

ARMY HISTORY



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The Professional Bulletin of Army History

ARMYHISTORY

The Professional Bulletin of Army History

By Order of the Secretary of the Army:

RAYMOND T. ODIERNO
General, United States Army
Chief of Staff

Official:

GERALD B. O'KEEFE
Administrative Assistant to the
Secretary of the Army

Chief of Military History
Robert J. Dalessandro

Managing Editor
Bryan J. Hockensmith

Editor
Hildegard J. Bachman

Layout and Design
Michael R. Gill

Consulting Historian
Mark L. Bradley

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Cover Image: Thaddeus S. C. Lowe observing the battle at Fair Oaks, Virginia, from his balloon *Intrepid*, 31 May 1862 /Library of Congress

EDITOR'S JOURNAL

In this Fall 2014 issue of *Army History*, we are pleased to present our readers with two interesting articles. The first, by Joseph C. Scott, an Army officer currently serving with the International Security Assistance Force Joint Command in Kabul, Afghanistan, puts a spotlight on the often-overlooked niche of Union balloon observation during the American Civil War. Scott highlights the parties involved with the concept of aerial reconnaissance, to include the civilian balloonists and the supporters and detractors within the Army and government. He ably shows that, despite its potential, the idea of balloon observation may well have been doomed from the start. The technical limitations of the period, coupled with personality conflicts, burdensome Army bureaucracy, and high expense far outweighed the potential benefits of the program in the eyes of the Union military leadership.

The next article also puts focus on a lesser-known and understudied area of World War II history. The China-Burma-India Theater is perhaps best known for its tales of Merrill's Marauders, building the Ledo Road, and the Flying Tigers. Author Raymond E. Bell Jr., a retired Army brigadier general, recounts the story of the epic construction efforts to build U.S. Army airfields in China. Hampered by constant logistical limitations, these air bases, built primarily by Chinese manual labor under the supervision of Army engineers, are a testament to the courage, tenacity, and skill of the Chinese peasant workers who toiled under difficult conditions, largely without the aid of mechanized construction equipment. While the impact these airfields had on the final outcome of the war is arguably negligible, the sacrifices of the Army personnel and Chinese civilians involved are unquestionably significant.

This issue's Artifact Spotlight deals with courageous events that took place during Operation MARKET-GARDEN, the seventieth anniversary of which is upon us.

The chief of military history, who is departing the Center of Military History to take the reins of the American Battle Monuments Commission, wishes a fond farewell to the Army historical community and highlights the Center's many successes over the last few years.

The chief historian, in his Footnote, details the functions of the Army History Program, an entity he believes unites the Army's historical components with a sense of purpose and mission.

As always, readers are invited to submit articles on the history of the Army as well as their comments on this publication.

Bryan J. Hockensmith
Managing Editor



THE CHIEF'S CORNER

ROBERT J. DALESSANDRO

I am sorry to report that this will be my last Chief's Corner for *Army History*.

By now, many of you have heard that I will be leaving the Center of Military History (CMH) to join the American Battle Monuments Commission (ABMC) as its executive director. I reached this decision after much reflection and many mixed feelings.

As most of you know, I have been serving as the chairman of the congressionally constituted U.S. World War One Centennial Commission, charged with leading efforts across the United States to commemorate this watershed event.

My duties at the commission fostered an understanding of the important connection between our efforts at the centennial commission and the work going on at the ABMC. Ultimately, I realized there was no better way to honor our soldiers than to focus on the education of the millions of visitors that come to our most sacred cemeteries and battlefields. At staff rides over the years, I learned that battlefields present the perfect venue to teach Army history, and I realized at Arlington National Cemetery that nothing is more powerful than telling the stories of our hero soldiers at graveside.

My five years at CMH have passed swiftly; I was honored to serve as your chief for three and half of those five years. It was a tumultuous period dominated by resource reductions, the threat of eliminations, and realignments. Here at CMH, we attempted to guide our actions through an innovative strategic plan that produced some great successes along with some setbacks, but overall, I believe I leave the history program better positioned to serve the needs of our Army.

These five years have seen some remarkably important actions, foremost among them our initiative focused on the collection, indexing, and testing of a comprehensive records group for Army operations in Operations ENDURING FREEDOM (OEF), IRAQI FREEDOM, and NEW DAWN. This collection will support the ongoing Chief of Staff-directed OEF project aimed at a first turn on the history of this conflict, along with future histories, and veterans' claims.

This foray into the digital world will facilitate a future, fully cloud-based collection that will unify historical sources across the Army, allowing historical professionals access to our Army historical program's rich holdings.

Our continued status as the Army's most visited Web site confirms the desire both inside and outside the department for access to our research collections, and our digital initiatives will pave the way to satisfying this need.

CMH designed and implemented a career program that would manage the development of our historians, archivists, and museum professionals. To date, we have held three courses with over seventy participants. This program will recast the way we train, assign, and develop our future professionals.

We succeeded in reestablishing the Department of the Army Historical Advisory Committee, now a subcommittee of the Army Education Advisory Committee, to provide advice, oversight, and assistance to our historical work—this was a hard-fought battle and a significant win for our program.

Our museum division occupied the newly constructed museum support center at Fort Belvoir, Virginia, and turned the facility, and the associated collections, into the gold standard for museum storage, all while redeveloping the curatorial storage at Anniston Army Depot. When coupled with our collections streamlining and macro consolidation, our initiatives advanced collections management beyond expectation.

We have made great strides in our initiatives across each of our historical domains. I thank each and every one of you for your support, suggestions, and counsel. I foresee a bright future for our program and am confident that you will continue to better your individual areas.

So, it is with a truly heavy heart that I bid you farewell, I thank you for all you do, and I know that your love of Army History will “go rolling along”!

Keep Army History Alive!

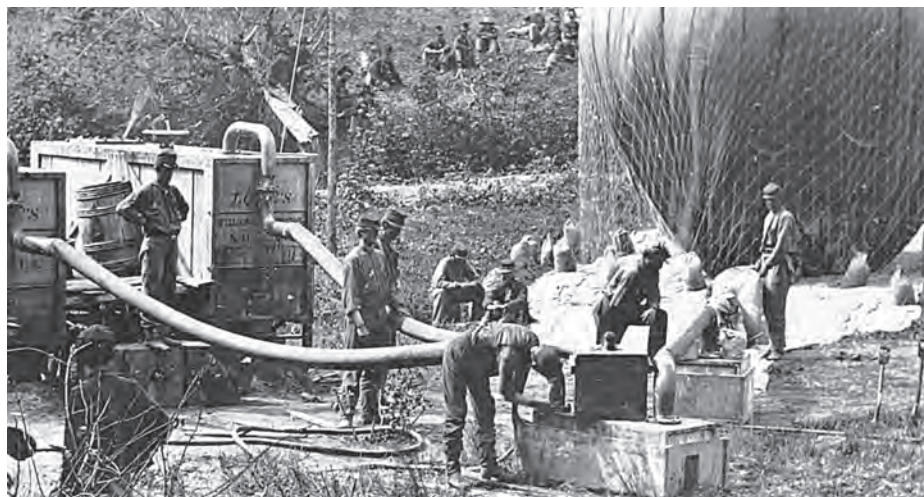




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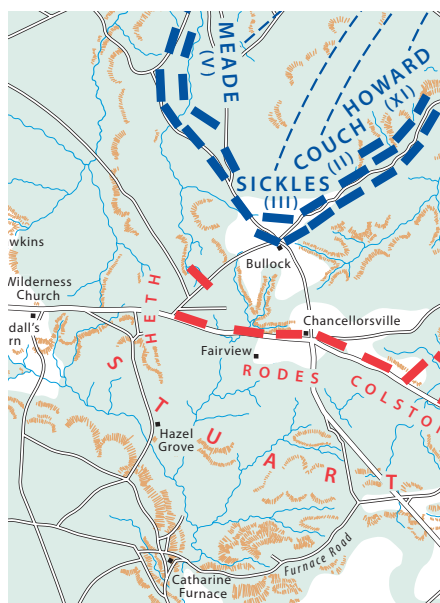
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**"THE
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DURING THE AMERICAN
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**WITH
HAMMERS
AND WICKER
BASKETS**
THE CONSTRUCTION OF
U.S. ARMY AIRFIELDS IN
CHINA DURING WORLD
WAR II

By RAYMOND E. BELL JR.



NEWSNOTES

NEW PUBLICATIONS FROM THE CENTER OF MILITARY HISTORY

The Center of Military History (CMH) has published the most recent additions to its series: *The U.S. Army Campaigns of the Civil War*. *The Overland Campaign, 4 May–15 June 1864*, by David W. Hogan Jr., describes the first battlefield confrontation between the Civil War's two legendary military leaders, Ulysses S. Grant and Robert E. Lee. This brochure tells the story of the clash of these two titans through the burning scrub brush of the Wilderness, the bitter struggle for the Bloody Angle at Spotsylvania Court House, the cavalry encounter at Yellow Tavern, the maneuvering along the North Anna River, and the tragedy of Cold Harbor. It also provides analysis in light of the latest scholarship. This 76-page brochure includes eight maps and twenty-two illustrations. It has been issued as CMH Pub 75–12 and

is available to the public from the U.S. Government Printing Office (GPO) under stock number 008-029-00571-9.

The Shenandoah Valley Campaign, March–November 1864, by Raymond K. Bluhm Jr., covers Union and Confederate military operations in the Shenandoah Valley region of southwestern Virginia, and in Maryland and Washington, D.C., during the last full year of the conflict.

