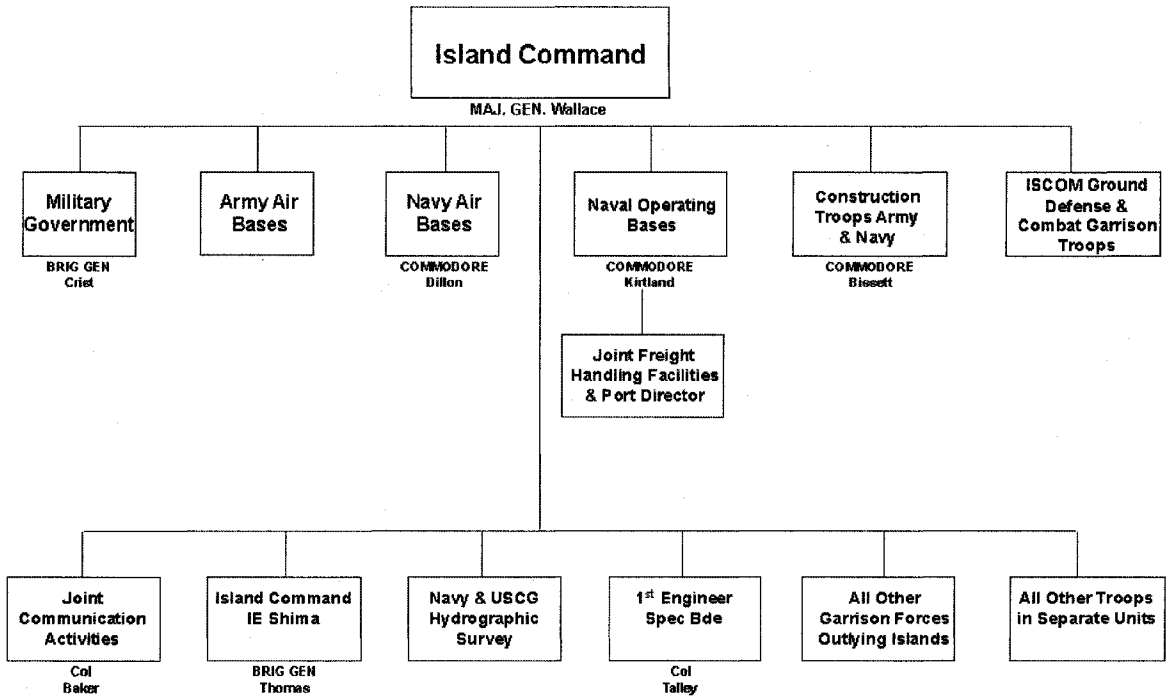

Figure 23. Organization of Island Command. Adapted by Marsha Glunt from "Action Report Island Command Okinawa 13 December 1944 -30 June 1945," USAMHI.

The Battle for Okinawa

MacArthur's extended operations to take Luzon delayed OPERATION ICEBERG from its planned March 1, 1945, target date to April 1. Once additional shipping became available, Nimitz began collecting troops and resources from all over the Pacific. Now it was MacArthur's turn to provide troops and aircraft to support the Central Pacific offensive. The coordinated air strikes to neutralize Japanese airpower began in February and intensified in March. MacArthur's Fifth Air Force struck Formosa almost daily in the latter month. The Twentieth Air Force hit airfields and aircraft plants in the Japanese home islands. Nimitz's carrier force raided the Japanese home islands and Okinawa.

Buckner's plan for the invasion closely followed the outline plan Nimitz had submitted to the Joint Staff in Washington. In the first phase, Tenth Army troops would

seize several of the Kerama Islands fifteen miles west of Okinawa. These small islands would provide anchorages allowing the Navy's ships to resupply and also artillery positions to support the invasion. Buckner's scheme of maneuver for the main invasion called for a two-corps assault, four divisions abreast on the west coast of Okinawa. As in the Central Pacific plan, the assaulting troops would cut the island in two, then sweep north and south to secure the objective. In the second phase, the Tenth Army would take Ie Shima, a large island to the north of Okinawa, and then exploit success by seizing and developing additional bases as required in the final phase.

Initially, everything went according to plan — even better than expected. Beginning on March 26, the Kerama Islands fell to the American forces with little resistance. Meanwhile, the naval covering force pounded Okinawa for seven days. On Easter Sunday, April 1, 1945, the Tenth Army stormed ashore at the Hagushi beaches on the western coast. Simultaneously, a Marine division feinted a landing against Okinawa's southeast coast to pin down enemy reserves.[94] Surprisingly, there was little resistance. Within two days, American troops reached the east coast, cutting the island in two. The III Amphibious Corps (Marine) turned north and the Army XXIV Corps turned south. The question on everybody's mind was: "Where are the Japanese?" (See Figure 24)

[94] Appleman, *Last Battle*, 74.