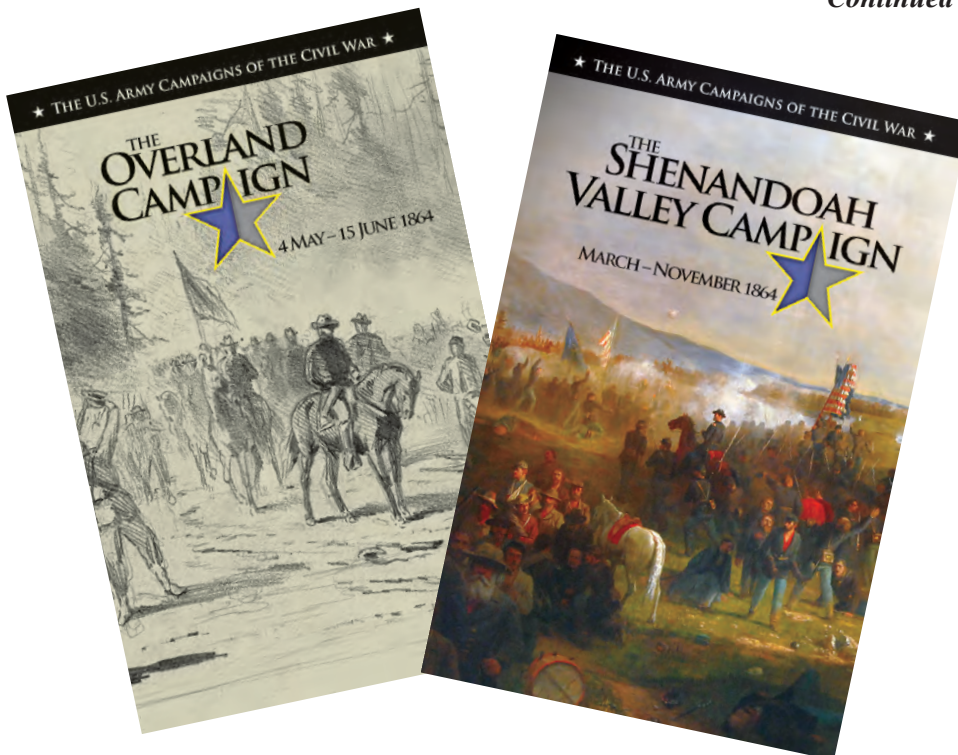
Bluhm describes the Union advance in the Shenandoah Valley in May 1864 that led to the Federal defeat at the Battle of New Market, Maj. Gen. David Hunter's destructive campaign later that spring culminating in his retreat from Lynchburg, and Maj. Gen. Jubal Early's subsequent Confederate offensive against the U.S. capital, resulting in the Battle of Monocacy in July. Also covered is Maj. Gen. Philip Sheridan's tenure in command of Union forces in the Valley and his two key victories at Winchester and Cedar Creek, in which

rebel forces under Early were defeated, giving Union forces control over the region by November 1864. This 56-page brochure includes five maps and fifteen illustrations. It has been issued as CMH Pub 75–14 and is available to the public from GPO under stock number 008-029-00570-1.

BRIG. GEN. JAMES L. COLLINS JR. BOOK PRIZE IN MILITARY HISTORY

The U.S. Commission on Military History (USCMH) has announced the 2014 Brig. Gen. James L. Collins Jr. Book Prize in Military History. The prize entails a \$1,000 award to the author, of any nationality, of the best book written in English on any field of military history published during 2013. The Collins Prize Committee, chaired by Dr. Edward J. Marolda, will review the submitted books and select the winner to recommend to the

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ABOUT THE AUTHOR

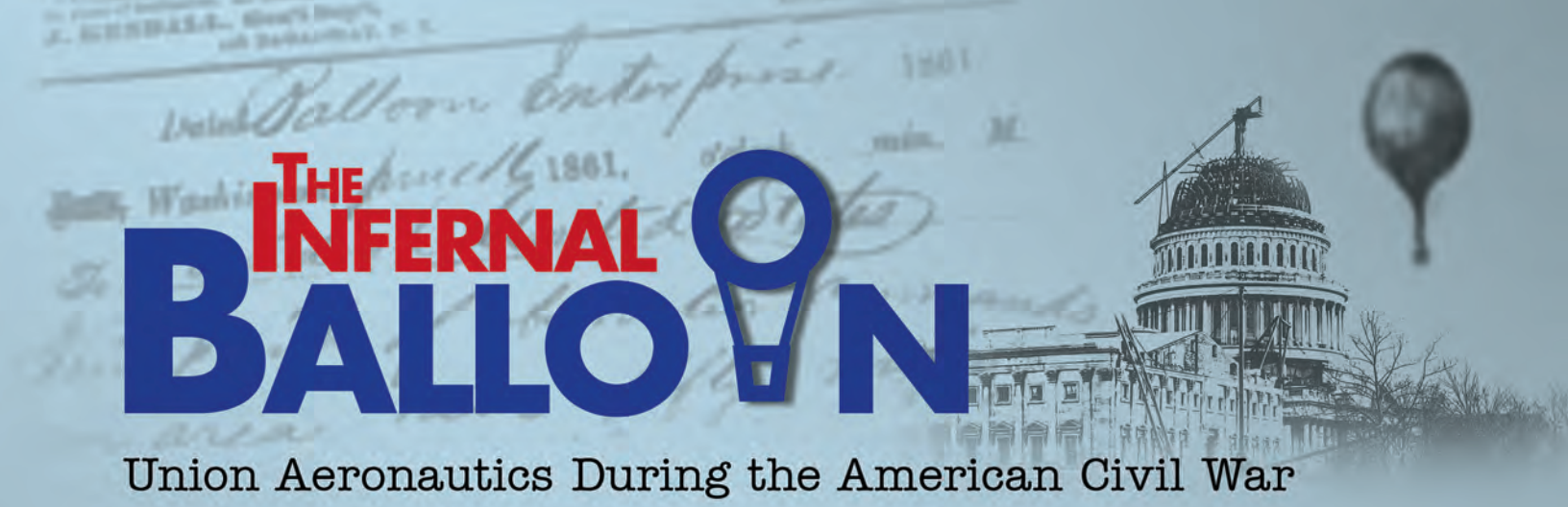
Maj. Joseph C.

Scott is the senior air and missile defense operations officer for XVIII Airborne Corps, Fort Bragg, North Carolina. He received his bachelor's degree in history from Dartmouth College and his master's degree in history from the University of Virginia. He is a former assistant professor of history at the United States Military Academy (USMA), and the author of several book chapters in *West Point Leadership: Profiles of Courage* (West Point, N.Y., 2013), an award-winning collection of biographies of famous USMA graduates. Major Scott is currently deployed with the International Security Assistance Force Joint Command headquarters in Kabul, Afghanistan.



National Air and Space Museum

Thaddeus Lowe on horseback, c. 1862



THE INFERNAL BALLOON

Union Aeronautics During the American Civil War

By JOSEPH C. SCOTT

In July of 1861, Union forces nervously defending Washington, D.C., in the aftermath of the disastrous reversal at the Battle of First Bull Run were shocked to discover a balloon sailing toward them from Confederate territory. Shouting at the occupant to “show his colors,” they began firing at this aerial invader. The balloon’s occupant, professional balloonist (or “aeronaut”) Thaddeus S. C. Lowe was, in fact, a civilian employee of the United States Army, who was returning from a reconnaissance of Confederate lines. As the Union pickets greeted him with rifle fire, Lowe decided to take his chances and land elsewhere. Eventually, he and his balloon landed in a copse of trees more than two miles outside Union lines, where he and his “somewhat damaged” balloon were eventually rescued by soldiers from a regiment of New York volunteers.¹

Lowe was the most famous of several professional and amateur balloonists who volunteered to serve in the Civil War by offering the use of their primitive aircraft for a variety of reconnaissance and observation functions. Many within the military were suspicious of Lowe’s “Balloon Corps” and discounted aerial reconnaissance as militarily useless. Similarly, some historians have dismissed the impact that these men had on the outcome of the war, especially since the Union Army disbanded the aeronautics unit in the summer of 1863. Newspapers

and significant civilian and military authorities in the early stages of the conflict, however, argued that balloons could play a decisive role on the battlefield. After overcoming military opposition to their newfangled ideas, Lowe’s corps served along the Potomac River in 1861, and also during many of the critical episodes of 1862 and early 1863, including the Peninsula Campaign and the battles at Fredericksburg and Chancellorsville.

The first historian of Civil War ballooning was Lowe himself, who was ordered by Secretary of War Edwin M. Stanton to prepare a report on balloon operations shortly before Lowe resigned from Army service. He later expanded on his wartime experiences in his memoirs *My Balloons in Peace and War*. Both accounts offer a fascinating inside view of the experience in America’s first military aerial unit, but are decidedly slanted in Lowe’s favor, as he, some historians have argued, was not above playing fast and loose with historical facts to enhance the contributions he and other aeronauts made.²

Following the publication of Lowe’s accounts, aeronautics in the Civil War went largely unstudied by historians until the surge in interest in air power in the 1930s. J. Dane Squires wrote a brief journal article on Civil War aeronautics, but the seminal work on the subject was done by F. Stansbury Haydon. The first volume of *Aeronautics in the Union and Confederate*

Armies, published in 1941, took the story of aeronautics from its infancy through early 1862, before the start of the Peninsula Campaign.³ Volume II, which was to cover the remainder of the war, and discuss the smaller Confederate aeronautics program, was, however, never published.

Over the next sixty years, the only works that dealt specifically with Civil War aeronautics were biographies of Lowe, which relied heavily on Haydon’s work and—perhaps unquestioningly—on Lowe’s memoirs. The most recent work on Civil War aerial operations was done by Charles Evans.⁴ Evans reexamined many of the sources Haydon had used, and continued the story through 1863.

The aeronautics corps plays minor roles in some of the detailed accounts of major Civil War campaigns. Stephen Sears and Brian Burton mention them in their work on the 1862 Peninsula Campaign and Seven Days’ Battles. The balloons appear briefly in George Rable and Frank O’Reilly’s accounts of the Fredericksburg Campaign. Even though he dismisses Thaddeus Lowe as “at heart more carnival promoter than skilled military observer,” the balloonists appear more prominently in Sears’ work on Chancellorsville. Edwin Fishel also discusses aerial reconnaissance in his monumental study of intelligence operations in the first years of the Civil War.⁵

As Evans recounts, the decades before the Civil War were a “golden

1. James Allen, c. 1863

2. Secretary of the Treasury Salmon P. Chase, c. 1863

3. An undated sketch of John La Mountain

4. John Wise, c. 1890

5. Secretary of War Edwin M. Stanton, c. 1863



age in American ballooning,” marked by the emergence of “professional” aeronauts, who were a combination of scientist, adventurer, and sideshow entertainer. When sectional tensions exploded into open conflict early in 1861, many of these men were eager to volunteer their abilities to Union authorities. James Allen of Rhode Island packed his balloon equipment with his volunteer regiment’s other gear en route to Washington. John La Mountain of New York sent a letter volunteering his services and outlining the contributions balloons could make to the war effort, and enclosed endorsements from local notables. John Wise, the nation’s most experienced balloonist, had intended to volunteer as an infantry commander, but the War Department instead invited him to demonstrate his balloon in Washington. Thaddeus Lowe secured an endorsement from a friend of Secretary of the Treasury Salmon P. Chase following a much-publicized experimental flight where Lowe was forced to land in recently seceded

South Carolina. Chase invited Lowe to present his proposals in Washington.⁶

Despite this enthusiasm, the initial efforts of many of these balloonists met with much frustration. Accidents during Allen’s initial demonstration near Washington destroyed both of his balloons. La Mountain initially received no response from anyone in Washington, and Wise’s balloon was deflated while being towed by a wagon to the Battle of First Bull Run. Lowe, meanwhile, demonstrated his technical proposals and skill at the Smithsonian and the White House, eliciting endorsements from scientific, military, and political authorities. Ultimately, he enlisted the support of President Abraham Lincoln, who went so far as to accompany him personally to the War Department to ensure that a reluctant Commanding General of the Army, Maj. Gen. Winfield Scott, would hear him out.⁷

Due to a combination of technical prowess, political connections, and luck, Lowe emerged as the premier figure in the movement to acquire

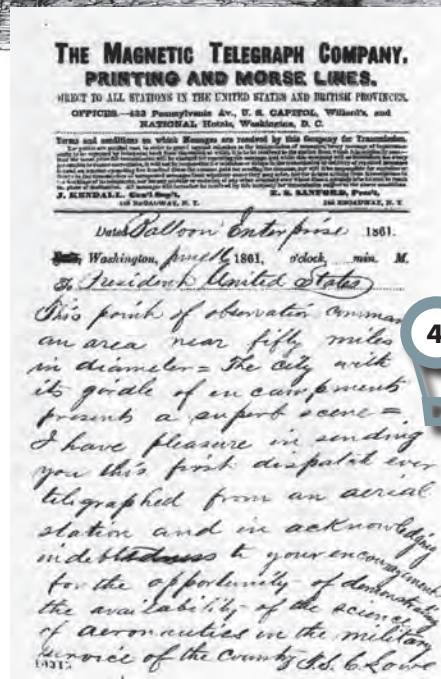
balloon capability for the Union. The press followed Lowe’s efforts closely, and reports hailed his proposals and technical innovations as a solution to many of the problems that might beset a battlefield commander. The performer/scientist and self-appointed “professor,” Lowe and the other balloon operators were eager to oblige the curious media, and occasionally allowed correspondents to accompany them on flights. Lowe conducted a series of ascensions along the Potomac River defensive lines in response to rumors of impending Confederate attacks and apparently helped to defuse some of the tension in the Federal capital. These demonstrations convinced the newly promoted Union commanding general, Maj. Gen. George B. McClellan, of the balloons’ potential, and starting in August 1861 he directed Lowe to construct a series of balloons for use in support of his operations.⁸

In order to perform their aerial observation duties, the Union balloonists needed to modify their aircraft, which



1. General McClellan, c. 1863
2. A print showing Union soldiers trying to prevent Professor Lowe's balloon *Eagle* from being blown away during a storm, c. 1862
3. General Stoneman, c. 1863
4. A telegraph message, dated 16 June 1861, sent by Thaddeus Lowe from his balloon *Enterprise* to President Lincoln.

were generally designed for scientific and/or entertainment purposes. The initial flights of Allen and Wise had ended when their balloons burst or were punctured by obstacles, so the new balloons were made stronger: thousands of square feet of double layers of silk coated with four coats of varnish to make the balloons airtight. For flights where the balloon would be tethered to the ground—the preferred method of most of the aeronauts—the balloon corps requisitioned thick, 5,000-foot-long “ascension ropes.” To allow for differing weather conditions and a variety of mission requirements,



Lowe designed, and the government built, varying sizes of balloons. The largest two could carry up to five men each, while the smallest would carry only one. The new military balloons were an improvement over their predecessors, but they were still susceptible to damage from heavy winds (during a storm, one unoccupied balloon was blown all the way from

Washington to Delaware). Heavy rains or snow could also weaken the silk or make the balloons too heavy to fly.⁹

Lowe proposed the use of the telegraph to transmit observation reports from the balloon to the forces on the ground. He demonstrated the principle shortly after arriving in Washington, sending short messages to President Lincoln and the War Department from his balloon. During some later operations, the Army attached a full suite of telegraph equipment and operators to the balloon corps. At other times, the balloonists relied on signal flags, weighted messages, or voice communications. Lowe eventually experimented with colored aerial flares and balloons for long-distance communication with cavalry or other scout forces, but the proposal was declined because of excessive cost, despite endorsement by Maj. Gen. George Stoneman, the Army of the Potomac's cavalry commander.¹⁰

In the initial stages of balloon operations, the balloonists used coal gas from nearby city gasworks to inflate their craft, which meant that crews of

specially detailed soldiers had to tow the balloons from these plants to their assigned locations. The crowded state of the roads in and around Washington made this a challenge for these ground crews. Operations further afield would have been even more of a hindrance. One of Lowe's most significant innovations, recognized even by historians who discount the balloon corps' contributions, was the portable hydrogen generator. These heavy, reinforced-metal tanks, and the thousands of pounds of metal filings and gallons of acid needed to generate enough hydrogen for the balloons, required sturdy wagons and lots of horses, so, while mobile, they faced challenges on rapid-pace movements over rough terrain. To offset these transportation difficulties, the Union balloon corps acquired and converted an old barge for transportation along the Potomac River, and even conducted balloon launches from its flat deck.¹¹

Despite Lowe's stated goal and the intention of some Army commanders, the Union balloonists never received military commissions. Instead, they served as civilian employees of the War Department with "honorary" titles, which led to difficulties with the Army bureaucracy. The aeronauts

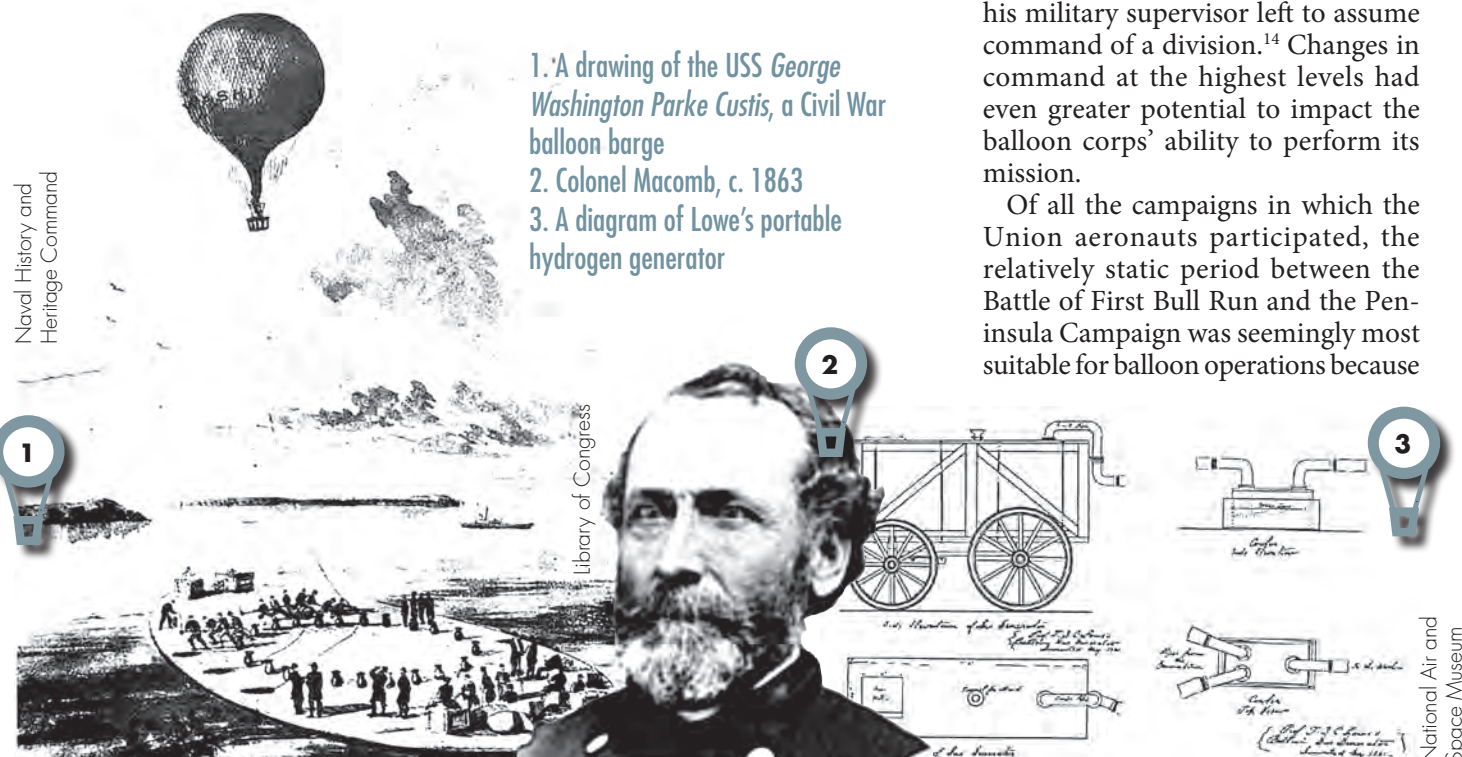
were also concerned for their safety: without official military status, they feared execution as spies if caught by the Confederacy. Their families also would not have been eligible for pensions if they had been killed or captured. Their civilian status also made some officers suspicious of their credibility, especially when no other source could verify their reported observations. As one officer wrote later, some in the Army believed that the balloonists altered their reports to "render their own importance greater, thereby insuring themselves what might be profitable employment." The initial lack of an effective chain of command also exacerbated interpersonal rivalries within the ranks of the self-promoting balloonists. They occasionally bickered amongst themselves, and did not always adhere to directives from their military supervisors, as when Col. John Maccomb repeatedly had to order Lowe to share one of the government balloons with John La Mountain.¹²

The aeronauts' civilian status also contributed to the primary complaint they voiced about their service, the pay. At various points during their service, the Army simply did not pay the balloonists the rates negotiated when

their service began. On multiple occasions, Lowe's wife telegraphed him to inform him of their family's financial straits. Despite repeated efforts by the War Department to send orders for John Steiner, a balloonist assigned to the Department of the West in Cairo, Illinois, his pay issues were apparently never resolved. Eventually, he, along with Lowe and several other balloonists, resigned over their pay situation. Other balloonists were dismissed by Lowe for striking, in an attempt to better their financial situation.¹³

Given their significant material and transportation requirements, logistics was an important part of the aeronauts' mission. As civilians, they were frequently forced to rely on their commissioned military liaison or supervisor for all logistical coordination. Throughout most of their short service periods, the Union balloonists served under a series of engineer officers, though they also served under quartermaster officers for several months. The constant personnel shifts within the Federal Army, however, had the potential to leave the aeronautics civilians in the lurch, as occurred during the Antietam Campaign when Lowe was unable to secure transportation to move his unit northward with the rest of the Army of the Potomac after his military supervisor left to assume command of a division.¹⁴ Changes in command at the highest levels had even greater potential to impact the balloon corps' ability to perform its mission.