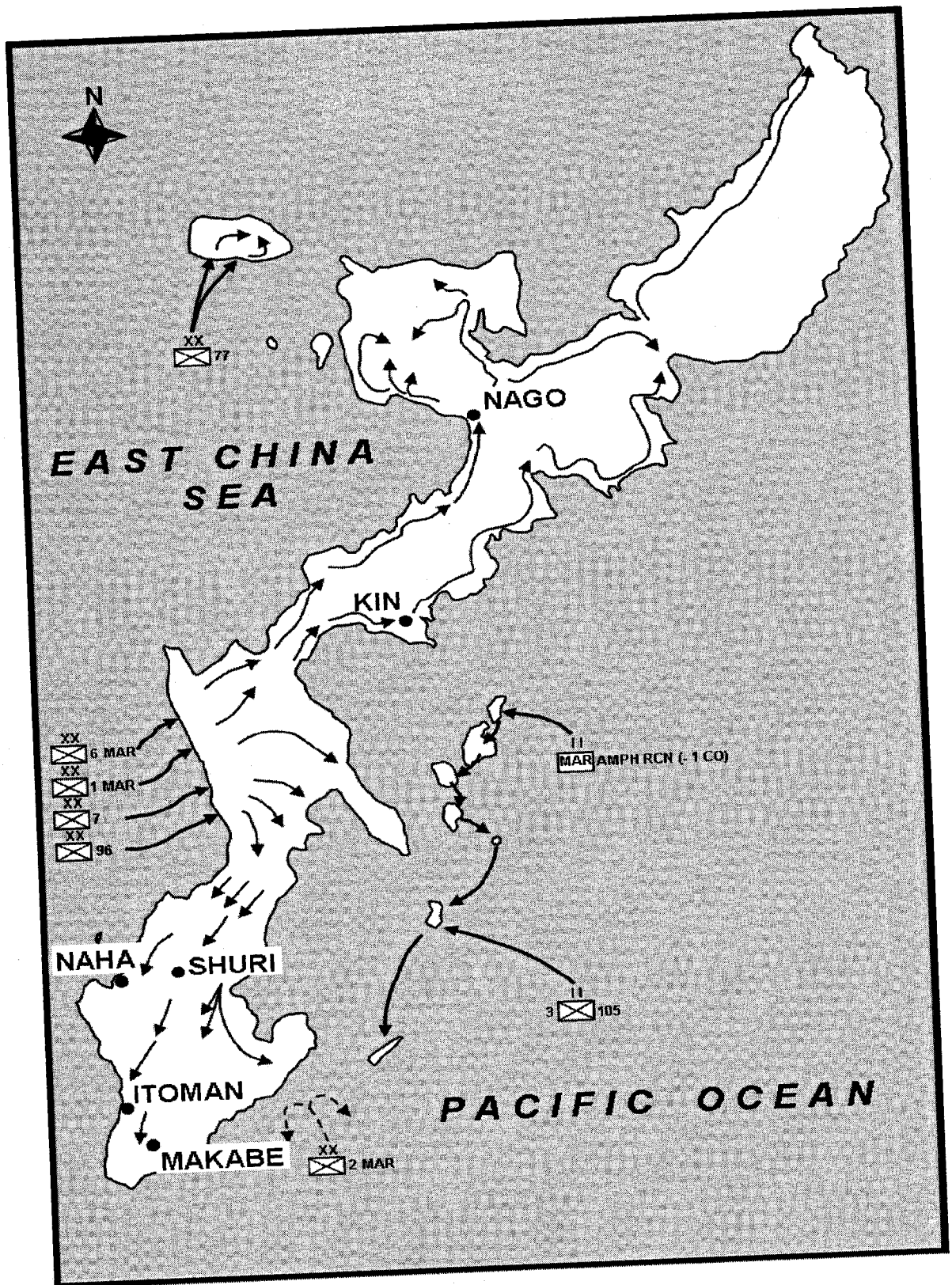

Figure 24: OPERATION ICEBERG, adapted by Klemens Schmidt courtesy of the U.S. Army Center for Military History from Appleman, *Okinawa: The Last Battle*, 30.

There were plenty of Japanese on the island ready to fight, but not on the beaches. Lt. Gen. Mitsuru Ushijima, commander of the Thirty-second Army, decided instead to defend only in the southern part of Okinawa, denying the Americans the most valuable part of the island. Recognizing that he could only delay and attrite American forces, Ushijima concentrated his forces in the south occupying an extensive area of fortifications. For the defense of Okinawa, Ushijima had two divisions and a mixed independent brigade available. A naval base force converted to infantry and Okinawan conscripts reinforced Ushijima's army to a total strength of over 100,000 troops. The Thirty-second Army was well supplied with the greatest concentration and best trained artillery units that the Americans would face in the Pacific.[95] American intelligence at all levels anticipated the Japanese main effort would be in the south, but it underestimated the enemy strength at 66,000 troops. The Americans did not anticipate Japanese efforts to mobilize the local population.[96] A day after Buckner's troops landed, he suspected that the enemy intended to make his stand in the southern part of the island.[97] After the XXIV Corps turned south, it confirmed Buckner's suspicions within a week.

Early progress merged the first and second phases of ICEBERG. The Marines cleared the northern area of the island by April 18, and Buckner committed the Seventy-seventh Infantry Division to take Ie Shima. The XXIV Corps pushing south ran into the first series of defensive lines which the Japanese manned in depth. Fighting its way through the outposts, the Corps attack stalled by April 9 in the Japanese defensive zone in

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[95]Ibid., 91

[96] "Tenth Army After Action Report for March 26 to June 30," September 3, 1945, USAMHI.

[97]Buckner Diary entry for April 2, 1945, in Sarantakes, *Seven Stars*, 30.

the Shuri area. The Tenth Army after action report described the Shuri defenses as "the rough, jumbled ridgelines were defended from trenches, and from a vast assortment of caves used as pillboxes, elaborate multi-storied underground fortifications and gun emplacements, some of them concrete, gouged out of the ridges and hills connected by tunnels that usually opened on the reverse slopes."[98] This intricate defense, manned by a fanatically determined enemy, promised a slow and costly American advance.

Determined to resist any further advance toward the home islands, the Imperial High Command decided to launch coordinated air and naval suicide attacks against the American forces on Okinawa. The Imperial Navy sent its largest remaining battleship, the *Yamato,* with one light cruiser and eight destroyers, to attack the American invasion fleet. Warned by American submarines, the American carrier covering force sank all but four Japanese destroyers by air on April 7, long before the *Yamato* task force could reach Okinawan waters.

The last vestige of Japanese airpower in the form of Kamikaze attacks proved much more dangerous. On April 6, more than 700 Japanese aircraft attacked the American invasion fleet and forces ashore. On April 12-13, the Japanese launched 185 Kamikaze attacks, and two days later launched another 165 suicide planes. The Americans defended themselves with naval carrier aircraft, Buckner's tactical air force with Marine and Army fighter squadrons, fourteen Army antiaircraft battalions, and the guns of the Fifth Fleet. This jointly orchestrated force took a heavy toll on the Japanese attackers. Still, Japanese air attacks sank twenty American ships and damaged another

[98] "Tenth Army Action Report 26 Mrch-30 June 1945," September 3, 1945. USAMHI.

157 ships by April.[99] Such losses made the Navy impatient for success on the ground. Nimitz flew to Okinawa and on April 23 met with General Buckner. After remarking on the need to speed up operations, Buckner reminded Nimitz that the land battle was Army business. Nimitz remarked, "Yes, but ground though it may be, I'm losing a ship and half a day. So if this line isn't moving within five days, we'll get someone here to move it so we can all get out from under these stupid air attacks."[100] Unfortunately for Buckner's troops, the Japanese fought with the same determination and fanaticism in the caves, trenches, and fortifications on the island.

Buckner ordered Hodge's XXIV Corps to mass for a concentrated thrust on April 19. A lengthy artillery preparation provided by twenty-seven artillery battalions preceded H-hour as the XXIV Corps pushed all three of its Army divisions into the attack. After five days, Hodge's troops failed to break through, but they did force the Japanese to withdraw to the next series of defensive positions in the Shuri Line. Buckner now reconsidered his tactical and operational options. Maj. Gen. Andrew D. Bruce (GSS 1933, AWC 1936, NWC 1937), commanding the Seventy-seventh Division, recommended another amphibious assault on the southeastern coast of Okinawa to get behind the Japanese lines.[101] Bruce's division had made a similar move during the Philippine campaign to seize the town of Ormoc, the point of entry for Japanese reinforcements on Leyte. Buckner's staff believed another amphibious operation over the beaches near Minatoga logistically infeasible and recommended against the operation.

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[99] Appleman, *Last Battle*, 102.

[100] Potter, *Nimitz*, 375.

[101] Buckner Diary entry for April 11, 1945, in Sarantakes, *Seven Stars*, 37.

Buckner agreed. That judgment left Buckner with only one other option — maneuvering the entire Tenth Army (including the Marine III Amphibious Corps) for a frontal assault relying on massive American firepower to swamp the Japanese defenses.