Of all the campaigns in which the Union aeronauts participated, the relatively static period between the Battle of First Bull Run and the Peninsula Campaign was seemingly most suitable for balloon operations because





1. Thaddeus Lowe, c. 1862

2. A sketch of the Virginia countryside made by Col. William F. Small from one of Lowe's balloons, 8 December 1861

3. Thaddeus Lowe showing his father, Clovis Lowe, a flag used to direct artillery fire from balloons

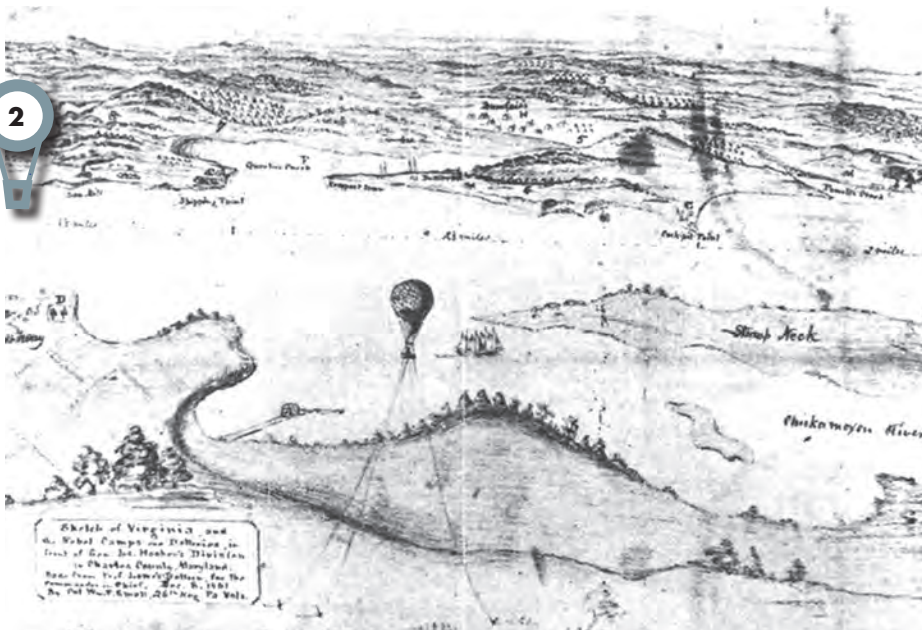
posite the Federal positions. Lowe also experimented with aerial fire direction for artillery, examining shell impacts and using a white flag to signal targeting corrections to the battery on the ground.¹⁵

While the balloonists seem to have served the Union cause along the Potomac, some sympathetic writers may give them too much credit when arguing that they identified the Confederates' "Quaker guns." These mock-ups, constructed of logs and barrels, were intended to inflate Federal estimates of Confederate artillery. None of the official reports mention the identification of phony weapons, nor does Lowe claim to have done so in his memoirs. Haydon cites at least one example of Lowe reporting Confederate guns where there were no actual guns deployed.¹⁶

A contentious debate within the balloonists' ranks emerged in the argument over the value of tethered ascen-

of the fixed lines of battle and the relatively clear and flat terrain around the Potomac River. After the initial fears of a massive Confederate attack subsided in the fall of 1861, the Army constructed its small fleet of military balloons. As "Chief of Aeronautics," Lowe was responsible for coordinating deployment of the balloons as directed by McClellan's staff, which was receiving requests for balloon support from

various subordinate commanders impressed by the aeronaut's work. Four balloons were deployed along the river to observe activity on the Confederate side. Given this arrangement, the balloon corps was able to dispel fears of a surprise attack on Washington, while experimenting with various uses for the balloons. Professional draftsmen ascended to draw maps of the terrain, fortifications, and encampments op-





General Butler, c. 1863

General Johnston, c. 1863

sions versus free flights. As previously noted, Lowe's own experiences with free flight over Confederate lines had been somewhat harrowing. He was a firm believer in tethered ascents, both because they were safer for the operator and equipment, but also because such ascents permitted instantaneous communication of observations to the supported ground element. John La Mountain, who had first conducted short free flights over Confederate positions for Maj. Gen. Benjamin Butler at Fortress Monroe in southeast Virginia, argued that tethered ascents hamstrung the balloons' capability. For La Mountain, free balloon flights were a much better approach. "The country lies spread before him like a well-made map," La Mountain wrote, "with all the varieties of hill and valley, river and defile, distinctly defined, and with every fort, encampment, or rifle-pit within a range of many miles, manifest to his observation." After moving his balloon operation to the Potomac area in the fall of 1861, La Mountain, on multiple occasions, boldly sailed out on westerly currents to examine the Virginia countryside before dropping his ballast, ascending to what one day would be called the jet stream, and sailing back toward Union lines.¹⁷

Lowe's opposition to La Mountain's free flight plans may have been based on his own negative experiences, concerns about fratricide, or public

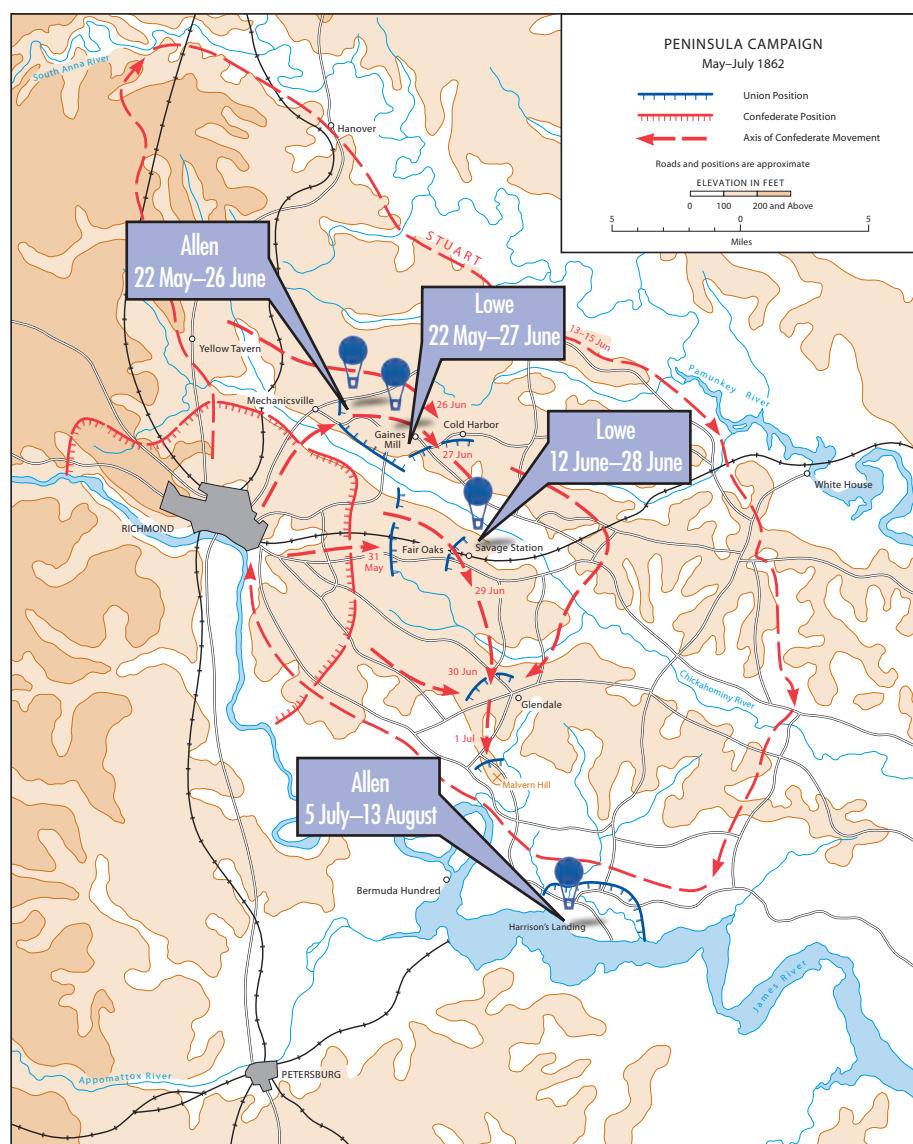
reaction. During one return trip, La Mountain's balloon, like Lowe's before it, was shot at by Union soldiers who thought it was a Confederate balloon. La Mountain landed, and "was surrounded by an infuriated crowd of officers and men, who were intent upon destroying the Balloon, [La Mountain] included." Eventually, these soldiers escorted him to the local commander, and he was ultimately released. The widespread alarm that greeted one of La Mountain's flights over Washington might also have concerned Lowe. As F. Stansbury Haydon argued, Lowe's opposition could also have been a manifestation of professional rivalry. Lowe and La Mountain loathed each other, and their lack of cooperation was a source of frustration for their military associates. Haydon was convinced that La Mountain's flights over the Confederate positions in Virginia yielded accurate, potentially valuable reports for the Union command. The inability to confirm any of these observations by other means led to frequent skepticism, and La Mountain's unique tactical approach was ultimately unable to compete with Lowe's prestige and political pull. The increasingly bitter personal attacks and accusations finally ended when La Mountain was dismissed from Army service in early 1862.¹⁸