Before Buckner could bring the full weight of the Tenth Army to bear, however, the Japanese counterattacked. Some aggressive officers on Ushijima's staff argued for an all out attack to defeat the Americans before the Japanese combat strength drained away. After a debate, Ushijima agreed to this gambit on May 4. The Japanese did their best to put together a combined offensive, coordinating the attack with a major strike by Kamikaze planes and suicide boats against American shipping. On the ground, the Japanese Twenty-fourth Division made the main effort supported by tanks and artillery. The Americans crushed the poorly coordinated attack soon after it began on the night of April 12. At a cost of over 5,000 troops killed, the Japanese succeeded only in disclosing the positions of their artillery. Ushijima quickly returned to the tenacious static defense that required the Americans to dig his men out cave by cave.[102]

Buckner reorganized his front lines by incorporating the Marine III Amphibious Corps into his southern front. On May 11, the Tenth Army launched a two-corps assault against the Shuri Line. Buckner's tactics sought to reduce casualties "by a gradual and systematic destruction of their works."[103] These "blowtorch and corkscrew" tactics relied on fire and explosives to destroy Japanese defensive positions. The Army used the new tank flamethrowers as well as satchel charges, aerial and artillery-delivered ordnance to

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[102] For the best Japanese account of the battle see Hiromichi Yahara, *The Battle for Okinawa*, translated by Frank B. Gibney (New York: John Wiley & Sons, Inc., 1995). Colonel Yahara served as the operations officer for the Thirty-second Army. This book also includes the original interrogation report of Col. Yahara conducted by Frank Gibney in 1945.

[103] Letter to Adele Buckner April 14, in Sarantakes, *Seven Stars*, 39.

annihilate the Japanese. The Tenth Army engineers even resorted to using 1,000 gallon water distributors to pump gasoline into the caves to clear them with massive explosions.[104] Finally, after two weeks of fighting in poor weather against fierce resistance, the Tenth Army penetrated both flanks of the enemy defensive zone. Ushijima retreated to the hills on the southern tip of the island.

Offensive operations resumed on June 1 and eventually enveloped the last Japanese position some twenty days later. The Japanese commander and most of his staff committed suicide. General Buckner also did not survive the battle. Japanese artillery fire killed the American commander after he came to the front to observe an attack on June 18. Buckner became one of the 49,151 Americans to fall in the battle. That figure included 12,250 killed or missing. The Navy paid an unusually high price with 9,731 casualties, 4,907 of them killed or missing. Okinawa cost the U.S. Navy thirty-six ships sunk and 368 damaged. The Americans also lost 763 planes from all services. The Tenth Army estimated Japanese losses at more than 7,400 captured and 107,539 counted dead, plus an additional 23,764 dead buried in caves.[105] In addition to the destruction of the Thirty-second Army, the Japanese lost 7,800 planes and sixteen ships.[106]

With Okinawa secured, the Allies owned an ideal staging area for the invasion of Japan. The Americans intended to pack the island with planes, troops, and ships for the final assault on the empire. The bitter fight for Okinawa also convinced American leadership that any invasion of the home islands would encounter the same kind of

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[104] Appleman, *Last Battle*, 256.

[105] "Tenth Army Action Report March 26-30 June 1945," September 3, 1945.

[106] Appleman, *Last Battle*, 474.

suicidal Japanese resistance. The projected cost in American casualties justified the use of any weapon that might make an invasion unnecessary.[107] On August 6, a single B-29 from the Twentieth Air Force dropped an atomic bomb on Hiroshima. Three days later, Nagasaki suffered the same fate. On August 10, the Japanese offered to surrender. The eighty-one day fight for Okinawa turned out to be the last battle of World War II.

Assessment

ICEBERG was a major operation intended to enable the subsequent invasion of the home islands, and not an independent campaign. The campaigns directed by the Joint Staff in Washington and carefully planned in detail and conducted by the theater commanders synchronized these major operations in the war against Japan. These campaigns consisting of major operations bridged tactics and strategy to achieve strategic objectives in the Pacific theater. This was operational art of a high order. No other nation on earth could project, conduct, or sustain such large-scale operations across such distances by 1945. In the operational functions of intelligence, logistics, and command and control, the Americans clearly surpassed their enemies. In the matter of operational maneuver, however, historians continue to take American commanders to task for their failure to provide the best solution.

Buckner's decision against a flanking amphibious assault at Okinawa received criticism at the time and later as historians examined his performance. His mass frontal assault seemed unimaginative and became the source of controversy. On May 29, 1945, Homer Bigart soundly criticized Buckner's ultra conservative tactics in an article in the New *York Herald Tribune.* Another columnist at the time, David Lawrence, picked up

[107] Bland, *George C. Marshall Interviews and Reminiscences*, 423.

this line of attack and labeled Okinawa a military fiasco. Historians have proved no less critical. In a brief discussion of the operation in *War to Be Won*, Williamson Murray and Allan Millett condemns Buckner's "flawed generalship," declaring him unfit to command because of his lack of combat experience.[108]

Buckner's staff recommended against the second amphibious operation as logistically insupportable. This is the same conclusion reached by the Joint Staff's Logistical Committee in Washington, D.C., when it reviewed the Joint Staff's original plan for an assault over these same beaches.[109] That was why the Minatoga beaches had been rejected in the Tenth Army plan. Later operations confirmed the staff's assessment when the Seventy-seventh Division occupied the Minatoga beach area towards the end of the battle and discovered the unit could not be supplied over the shore. Instead, the division had to be supplemented by overland supply.[110] More to the point, Buckner's primary mission was to build bases for the American advance on Japan, not to kill Japanese. Buckner's methodical approach was specifically designed to minimize friendly casualties while achieving his operational mission. In his own words, "We didn't need to rush forward, because we had secured enough airfields to execute our development mission."[111]

The Tenth Army faced a competent, determined enemy in a heavily fortified defense in depth. The American ground forces faced the greatest concentration of enemy artillery in the Pacific war. They faced an enemy not affected by maneuver, but

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[108] Murray and Millett, *War to Be Won*, 514, 515.

[109] Joint Logistics Committee, "Joint Logistical Plan for Operations in the Ryukyus," January 6, 1945, *Joint Chiefs of Staff Records*, Reel 7, USAMHI.

[110] Appleman, *Last Battle*, 263.

[111] Press Conference, June 15, 1945, in Sarantakes, *Seven Stars*, 80.

determined to fight to the death. The great lesson of Okinawa is that even at the operational level, if the enemy is determined to fight to the death, he must be accommodated. No amount of large-scale artful maneuver can avoid a fight to the finish. Fanaticism may insist on a war of attrition. In this case, operational art may only serve to best position friendly forces to fight it with all possible advantage.

The Battle for Okinawa showcased not only Japanese fanaticism, but the American ability to project, conduct, and sustain large-scale expeditionary warfare. The bitter experience of war forced the U.S. Army and Navy to make a reality of the studies of the interwar period in which joint staffs and organization could synchronize air, sea, and landpower. The development of the American staff system, which treated operations, logistics, and intelligence equally, made possible the application of American power at the operational level of war.

The most valid criticism of American operational art in the Pacific remains the apparent failure to appoint a single theater commander. The overall lack of unity of command encouraged service rivalry and resulted in dual main efforts. Regardless, by keeping strategic and operational direction vested in the Joint Chiefs, the senior American leadership balanced the requirements for a global war. More importantly, this system, though not perfect, ensured that each decision resulted from considerable discussion, debate, and compromise. Though this runs counter to the military maxim of unity of command, it ensured full discussion of all strategic and operational issues and latitude for creativity born from competition. The system provided sound decisions, operational agility, and directed the dual drive across the Pacific that kept the Japanese

off balance and uncertain as to the Allied main effort. Fortunately, the Americans had sufficient resources to afford this theater strategy.