The Confederacy, meanwhile, began to shape its operations in response to

balloon operations. General Joseph E. Johnston lamented that the "infernal balloon" was making it difficult to deceive the Union commanders. As the Confederate army began to withdraw from the area around Manassas Junction, Virginia, to defend Richmond in early 1862, Johnston believed he had limited time to reposition his forces because of frequent Union balloon flights. Initially, the terrain masked the intense activity at the Manassas railhead from the balloonists' view. As the Confederacy began burning those items they could not take with them, the Union's aerial observers reported the inordinately heavy smoke, and a brigade commander ascended in a balloon and reported that the Confederates were evacuating their positions.¹⁹

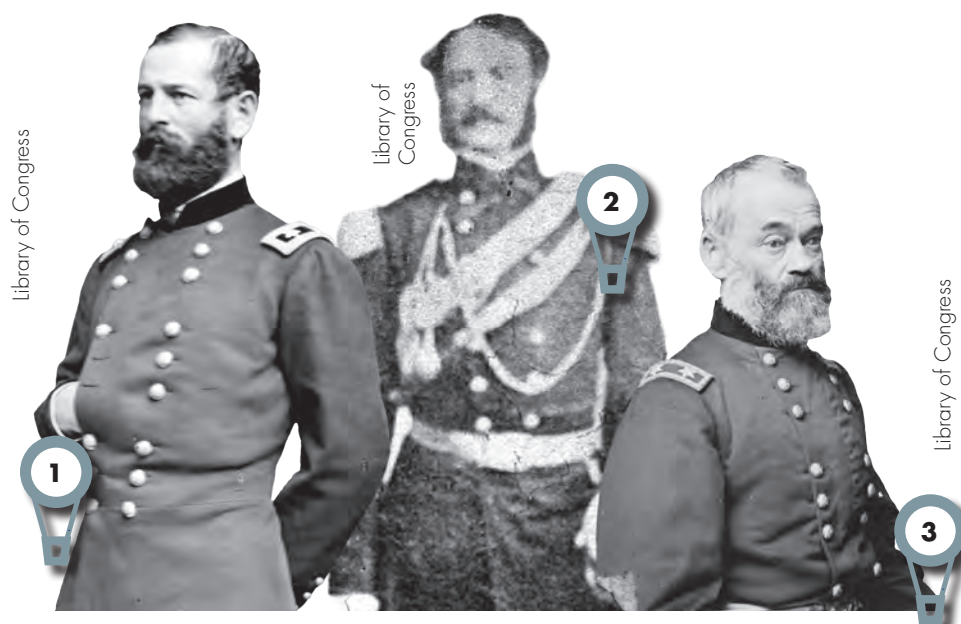
The Confederate commander conducting one of the evacuations expected an attack because he was certain the Union balloonists had spotted the pullback. McClellan did not attack, however, and Edwin Fishel argued that the Union Army missed a prime opportunity to harass or even do significant damage to the retreating Confederate forces. Fishel links this hesitancy to "an excessive skepticism regarding the significance of the balloon observations," even though the observations had been conducted by a "highly regarded" officer. Despite its endorsement of Lowe's methods, the Union high command apparently was still not entirely convinced of the value of aerial observation. Fishel opined that the balloonists could have provided a more definitive report if one of them had conducted a free flight over the area, but La Mountain had been dismissed.²⁰

In the spring of 1862, the Army of the Potomac went on the offensive in the Peninsula Campaign. McClellan's headquarters coordinated to have the vast majority of the balloons transferred to this new theater. The aeronauts' performance in the Peninsula Campaign has been one of the more controversial elements in the limited historiography of aeronautics in the Civil War. One Lowe biographer called the campaign "the high point of Lowe's Balloon Corps service."²¹ Other historians took a less charitable view.



The first mission for the balloon corps (which now included James Allen and his brother Ezra) was to observe the Confederate defensive works around Yorktown. The balloonists, Brig. Gen. Fitz John Porter, and other officers—including, by his own account, Capt. George A. Custer—made ascensions to note the enemy's strength and disposition. Porter even made an unintended free flight over the enemy position when his tether snapped. Fortunately for this avid supporter of balloon reconnaissance, the wind blew him back over Union lines, and he was able to deflate and land the balloon with minimal damage to himself or the equipment. After Confederate Maj. Gen. John Magruder abandoned Yorktown, observations made by Lowe and confirmed by Maj. Gen. Samuel P. Heintzelman were the first confirmation McClellan had of the Confederate withdrawal.²²

Lowe later argued that he and his associates made a distinct contribution to this opening phase of McClellan's campaign, claiming that aerial observations and the maps drawn by officers perched in the balloons "were of greatest importance, and readily enabled the commanding officer to decide what course he would pursue." Charles Evans concurred, arguing that the balloonists saw and reported evidence that Confederate numbers were lower than the hyperinflated estimates McClellan was receiving from Allan Pinkerton's spies. None of the balloonists' surviving reports, however, indicate that they noticed any discrepancies between their observations and those of other intelligence sources. Stephen Sears argued that "balloon reconnaissance brought very little real enlightenment to General McClellan; certainly they furnished him nothing that brought any reality to the way he was counting the Army of Northern Virginia."²³ McClellan's decision to besiege Yorktown rather than attacking it, and his continued belief that



1. Fitz John Porter, shown here as a major general in 1863
2. General Magruder, c. 1860
3. General Heintzelman, c. 1863



The balloon *Intrepid* being inflated during the Battle of Fair Oaks, Virginia, in May 1862

An engraving from 1862 showing Thaddeus Lowe dictating a dispatch to General McClellan during the battle at Fair Oaks

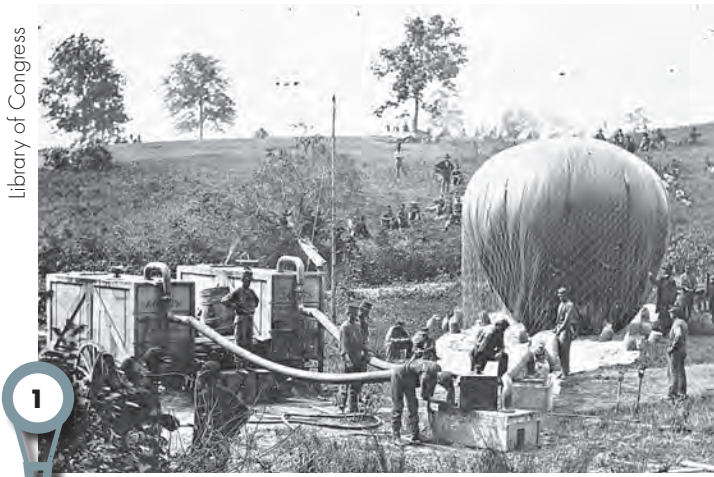


he faced a much larger force than he actually did, lend more credence to Sears' findings.

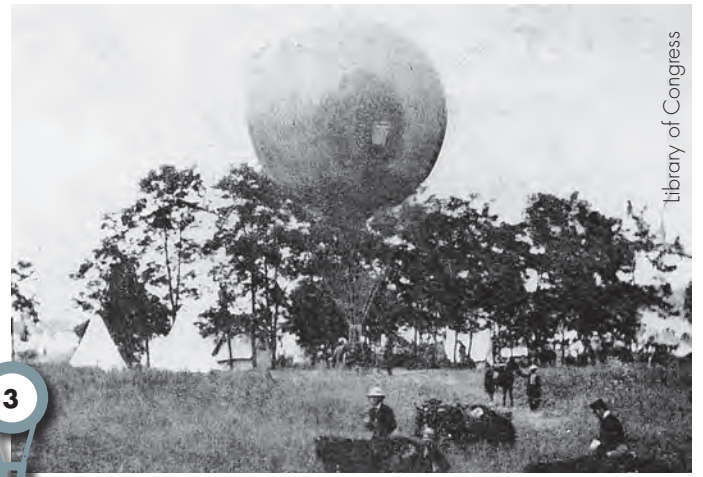
Regardless of their impact on McClellan's decision making, the Confederacy continued to take the balloons seriously. General Magruder was convinced the aeronauts had identified a weak spot in his defenses, and prepared for a Union offensive at that point. Union balloon flights often brought a sudden and furious response from Confederate batteries. While the efforts of Confederate gunners were unsuccessful in damaging the aircraft, they had the potential to raise havoc among the ground personnel near the balloons' launch point. One such incident brought a terse message from McClellan's staff after the general himself was nearly hit by the Confederate anti-aircraft effort: "The general says the balloon must not ascend from the place it is now any more." The Confederates also attempted to use skilled marksmen and saboteurs to hamper Union aerial observation, but these efforts did not impact operations.²⁴

As the Army of the Potomac slowly made its way toward Richmond, the balloon corps had no difficulty in keeping up. The balloonists continually reported on fortifications and encampments between the Federals and their objective. As the Confederate army began preparing its massive counterattack in late May 1862, aeronauts observed some of the movements. Lowe thought that this information prompted McClellan to prepare efforts to relieve the portion of his command isolated by the Chickahominy River, but McClellan made no mention of it in his campaign report.²⁵

Lowe, his biographers, and Charles Evans all seem quite proud of the balloon corps' accomplishments during the ensuing Battle of Seven Pines (or Fair Oaks). Lowe wrote that he ascended at noon on 31 May "and discovered bodies of the enemy and trains of wagons moving from Richmond toward Fair Oaks." He continued to observe this movement, he wrote, until two o'clock, when these Confederates began to attack the Federal forces arrayed beyond the Chickahominy, after which he descended and sent warnings



1



3

of the attack to McClellan's headquarters (the aeronauts' telegraph equipment was with another balloon at the time). Lowe directly tied these reports to McClellan's decision to order the damaged bridges quickly repaired in order to reinforce his beleaguered elements across the river. Lowe's biographers praised the decisive role, and J. Dane Squires wrote that "Lowe's observations alone saved the Army of the Potomac from a major defeat" during the battle.²⁶

Other historians take a different view. Stephen Sears, in fact, found evidence that Lowe either misremembered or deliberately falsified his messages from the battle in his later report to Secretary Stanton, changing "ascended at 2 o'clock" (which is what the version of the message Sears found in the McClellan papers reads) to "descended at 2 o'clock," which one finds in the Lowe Report. Sears argues that because of weather conditions that morning, no balloons were in position to identify the Confederate attack on the Federal units isolated by the Chickahominy. The fact that Lowe sent his "vital" message two and a half hours after allegedly observing the attack on the isolated forces and then descending seems to verify Sears' assertion.²⁷

After McClellan's forces beat back the Confederate

counterattack, McClellan directed the balloon corps to observe for further Confederate attacks. Just as they had at Washington in the final months of 1861, the aeronauts seem to have served adequately in their role over a relatively static front line, and their frequent reports of the massive defensive effort in front of Richmond accurately reflected the efforts of the new Confederate commander, General Robert E. Lee. McClellan cited balloon reports of Richmond's massive defensive efforts in his increasingly frantic pleas to Washington for more men.²⁸

When the next Confederate counteroffensive began on 26 June, however, the balloons' contributions seem to have once again been limited by terrain and the chaotic nature of the battle. Lowe's balloon was stationed at McClellan's headquarters, and

his reports were largely vague, in part because Lowe was beginning to suffer the effects of malaria. Lowe requested that "some good person" come

1. Inflation of the balloon *Intrepid* near Gaines' Mill, Virginia, 1 June 1862

2. General Lee, c. 1863

3. Lowe's balloon camp at Gaines' Mill, Virginia, May 1862

4. Thaddeus Lowe preparing to ascend from his balloon camp at Gaines' Mill, Virginia, in May 1862

assist or replace him, but continued his ascensions and reports throughout the day's fighting, noting the unexpected appearance of a Confederate balloon across the battlefield. As author Brian Burton points out, Lowe may have negatively impacted the Union cause when he identified General Magruder's feint as preparations for a major Confederate attack, but the balloon corps may have partially redeemed itself when it was the first to report the dire situation facing General Porter's forces at Gaines' Mill that evening. This was one case where the balloons did play a critical role in keeping McClellan's command informed, but it



2



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may have been an Army officer passenger who identified the situation and not a civilian balloonist.²⁹

As McClellan ordered the Army of the Potomac to redeploy to the James River over the next several days, the reversal had a crippling impact on the aeronautics corps. The rapidity of the movement meant that the aeronauts were forced to leave behind the materials used to produce their gas, so there were no flights for several days. Lowe was now fully stricken with malaria, and aside from a few flights along the James River, the balloons were inactive the rest of the summer. For the first time the Union balloon corps would see a change in command limit their operations. As military emphasis shifted to Maj. Gen. John Pope's forces operated in Northern Virginia, the balloons remained with McClellan's forces at Harrison's Landing before returning to Washington. This was likely due to what F. Stansbury Haydon called Pope's "[o]bstinate, uncompromising indifference" toward balloon reconnaissance. Pope had thoroughly demonstrated his lack of interest while in command of the Mississippi River campaign in early 1862,

when he had refused to allow aeronaut John Steiner even to demonstrate his balloon's capability.³⁰

Accordingly, there would be no balloons on hand when General Lee handily defeated Pope at the Battle of Second Bull Run in August 1862. The period of inactivity, while Pope's army was transferred to a restored McClellan, prompted a fully recovered Lowe to write a letter reminding the Army of the contributions the balloons could make, especially in the aftermath of the latest reversal. The aeronauts received instructions several days later as the Union and Confederate forces collided in gruesome fashion near Antietam Creek in Maryland. Lowe's civilian status and personnel turnover within the Union ranks left the balloon corps unable to coordinate transportation for several days. According to Lowe, McClellan informed him how much the balloons had been missed at the latest battle. While McClellan likely did miss the reports from the balloonists, the aeronauts' spotty performance near Richmond indicates that Lowe's theory that balloon observation "might have resulted in the complete defeat and

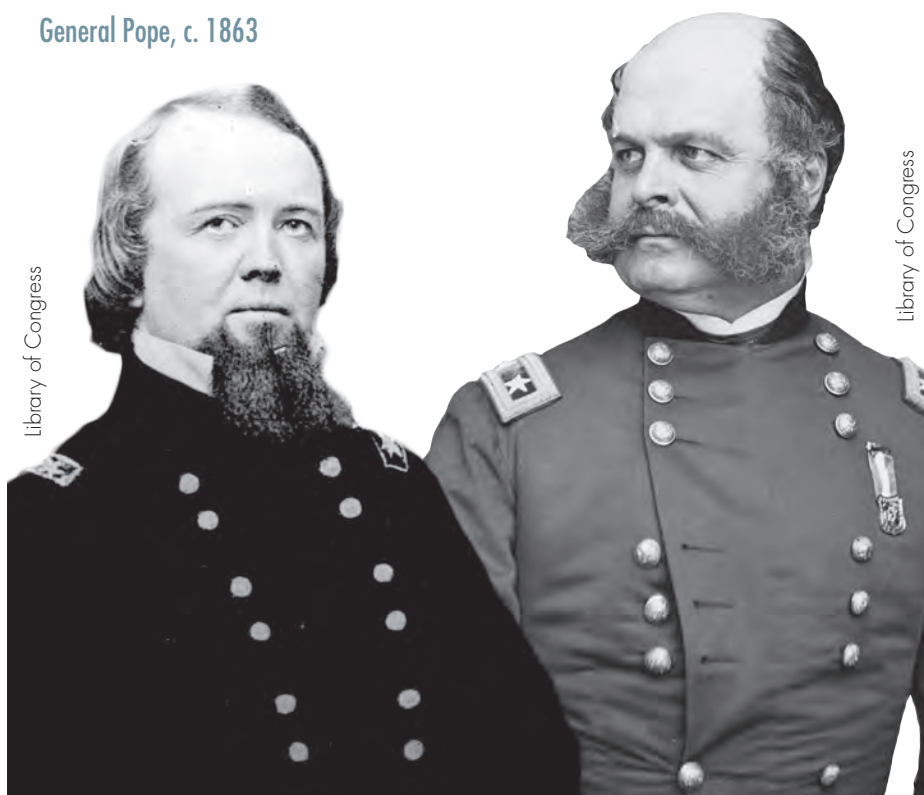
utter rout of the enemy while trying to effect his escape across the Potomac" after Antietam is a bit of a stretch.³¹

Before being ordered back to Washington to await further instructions, the balloons observed the Army of Northern Virginia's retreat back into Virginia. They waited there for several weeks while Lincoln replaced McClellan with Maj. Gen. Ambrose E. Burnside. Once again, the silence from headquarters prompted Lowe to send a message reminding them of the capabilities provided by the aeronauts. The Army directed Lowe to report to Fredericksburg, Virginia, and prepare for ascensions. When the balloon corps arrived, however, Burnside informed them that he wanted no ascensions to observe the Confederate positions because "he desired the balloon should not be shown to the enemy till he was ready to cross the river."³²

Historians have been puzzled by Burnside's decision. Edwin Fishel theorized that Burnside believed the Confederates would simply maneuver to conceal their positions from aerial observation if they saw the Union balloons. Burnside might also have been worried that the position of the balloons would give away his plans. Either way, Burnside apparently believed he did not need aerial reconnaissance to identify the Confederate positions prior to the Union attack. Charles Evans thought that Burnside hoped that the balloon corps' inactivity would convince the Confederates that the Union no longer used balloons, and that Burnside could use this to his advantage.³³ The heavy fire that the balloons often drew when they ascended may also have discouraged Burnside in their use.

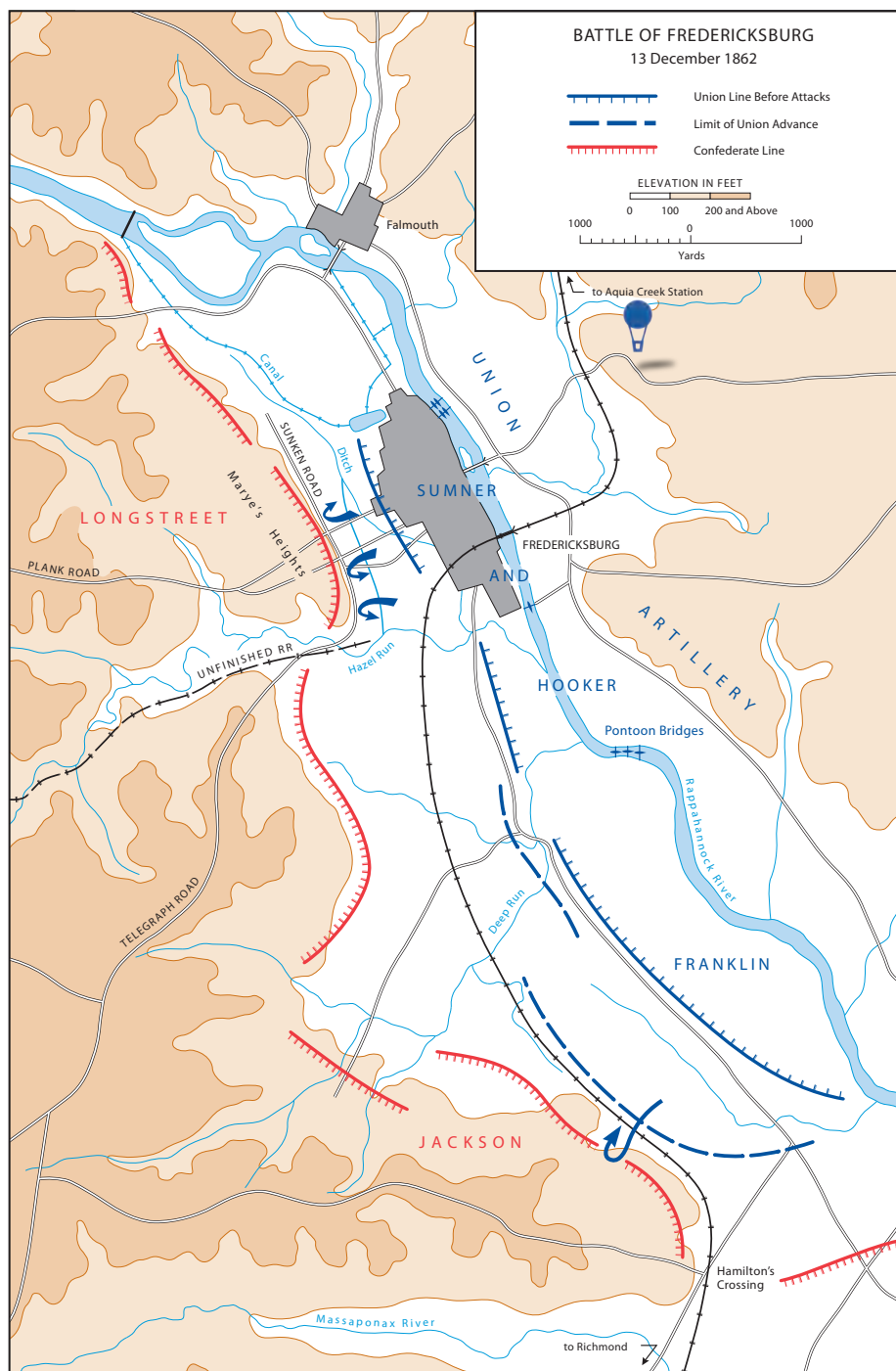
Starting 13 December, Lowe and various staff officers made repeated ascents from Burnside's headquarters in one of the smaller balloons to observe the unfolding Battle of Fredericksburg. The balloons again received heavy Confederate fire, and Lowe reported that "much valuable information was furnished the commanding general." As with the Peninsula Campaign, historians have downplayed the aeronauts' contribution. George Rable argued one such