Like the strategy in Europe, this was a broad front approach, employing all available resources in a continuous concentric attack to overwhelm the enemy. This undoubtedly played to the American advantage in industrial capacity, but all this potential power could only be brought to bear through the intelligent application of operational art. The intellectual preparation of the interwar period made possible the evolution of American operational art in the Pacific. In the end, the American ability to focus, leverage and sustain air, sea, and landpower won the war in the Pacific and made it the best expression of American operational art during World War II.

CHAPTER 7

CONCLUSION

British historian Richard Overy asks a very good question in his book *Why the Allies Won.* Why did the Allies win World War II? As he points out, the outcome was certainly not preordained. He conducts a broad examination of issues that includes economic production, technology, military reform, even morality. In the end, he concludes "the Allies won the Second World War because they turned their economic strength into effective fighting power, and turned the moral energies of their people into an effective will to win."[1] Economic production, technology, and a righteous cause that sustains public will may provide the conditions for victory but they cannot guarantee it. As Clausewitz noted so many years ago, war is ultimately about fighting.[2] Overy does not provide a detailed discussion of military reform, but limits himself to brief narratives of the war at sea, the strategic bombing campaign, and the land campaign in Europe. Like many military historians, he does not discuss or even consider operational art. How did the Allies, and specifically the Americans, solve the problems of modern warfare and apply their advantages in resources and technology? Quite simply, the Americans prepared for it. During the interwar years, the American military developed a framework for operational art that allowed them to apply their economic power to project, sustain, and conduct large scale combat operations. The Americans based this operational art on experience, theory, and strategic requirements.

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[1] Richard Overy, *Why the Allies Won* (New York: W. W. Norton & Company, 1995), 325.

[2] Clausewitz observed, "Combat is the only effective force in war; its aim is to destroy the enemy's force as a means to a further end." Clausewitz, *On War*, 97.

World War I created a great watershed in military history introducing modern warfare. All three elements of air, sea, and landpower now competed in an era of mass industrial warfare. The experience of World War I drove home the reality of modern war. The tremendous cost and sacrifice of that war illustrated the problems posed by modern warfare. In the years following World War I, American military professionals studied the problems and developed solutions. Senior American officers such as Gen. John J. Pershing and Gen. George C. Marshall returned from war in Europe determined to avoid the lack of preparation that characterized American participation in World War I.[3] As Chief of Staff of the Army, Pershing pinned his hopes on the military school system. The military school system provided the engine of professionalism for the American Army in the twentieth century.[4] With a small, budget-starved peacetime army, preparation for modern war could occur only in the military schools. The great achievement of the military school system in the interwar period was the intellectual preparation of the senior leadership that would fight and win the Second World War.

Contribution of the Military School System

The Leavenworth Schools and the Army War College made a tremendous contribution to Allied victory in World War II. Specifically, the senior military schools

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[3] Pershing, *My Experiences in the World War*, 1: 16 and Marshall, *Memoirs of My Services in the World War*, 8.

[4] Military historian Edward M Coffman noted, "The spectacular row over air power and the development of an armored force in the postwar period were indications of change, but more basic was the new professionalism of the army. In part this was a result of the war experience, but there was a greatly increased emphasis on the schools and professional training. Although a few officers attended the Leavenworth schools and the Army War College before 1917, many did not think this training essential. After the war, it was." Edward M. Coffman, *The War to End All War: The American Military Experience in World War I* (Lexington: University of Kentucky Press, 1968), 361-62.

developed a military problem-solving process, a modern staff system, and a framework for modern operational art. The Staff School at Leavenworth drilled into the student officers the staff study as a means for problem solving. It provided format and process in thinking through and solving complex problems. American staffs at all levels from the Joint Staff in Washington, D.C. to the tactical staffs at division, used the same military decision making process for the entire range of problems from strategic to operational to tactical. With few units to command or train, the Army emphasized professional education to prepare officers. Lt. Gen. Robert Eichelberger, commander of the Eighth Army in World War II, remembered, "I kept being sent back to school. In 1925, at the age of thirty-nine, I became a student at the Command and General Staff School at Fort Leavenworth. I learned more at thirty-nine than I ever learned at twenty-one."[5]

Both the Command and General Staff School and the War College favored an American staff system that treated the intelligence, logistics, and operations sections with equal importance. The curriculum at both schools devoted almost equal time to each staff area, demanding the same level of study and expertise in each area regardless of an officer's branch. The operators and tacticians studied logistics and intelligence along with the experts in those areas. This became a critical part of the American concept of operational art. It made senior commanders and staff officers at least competent and sensitive to the operational functional areas of intelligence and logistics. Maj. Gen. Ernest N. Harmon (GSS 1933, AWC 1934), wartime commander of the First and then Second Armored Divisions, reflected in his autobiography, "A military historian recently asked me how the United States, indifferent and even contemptuous of the military in peacetime, had been able to produce a group of generals, proficient enough to lead armies

[5] Eichelberger, *Our Jungle Road to Tokyo*, xv.

successfully against German might. I am now convinced that the intensive and imaginative training at the Command and General Staff College had a great deal to do with it."[6]

The American military devoted a great deal of time and attention to intelligence. From strategic to the tactical level, U.S. commanders placed a priority on intelligence. At the strategic and operational level, code breaking and signals intelligence contributed a great deal to Allied victory. In the European theater, the British shared the results of their code-breaking program, ULTRA which decrypted secret German intercepted messages. In the Pacific theater, the American benefited from their own decryption program, MAGIC, the code name for signal intelligence gained from the Japanese. Both intelligence activities yielded a good deal of useful operational intelligence. Intelligence at the theater and operational level served not just to predict enemy actions but to help understand how operational maneuver might best defeat him. In the U.S. Army's standardized five-paragraph tactical field order, separate paragraphs addressed both intelligence and logistics. The planners expanded the paragraphs on intelligence and logistics into annexes and even separate plans in the campaign and operation plans in World War II.[7] The intelligence annexes and plans provided not only information on the enemy but intelligence collection and counter intelligence plans.

Deception became integral to intelligence planning. Allied planners understood the value of deception in setting the conditions necessary for operational success.

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[6] Ernest N. Harmon, *Combat Commander: Autobiography of a Soldier* (London: Prentice Hall International, Inc., 1970), 49.

[7] In the plans for operations OVERLORD, RENO, and ICEBERG, the intelligence and particularly the logistic annexes or separate plans frequently constituted the largest portions of the overall plans.

OPERATION FORTITUDE, the deception plan to convince the Germans that the Allies would assault along the Pas de Calais region rather than Normandy, illustrated the potential value of operational deception. The U.S. Joint Staff also considered extensive deception measures against Japan at the theater level.[8] Commanders and staff routinely planned feints and maneuvers to deceive enemy commanders in order to fix enemy reserves or obtain tactical surprise as in MacArthur's plan to invade the Philippines or in Buckner's plan to feint along the eastern coast of Okinawa. American commanders used intelligence in order to shape their own operations and influence enemy reactions.

In contrast, the Axis rarely approached Allied sophistication or success in using operational intelligence. As noted in the German staff system, intelligence simply did not enjoy the same professional emphasis as operations.[9] Similarly, the Japanese staff system did not value intelligence to the same degree as operations. Col. Hiromichi Yahara, the operations officer for the Japanese Thirty-second Army defending Okinawa, admitted during his interrogation to the "unfortunate attitude that intelligence work belonged properly only to the officers incompetent for operations work prevailed even in the highest echelons."[10] The disdain or at least lack of emphasis in the Axis staff systems for intelligence also extended to logistics.

Professional advancement in Axis armies depended on demonstrated success as a field commander, namely tactical or operational expertise. In the American Army, officers could reach high rank by commanding logistic organizations. At the national

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[8] Joint Staff Planners, Directive for Deception Measures Against Japan, May 3, 1944, *Records of the Joint Chiefs of Staff*, Part I, Pacific Theater, Reel 8, USAMHI.

[9] Schweppenburg, *Fighting the Invasion*, 76.

[10] "Prisoner of War Interrogation Report," August 6, 1945 in Yahara, *Battle for Okinawa*, 216.

level, Marshall reorganized the Army in 1942 into the Army Ground Forces, Army Air Forces, and Army Services of Supply. Four star General Brehon Somerville headed the Services of Supply, later redesignated as Army Service Forces. This organization took responsibility for procurement, inventory, and distribution of all equipment and supply. This essentially created an Army logistics command co-equal with the Army commands charged with raising and training Army ground and air forces. Likewise at the operational level, each of the theaters created their own subordinate logistics commands. Lt. Gen. John C. H. Lee (AWC 1932) commanded Eisenhower's European Services of Supply. General Eisenhower served as both the Supreme Allied Commander and Commander European Theater of Operations U.S. Army (ETOUSA). In January 1944, Eisenhower combined the Service of Supply and ETOUSA headquarters. Although he remained commander of the U.S. European Theater, he delegated control of ETOUSA to Lee primarily as an administrative and logistics headquarters. Eisenhower designated Lee as commander of the Communications Zone, responsible for all U.S. European logistics.[11]

In the Southwest Pacific Theater, MacArthur created his own theater Army Service of Supply Command. In the Pacific Ocean Areas Theater, the Service Force Pacific Fleet Command provided logistic support to the fleet throughout the Pacific. Nimitz relied on his Army component, U.S. Army Forces Pacific Ocean Areas, to provide for Army needs. Both MacArthur and Nimitz used subordinate component logistic commands in their joint task forces. Commanders and planners treated these component logistic commands, such as Army Services Command (ASCOM) in the

[11] Forrest C. Pogue, *The Supreme Command* (Washington, D.C.: Center of Military History, 1954), 74.

Philippine Campaign or Island Command (ISCOM) in the battle for Okinawa, as separate components equal in importance to the subordinate combatant components.

Logistics as a planning function became ingrained in all levels of Army staffing. The Root reforms in 1903 created the Army General Staff on the German model. The original General Staff included only three divisions: administration, military intelligence, and military education and technical matters. In 1918 under the pressure of World War I, the Army Chief of Staff, General Peyton C. March, finally subordinated the old War Department Bureaus to the General Staff. He reorganized the staff into operations, intelligence, war plans, and a fourth section responsible for purchase, storage, and traffic. After General Pershing became the Army Chief of Staff, he reorganized the General Staff along AEF lines, establishing a G-1, G-2, G-3, and G-4 staff sections.[12] This General Staff organization at the national level differed from Axis armies, which continued to invest responsibility for supply with the War Ministry. Pershing extended the American staff system throughout the Army. The Leavenworth Schools and War College in the interwar period shaped their curriculum to prepare officers for service on senior staffs at all levels.

Perhaps more than at any other level of war, logistics is critical to success at the operational level. When armies push 180,000 men onto a hostile shore, they need more than the spirit of the bayonet to sustain them. Logistics determines the art of the possible. There is a natural tension between logistics and maneuver in operational art. Any imbalance between ends, ways, and means results in risk. The creative element in operational art comes from balancing ends, ways, and means, not just conceiving brilliant

[12] Weigley, *History of the United States Army*, 322, 323, 379, 405.

maneuvers. The Germans, whether at the operational or strategic level, frequently exceeded their means in pursuit of unclear or unachievable ends. In the desert, Rommel paid little attention to logistics and willingly accepted significant risk in his operational and tactical maneuver.[13] Similarly in Russia, the Germans continually exceeded their means in the pursuit of operational victories.[14] In the Pacific, the Japanese relied more on their *bushido* spirit than competent staffs.[15]

American logistical planning was not perfect. At times, lack of oversight or process produced tremendous waste, duplication of effort, even abuse. Under-Secretary of War Robert Patterson recommended Eisenhower fire his chief logistician, Lt. Gen. John C. H. Lee, for all three reasons after visiting the European theater in October 1944.[16] Some historians criticize Allied planners and commanders for being too sensitive to logistics, which encouraged them to be overly cautious and risk adverse.[17] Even if this accusation is true, the fact remains that the Allies in general and the Americans in particular, maintained a better balance between ends, ways, and means than their enemies. No Allied operation failed after 1942 due to logistics.

All the functions of operational art: maneuver, logistics, intelligence, command and control, come together in the art of campaign planning. In this area, the Allies again proved superior to the Axis. In the space of twenty years, the Americans emerged from

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[13] Van Creveld, *Supply and War*, 201.

[14] Ibid., 180.

[15] *Bushido* refers to the way of the warrior, the *samurai* code that demanded loyalty and considered surrender as the ultimate dishonor. The Imperial Army encouraged *bushido* in its officers. This personal philosophy often produced a death and glory fatalism over more rational or realistic tactical and operational decision-making. Meirion and Susie Harries, *Soldiers of the Sun: The Rise and Fall of the Imperial Japanese Army* (New York: Random House, 1991), 481.

[16] D'Este, *Eisenhower*, 592.

[17] Van Creveld, *Supply and War*, 215.

their experience in World War I to develop a modern staff system and a framework of operational art that allowed for effective campaign planning in World War II. The faculty of the senior service colleges built this framework of operational art not only on experience, but on theory and necessity.

American military theory in the interwar period was largely derivative and eclectic. Jomini still provided much of the geometry of the battlefield, but American officers expanded his concepts of theaters of operation, lines of communication, and basing into a detailed organization and structure for a theater of war. Officially, at least in doctrine, American military theory appeared embodied in the principles of war adopted in 1921: objective, offensive, mass, economy of force, movement, surprise, security, simplicity, and cooperation. More important, the study of Clausewitz in the senior service colleges added to operational understanding of campaign planning, focusing, and massing combat power. Theories on airpower contended between tactical, operational, and strategic tasks. Without large peacetime formations to test theories, the American Army relied on academic exercises. Although a source of concern to senior leaders, theory and exercises provided valuable professional experience. As noted by General Marshall many years later:

> I was very much worried at the start of the Second World War for fear our — well, out of the First World War — for fear our officers were too theoretical. We didn't have an actual fleet in the water as the Navy did. We had no real Army. The officers had to get their training theoretically, and I was very much afraid that it was going to be too much theory. But afterwards I discovered that our men were so well prepared in the theoretical part, the large factors in the thing, that they were far yonder, I thought, ahead of the preparations of that nature with the British. The British had an immense advantage in tactical information because of their battle experiences, particularly in the early part of the Second World War, but when it came to the other aspects of it, it was quite the other way around.[18]

[18] Marshall, *Interviews*, 161.