General Pope, c. 1863



General Burnside, c. 1863

Library of Congress



the battlefield from a seemingly omnipotent viewpoint.”³⁵ The frequent turnover that resulted from casualties and personnel moves, as well as the mixed attitudes toward the effectiveness of aerial reconnaissance, likely meant that few officers could become proficient enough in aerial observation to assist the civilian aeronauts in any meaningful way.

It is evident that, for all these reasons, aeronautics had a minimal impact on the outcome of the Union debacle at Fredericksburg. Following the battle, Lowe’s balloons continued to report on the enemy’s positions. Like during the previous winter, the weather would periodically stymie balloon operations, as it did during the infamous “Mud March.” When the weather permitted, however, the balloon corps was once again able to take advantage of the relative stability of the lines to make frequent observations, though Lowe’s vague reports of “large camps” and “large forces” prompted requests for more clarity in his assessments.³⁶

Once again the military setback had prompted a change in leadership for

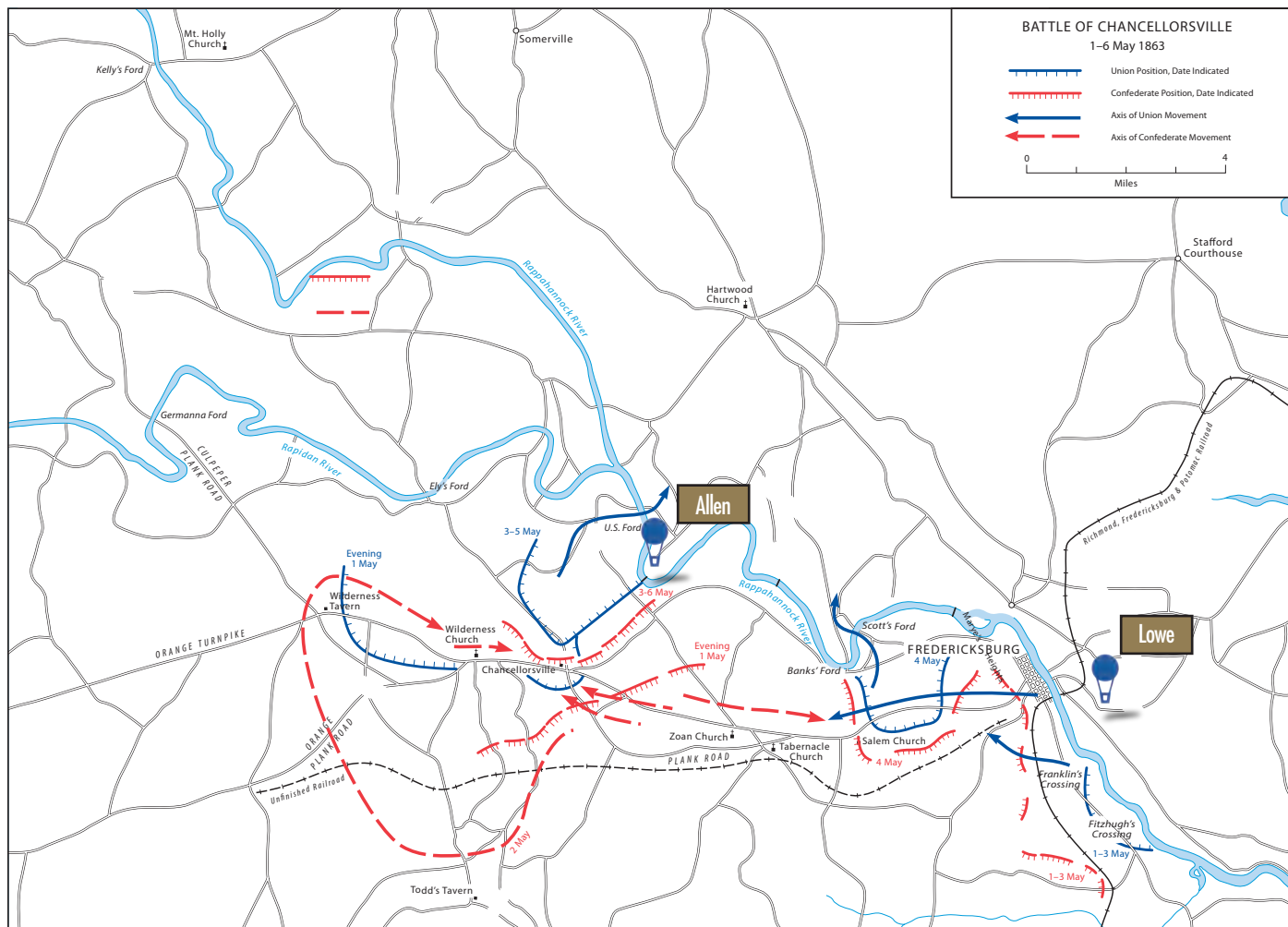
General Jackson, c. 1862



Library of Congress

ascension helped Burnside identify the location of Lt. Gen. Thomas J. Jackson’s forces, but this intelligence was not used properly. Otherwise, the fog and smoke of the battlefield precluded the balloonists from providing any useful intelligence. Frank O’Reilly thought the balloon’s intelligence was “superficial and often wrong,” and noted that high winds prevented any flights on 14 December, despite the clear weather and expectations at headquarters.³⁴

Regardless of their tactical merit, O’Reilly argues that the “novelty” of the balloons “captivated Union and Confederate soldiers,” and that many staff officers volunteered for the mission simply “to see the action.” Charles Evans cites one officer’s account that seems to support this view, arguing that many officers did not make productive assessments from the balloons on their first trip because they were “preoccupied with the rare experience of witnessing



1. General Hooker, c. 1863
2. George H. Sharpe, shown here as a brigadier general, c. 1864
3. Cyrus Comstock, shown here in a postwar photograph probably with the rank of colonel
4. General Sedgwick, c. 1863
5. Thaddeus Lowe's field glasses

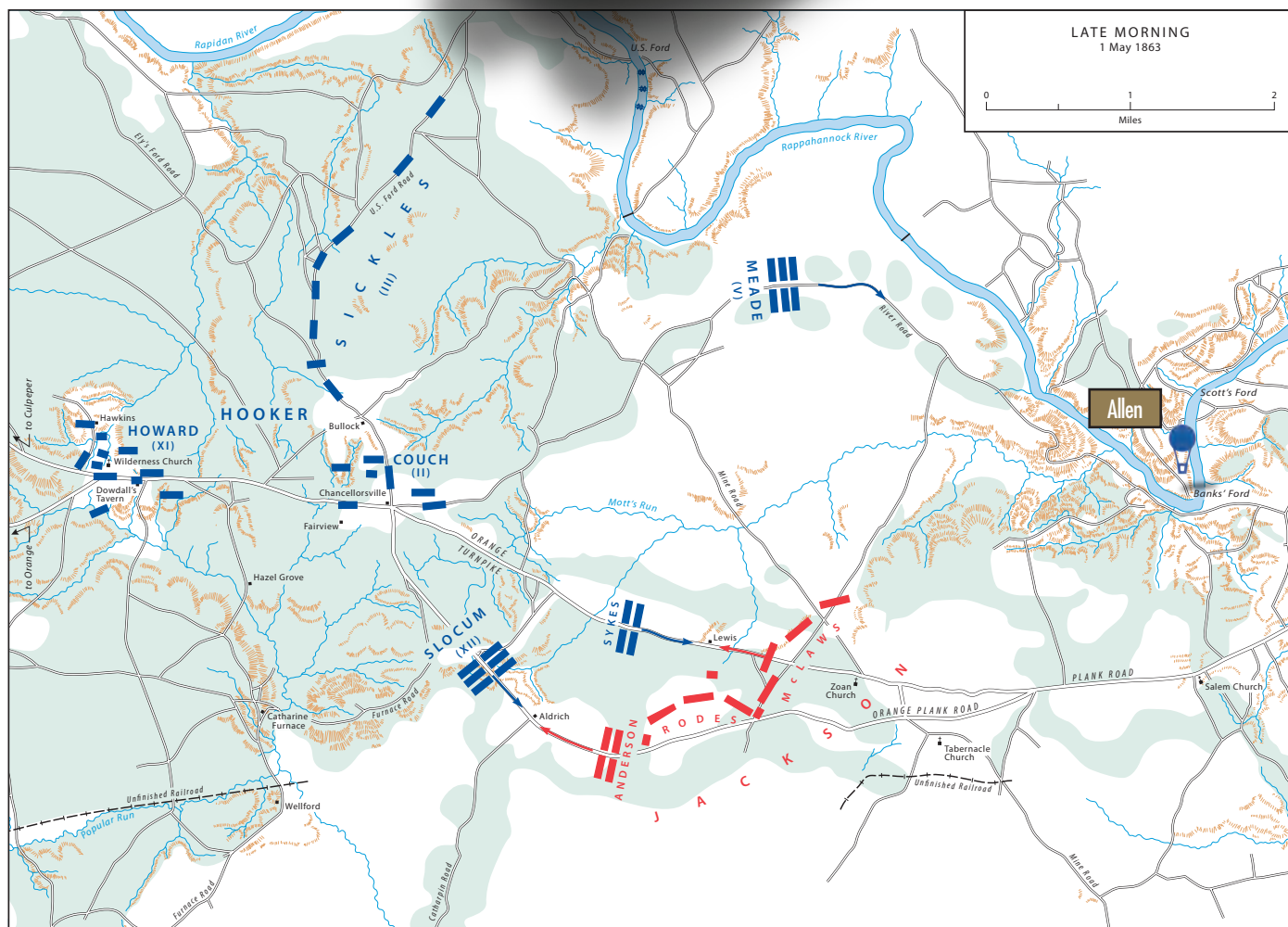
the Army of the Potomac, with Maj. Gen. Joseph Hooker replacing Burnside. Hooker instituted several changes that encouraged the aeronauts, especially the appointment of Col. George H. Sharpe. Sharpe and Hooker would work together to develop what Edwin Fishel called the United States' first "all-sources" intelligence network, which combined reports from a variety of reconnaissance and espionage assets, including the balloon corps, to provide increasingly accurate information on the