In application, American operational warfare took the form of continuous concentric pressure to overwhelm the enemy. The military's ability to bring America's tremendous economic resources to bear across intercontinental distances made this possible. In theory and practice, the curriculum of the senior service schools recognized three levels of war necessary to make this happen and developed a system for campaign planning to employ the forces made available.

Campaign planning arranges battles and major operations to achieve strategic objectives in a theater of war or a theater of operation. From their experience in World War I, the Americans adopted a modified French general staff system and developed an operational art to solve the problems of modern warfare. The essential problem for the American military facing any modern conflict required the U.S. to raise sufficient forces and then to project, conduct, and sustain them in large scale operations to achieve strategic objectives. To solve the problem of raising forces and providing resources, the faculty devoted a good deal of time and curriculum at the Army War College to mobilization. In 1924, the War Department established a separate school, the Army Industrial College to deal with this complex and essential problem. The key elements of American operational art as developed in the interwar school system centered on theater structure, jointness, phasing, and establishing a firm connection between tactical, operational, and strategic objectives.

The exercises and curriculum at the Army War College anticipated war in the Pacific and to some degree global war. Interwar instruction and doctrine provided a theater structure and organization to deal with it. The doctrine for large-unit operations established the geometry of global warfare with the adoption of theaters of war and

theaters of operation. Although command and control of this theater structure officially provided options for unity of command or cooperation, the faculty and students recognized the advantages in unity of command. Joint command and staffing remained a preferred student solution throughout the period. American officers accepted tactical phasing in World War I as necessary for coordinating artillery with infantry advancing across the battlefield. As they contemplated an advance across the Pacific, operational phasing seemed equally obvious. A series of major operations to seize advance bases for either a return to the Philippines or for the defeat of Japan became a routine part of American planning.

After Gen. J. Lawton Collins (GSS 1926, AWC 1938) had served as a corps commander in World War II and later as Chief of Staff of the Army, he reflected on the values of his year at the Army War College, "These studies were of value to the students," he remarked, "in that they learned what constituted a war plan, the scope of military intelligence that would be required, the logistical support that would have to be provided, the combined Army, Navy, and Air operations that would have to be planned and the political, economic factors that would have to be considered."[19]

Russell F. Weigley claimed that American military thought before World War II "neglected operational art to focus instead on strategy and tactics."[20] Clearly, the Army War College studied strategy and the Staff School taught tactics, but both studied and exercised large-unit operations. Precisely because the military school system dealt with strategy, tactics, and large unit operations, the curriculum bridged the gap with

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[19] Collins, *Lightning Joe*, 94.

[20] Weigley, "From the Normandy Beaches to the Falaise-Argentan Pocket," *Military Review* 70 (1990): 45.

operational art. The national military planning system adopted during the interwar years started with strategic objectives and then detailed the military resources and operations necessary to achieve them. In the absence of any stated national objectives coordinated through the executive branch, the planners simply assumed them. Whether in exercises or actual war plans, the officers recognized the Clausewitzian notion that war must serve a political purpose.

The ability of American planners to tie strategy, operations, and tactics together was an important feature of American operational art. Again, the Axis frequently failed to grasp this fundamental concept. Both the Japanese and Germans excelled at the tactical art, but often pursued operational victories seemingly without clear and achievable strategic objectives. It was not simply a case of flawed strategy but the conviction that all could be made right with a quick and decisive military victory. The very militarism of these societies made them overly reliant on the pursuit of military victory divorced from any realistic or achievable strategic goals.[21]

Martin Van Creveld criticizes the American military school system during the interwar period and compares it unfavorably with the German *Kriegsakademie*. He charges that no U.S. institute of advanced military learning relied on competitive exams for admittance. He asserts American military schools "did not offer comprehensive, systematic, integrated three year course on military history, art and science such as formed the core of the German *Kriegsakademie*." Finally, he concludes that no American school "served as an instrument for screening and promoting officers on their

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[21]Bond, *The Pursuit of Victory*, 154.

way to top commands."[22] On almost every count, Creveld is wrong. Although the Army did not select officers for either the Command and General Staff School or the Army War College using competitive examinations, selection was nonetheless competitive and viewed as critical for promotion. Eisenhower even temporarily changed branches to ensure his admission to the Command and General Staff School.[23] True, the American Army did have a more egalitarian view of the military school system. The Army crafted policies in the interwar period to increase, not limit attendance. The Army intended to produce competent rather than brilliant staff officers and commanders in sufficient numbers to manage and lead the mass American conscript army in time of war.

As previously noted, history formed a large part of the curriculum for the senior Army schools. At Leavenworth, the faculty devoted 15 to 17 percent of the curriculum annually to the study of history. Lectures and staff rides at both institutions used history in a fundamental way to educate students. Lieutenant General Wedemeyer recollected that "military history was an important and for most students, an enjoyable feature of the [Leavenworth] course."[24] At the War College, in particular, history was the vehicle through which the students studied the problems of modern warfare. In the twenties, the critical examination of the campaigns of World War I made clear the complexity and scale of large-unit operations. Determined to do better next time, the faculty and students studied and compared American performance with both Allies and enemies. The faculty also used history to teach command and leadership. A course description from

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[22] Martin Van Creveld, *The Training of Officers: From Military Professionalism to Irrelevance* (New York: Free Press, 1990), 66.

[23] D'Este, *Eisenhower*, 177.

[24] Wedemeyer, *Wedemeyer Reports!*, 48.

Leavenworth announced: "Emphasis is placed in the course of instruction at these schools on the use of historical illustrations to exemplify strategical and tactical principles and doctrines."[25]

Attendance at Leavenworth and Army War College, if not a prerequisite for high command in the American Army, certainly made it more likely. All officers commanding American army groups or armies in World War II attended both the Command and General Staff School and the Army War College. Of the thirty-four generals who commanded corps, thirty-three graduated from Leavenworth and twenty-nine graduated from the War College.[26] The school system educated and trained not only the senior leadership, but the countless staff officers that planned and supervised large scale operations. The Staff School and Army War College educated an entire generation of senior leaders and planners in strategy, operational art, and tactics using history and exercises. History allowed the students to study the problems of past campaigns, to reflect and draw conclusions. Eben Swift's original applicatory method employing exercises and staff rides ensured that students developed and tested solutions to realistic and current problems. Perhaps even more than theory or experience, strategic requirements drove American officers to develop a framework for modern operational art.

The Army's requirement to defend the Philippines ensured that every War College class from 1920 to 1940 exercised War Plan Orange, the plan for war with Japan.

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[25] Command and General Staff Schools, *Historical Illustrations and References* (Ft. Leavenworth, KS: General Service School Press, 1927), iii, Richards Papers, Box 10, USAMHI.

[26] Robert H. Berlin, *U.S Army World War II Corps Commanders: A Composite Biography* (Ft. Leavenworth, KS: Combat Studies Institute, 1989), 10, 12.

As Williamson Murray points out, successful peacetime military innovation often requires specificity.[27] The need for advance bases in War Plan Orange encouraged the Navy to develop carrier aviation, and the Marine Corps to develop an amphibious doctrine. It also required the Army to project, sustain, and conduct large-scale expeditionary operations. This forced the Army to consider the requirements for modern joint warfare — how to combine air, land, and seapower across great distances. The solutions included joint staffs, unity of command, and leveraging air, sea, and landpower in phased joint campaigns. These solutions developed at the War College remained in the curriculum, but did not find their way into approved doctrine. Without the actual pressures of war, the Navy and Army could never have agreed on developing a true joint doctrine that might infringe on service authority. Faced with the reality of war, the bureaucratic inertia of the peacetime Army and Navy gave way to the lessons learned and exercised in the academic freedom of the senior service colleges.

In all the discussion during the interwar years about how to fight and win the next war, the debate over the role of airpower remained the most controversial. At Leavenworth and the War College, the Army insisted that airpower should be harnessed to tactical and operational tasks. The Army Air Corps, sensing the new power and potential of aviation, advocated a strategic role for airpower. America's faith in airpower well suited its economic strength, love of technology, and the great distances over which the United States must fight. Gen. Hap Arnold, General Spaatz, and General Eaker, got their chance to demonstrate the strategic reach and impact of airpower. The success of strategic bombing in World War II has been debated. The Strategic Bombing

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[27] Williamson Murray, "Innovation; Past and Present" in Murray and Millett, *Military Innovation*, 311.

Survey conducted after the war in Europe suggested it was decisive but emphasized the resilient nature of the German economy and will.[28] In the Pacific, the survey documented the decline of the Japanese economy, but noted the difficulty in determining the causes between its physical destruction and the impact of declining imports as a result of submarine interdiction of Japanese sea routes.[29] The surrender of Japan following the dropping of the atomic bombs suggested the decisive nature of airpower, but the survey asserted Japan would have surrendered by November 1945 regardless.[30] Strategic airpower, certainly in Europe, may have made its greatest contribution at the operational level. In Europe, the deep raids into Germany challenged the Luftwaffe to a showdown, which resulted in an attritional struggle that led to Allied air superiority over the battlefield.

The impact of airpower at the operational level during World War II drove planning. As anticipated during the interwar years, airpower could successfully isolate the battlefield and provide distant operational fires to enhance friendly maneuver but restrict that by the enemy. In the Pacific, the need to extend Allied airpower by either land-based or carrier aviation dictated the scheme of maneuver. In Europe, air supremacy made OPERATION OVERLORD possible. Airpower delayed German reinforcements into the invasion area, allowing the Allies time to build combat power in the beachhead to secure their foothold and then move inland. Senior American

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[28] *The U.S. Strategic Bombing Surveys: European War, Pacific War* (1945; repr., Maxwell Air Force Base, AL: Air University Press, 1987), 37-39.

[29] Ibid., 90.

[30] Ibid.,107.

commanders noted the importance of airpower as one of the great lessons of World War II. Perhaps they learned that lesson too well.

The Operational Lessons of World War II

The American military gathered many lessons from World War II that would shape American operational art in the coming years. Modern warfare meant joint warfare. General Eisenhower believed "war is waged in three elements but there is no separate land, air, or naval war. Unless all assets in all elements are efficiently combined and coordinated against a properly selected, common objective, their maximum potential power cannot be realized."[31]

In January 1946, fifty carefully selected officers reported to Washington, D.C. These men represented every branch of the service, and they had seen extensive service in the war's different theaters. They convened as a board to review joint operations in World War II. The Joint Chiefs of Staff directed the board to recommend joint doctrine based on wartime experience.[32] The resulting study contains the best summary of the operational lessons that the American military learned from World War II. The study began with a list of principles that emphasized unity of command, joint staffing, and the operational functions of intelligence, and logistics. The first principle asserted "unified command is required for the effective coordinated employment of land, sea and air forces and will be the normal form of command in overseas theaters of operation."[33] The study

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[31] Eisenhower, *Crusade in Europe*, 210.

[32] Paula Reading, "History of the Army and Navy Staff College" (Washington, D.C.: National War College Library, 1970), 32.

[33] *Joint Overseas Operations*, Part 1 (1946; repr., Norfolk, VA: U.S. Armed Forces Staff College, 1950), 1-4.

highlighted the requirements for joint staffing, intelligence, and logistics as key principles.

The study discussed the responsibilities of the theater commander in planning and conducting operations. The theater commander prepares a campaign plan, if required, followed by a tentative operations plan. The operation plan becomes an operation order when so directed by the theater commander. The commander then "exercises command of these forces through the senior commanders of the respective services and through the commanders of joint task forces which he may constitute."[34] The study reflected a mature understanding of the nature of joint warfare. In the conduct of operations "all of the strategic operations of air, ground, and naval forces within the theater, whether they be a combination of air-ground, air-naval, air-ground-naval or independent service operations are joint in nature in that they mutually support each other directly or indirectly and ultimately affect the success or failure of the theater commander's mission."[35]

Much of the study devoted attention to the organization and planning for joint intelligence and logistics. The study suggested staff organizations that included a plans cell in every staff section. The chapter on intelligence included specific recommendations regarding staff organization, requirements, and procedures for intelligence, counter-intelligence, estimates, and plans. The longest chapter dealt with logistics. The responsibilities of the theater commander for logistics included all transportation services, control and flow of shipping, establishing joint logistic

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[34] Ibid., 2-4.

[35] Ibid., 5-1, 5-2.

organizations, and determining which service should provide common supplies to other services.[36]

The study also addressed the role of seapower and airpower in the joint force. Seapower's general function remained sea control — gain and maintain command of vital sea areas. Seapower protected vital sea lanes to the United States, while denying the seas to enemy commerce. Finally, seapower assisted land and air forces.[37] The study reflected the wartime compromise on the strategic and operational role of airpower. Air superiority remained the priority mission for American airpower. Airpower was centralized under the theater commander as a component force, but strategic air forces should be made available for his use only "when this action will contribute more to the total prosecution of the war than would the continuance of the strategic air offensive."[38] Based on the experience in both theaters of war, the Air Force built upon a new prestige sufficient to establish airpower as an independent and fully co-equal service along with Army and Navy. The obvious and important role of airpower in World War II was not simply the proud claim of Hap Arnold and the air barons. Eisenhower, the most respected Army general to emerge from the war, noted, "Foremost among the military lessons was the extraordinary and growing influence of the airplane in the waging of war."[39]

The advent of the atomic bomb finally offered a real promise that airpower might produce decisive strategic results by itself, but the consequences of such potential

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[36] Ibid., 7-4.

[37] Ibid., 5-7.

[38] Ibid., 5-6.

[39] Eisenhower, *Crusade in Europe*, 452.

destruction realistically offered only deterrence, not victory. If deterrence failed in lesser confrontations requiring the use of force, the value of atomic weapons became almost irrelevant. The atomic bomb did usher in a new era of limited warfare — an era in which faith in airpower proved overly optimistic. President Eisenhower's *New Look* defense policy emphasizing atomic deterrence left the Army scrambling to find strategic relevance. In the limited wars that followed World War II, Americans constantly overrated the impact of airpower. The tremendous impact of airpower in total mass industrial warfare seemed less decisive in the limited wars of the second half of the twentieth century.[40]

Under the shadow of airpower and the resumption of peacetime interservice rivalry, the services unfortunately ignored or forgot many of the operational lessons of World War II. This led to an inevitable decline in American operational art after 1945. The lessons so meticulously documented by the board of officers on joint operations after World War II remained in the curriculum of many of the postwar staff colleges, but they did not find their way into doctrine. The preface to the study used in the Armed Forces Staff College for 1950 noted "the Joint Chiefs of Staff have not accepted the study as an expression of approved joint doctrine but have authorized merely its tentative use for instructional purposes."[41] Just as in the interwar years, the more forward-looking operational concepts might be discussed and exercised in the academic freedom allowed in the school system, but the peacetime services reverted to more constrained institutional

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[40]Conrad C. Crane, *American Air Power Strategy in Korea: 1950-1953* (Lawrence: University of Kansas Press, 2000), 183 and Mark Clodfelter, *The Limits of Airpower: The American Bombing of North Vietnam* (New York: Free Press, 1989), 203.

[41] *Joint Overseas Operations*, preface.

behavior when it came to official doctrine. Service doctrine remained more narrowly focused. Without war as a forcing function, jointness faded into the bureaucratic interservice rivalry over budgets and service goals. No true joint service culture emerged from World War II. Interest in joint doctrine did not emerge until after the passage of the Goldwater-Nichols Act in 1986. This act increased the power of the Chairman of the Joint Chiefs at the expense of the service chiefs.[42]

American operational art declined after 1945. The stalemate in Korea and the failure in Vietnam seemed to suggest that while technology gave the United States an unparalleled advantage at the tactical level, at the operational and strategic level military performance was somehow flawed. After 1973, this led the Army to a rediscovery of operational art. The military may study national or grand strategy, but that is frequently seen as the province of civilian policy makers advised by senior military leaders. In contrast, operational art is the business of professional military leaders. Faced with the problems of a massive Soviet military threat and the recent experience of defeat in Vietnam, the U.S. armed forces embarked on an intense introspective review of military theory and doctrine. In 1982, the Army published Field Manual 100-5, which named and described operational art as a distinct level of war.[43] With this official recognition, operational art became a permanent part of U.S. military doctrine. Operational art was not new in 1982; American officers simply rediscovered it. Known as large-scale

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[42] James R. Locher III, *Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon* (College Station: Texas A & M University Press, 2002), 446.

[43] The best discussion of how the U.S. Army incorporated operational art as a concept into official Army doctrine can be found in Richard M. Swain, "Filling the Void: The Operational Art in the U.S. Army" in McKercher and Hennessy, *The Operational Art*, 147-72.

operations, campaigning, or a type of military strategy, operational art was part of an earlier renaissance rooted in the professional military education of the interwar period.

Perhaps the key lesson that can be gained from World War II was the importance of professional education. The Army's commitment to professional military education proved to be the best preparation available to it for its second global war. It enabled the military leadership to prepare for the conflict and allowed them the intellectual flexibility to adapt to the challenges of modern global war. Even in the midst of a global war, the military did not abandon its commitment to military education. Wartime conditions abbreviated the time available, but not the necessity for education and training. Even though the Army War College closed its doors in 1940, the Staff School remained open to provide short staff courses for officers at the division level. Leavenworth ran a total of twenty-seven classes and graduated 1,800 officers during the war years.[44] On November 3, 1942, Gen. Hap Arnold submitted to the Joint Chiefs a plan to establish a school for joint staffs.[45]

A year later, the Army and Navy Staff College (ANSCOL) opened in Washington, D.C. This new institution instructed senior field grade officers in the employment of air in combined operations, amphibious operations, joint logistics, joint intelligence, and joint communications.[46] The JCS chose Maj. Gen. John L. DeWitt, former Commandant of the Army War College, to organize and run the school. The course of instruction lasted for twenty-one weeks, a considerable amount of time for

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[44] Ball, *Of Responsible Command*, 257.

[45] Paula Reading, "History of the Army and Navy Staff College," 2.

[46] Ibid., 9.

highly qualified officers to devote to professional education in a time of war. This commitment to education extended into the postwar years.

The JCS charged General DeWitt to develop a postwar plan for joint education. He submitted his report in June 1945. It recommended that ANSCOL be made a permanent part of the postwar school system and that joint education be provided at the junior, mid, and senior levels of an officer's career. The services also submitted their own reports on postwar military education. After a good deal of discussion, a joint school system emerged. The JCS redesignated the Army and Navy Staff College as the National War College in 1946.[47] General Eisenhower as Chief of Staff of the Army donated the old Army War College site at Ft. McNair in Washington, D.C., to house the new college. Additional initiatives in joint education resulted in the establishment of the Armed Forces Staff College for mid-level officers at Norfolk, Virginia, in 1946. The Army Industrial College became the Joint Industrial College of the Armed Forces.

The JCS intended the National War College to become the pinnacle of professional military education. It accepted students from all the services as well agencies of the federal government. For a while, it seemed as if there would be no need to reopen the Army War College. The Army Command and Staff College at Fort Leavenworth expanded its instruction to provide the necessary education at the brigade and division level.[48] It soon became evident, however, particularly after the outbreak of the Korean War, that the National War College could not graduate enough Army officers to meet the Army's needs. Even more importantly, the National War College's

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[47]For a discussion of the development of joint education see Historical Section, *Joint Chiefs of Staff and the Joint Education System: 1943-1986* (Washington, D.C.: Joint Chiefs of Staff, 1988).

[48] The Army renamed the Command and General Staff School as the Command and General Staff College in 1947.

curriculum focused on national strategy, not large-scale military operations. To fill the gap between strategy and tactics, the Army decided to reopen the Army War College at Leavenworth in 1950 and move it to Carlisle Barracks, Pennsylvania the next year. Guided by the vision of then Army Chief of Staff, J. Lawton Collins, the Army War College returned not only to the study of large-unit operations but national strategy.[49] The military's commitment to professional education remained as strong in the postwar period as it did in the prewar period, but expanded to include joint education.

Legacy

U.S. Army officers determined that developing a modern operational art to project, sustain, and conduct large-scale operations in the interwar period was a strategic imperative. Any meaningful participation in a future war would involve expeditionary warfare over vast distances. In an era of mass industrial warfare, that meant raising and sustaining huge forces and projecting them on an intercontinental scale. Modern American operational art played to American strengths and military tradition — the republic's great economic strength and ability to mass forces to provide continuous concentric pressure to overwhelm enemies.

In the final analysis, the Army's commitment to professional military education made this possible. Ultimately, it was the quality of the professional officers who thought through the problems and proved flexible and adaptable enough to the experience of war. These officers stuck it out in the lean years of indifference, low pay, and with little chance for promotion. Due in large part to their professionalism and commitment to duty, America survived its most formidable military challenge. The interwar military

[49] Ball, *Of Responsible Command*, 272, 273.

school system provided these officers the invaluable opportunity to study their profession and develop into competent planners and leaders. The origins of modern American operational art lay in the classrooms of the interwar military schools. Here American military professionals interpreted their experience of World War I and adapted the lessons to the requirements for modern war.

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