Army of Northern Virginia. Hooker also assigned Capt. Cyrus Comstock "to the immediate charge of the balloon establishment." Comstock would henceforth be the approving authority for all "issues or expenditure" pertaining to aeronaut operations. Comstock was one of the few officers who had made repeated balloon ascents, creating detailed notes and submitting lengthy reports full of militarily precise terminology. Comstock took an active role in his new responsibilities, establishing reporting and ascension procedures intended to improve "the efficiency and usefulness" of the aeronautics unit. He also, however, directed

Lowe to discharge his father and another man who had been serving as assistants to the aeronauts, and informed his chief balloonist that "it might be necessary for the public interest to reduce your pay."³⁷

Despite the tensions that immediately emerged between Lowe and his new military supervisor, the aeronauts continued making frequent ascensions and submitting their reports. These reports were compiled with the other information coming in to Colonel Sharpe, and the balloon corps was also integrated into the detailed preparations Hooker and his staff made for their upcoming attack on Lee's army. During final preparations for what became the Battle of Chancellorsville in late April 1863, Hooker directed the aeronauts to deploy one balloon to observe Fredericksburg in support of Maj. Gen. John Sedgwick's Sixth Corps and another to follow the Union advance to Banks' Ford to provide reports to both Hooker and Sedgwick's headquarters.³⁸

National Air and Space Museum



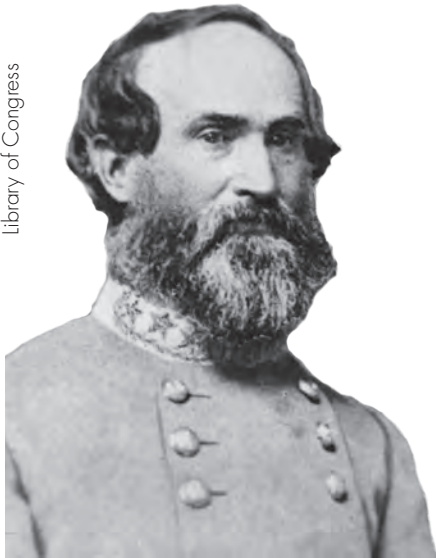
As the battle began on 1 May, Lowe and the Allen brothers, who were now the only remaining Army balloonists, submitted constant reports of the enemy movements. The weather on

this day was very favorable for the balloonists, but the forests and smoke still obscured the aeronauts' view of what was occurring. On the second day of the battle, General Jackson launched his massive attack on the Union right flank. Heavy winds hampered balloon operations, eventually prompting concerned messages from Hooker's headquarters about the balloonists' silence. Hooker's staff clearly believed the balloons had a contribution to make to their situational awareness. Unfortunately, it seems that neither the Allens nor Lowe correctly identified Jackson's maneuver, despite the fact that the Confederates could see at least one of the balloons. As his balloon was battered by strong winds, Lowe reported that "no movement [was] visible on any of the roads seen by the balloon." Later that day, Lowe observed and reported as a portion of the Confederate forces defending Fredericksburg began to withdraw.

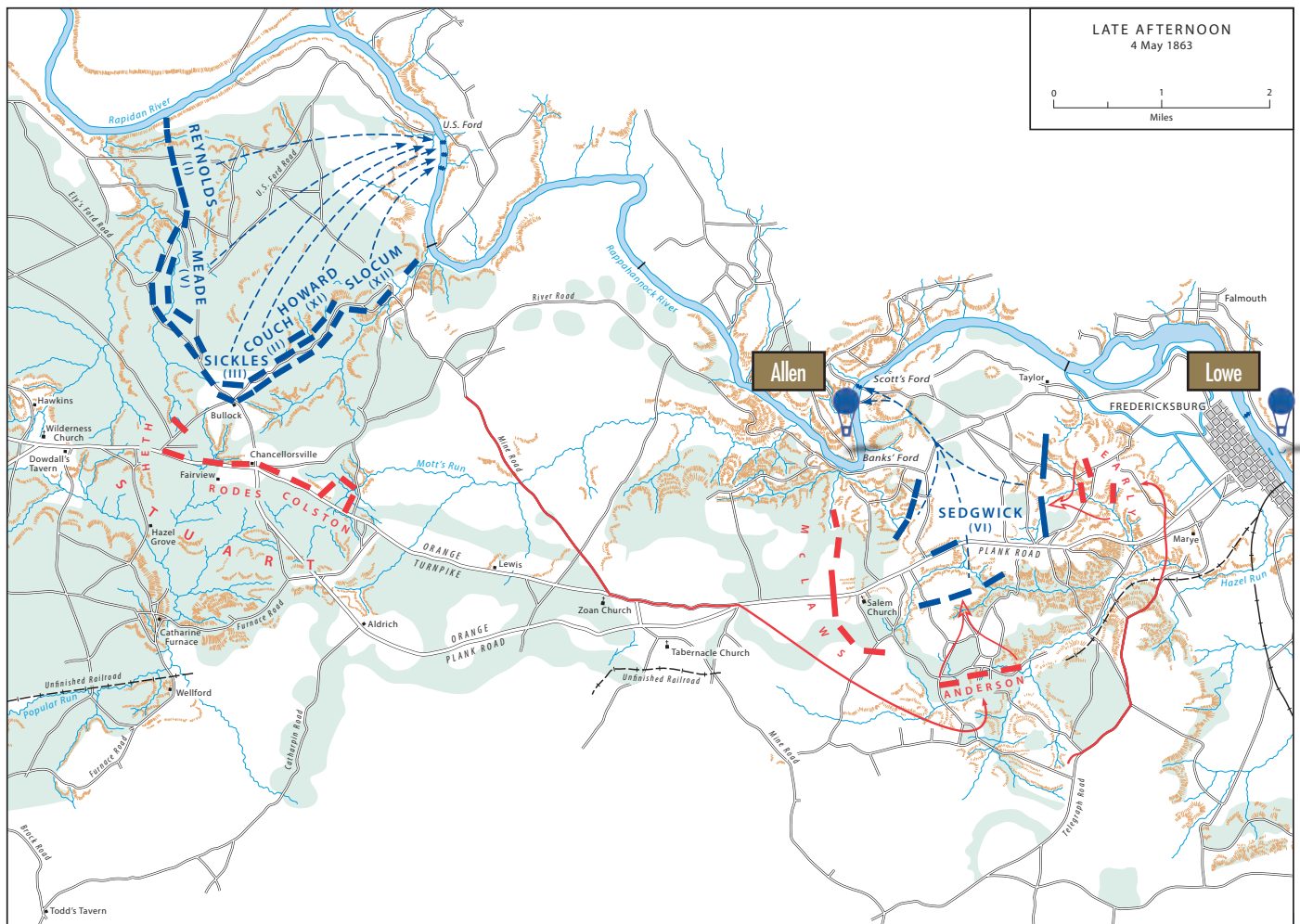
Hooker's staff conveyed this information to their commander, and also to Sedgwick. Sedgwick did not advance, and eventually Hooker ordered him to attack Fredericksburg and "vigorously pursue the enemy," but the order was delayed and ambiguous, and Sedgwick did not attack that evening.³⁹

The delay gave the Confederates time to reinforce the position, and that evening the Confederate commander defending Fredericksburg had extra tents erected and additional campfires lit in an attempt to inflate his actual numbers. It is difficult to know if these efforts deceived Lowe, but he did report the reinforcements the next morning, stating that the Confederates had "apparently increased their force during the night," but that there appeared to be fewer than had been before the previous day's withdrawals. As the day grew brighter, Lowe reported that the enemy forces were now "very light along the whole line opposite [his

General Early, c. 1863



Library of Congress



position], and especially in the rear of Fredericksburg.” With this information, along with reports from other sources, Sedgwick finally ordered a successful, though costly, attack on the heights behind Fredericksburg. The fighting and Sedgwick’s cautious advance toward the remainder of the Army of the Potomac, however, had given the Confederate forces time to react and stymie the efforts to move westward to Chancellorsville.⁴⁰

As the Union situation further deteriorated the following day, the balloons and other observers reported that Confederate Maj. Gen. Jubal A. Early’s force had returned to the heights above Fredericksburg, positioning itself on the rear of Sedgwick’s corps. Lowe estimated the enemy numbers “at least 15,000 strong.” Stephen Sears theorizes that this gross overestimate (Early actually had around 8,000 men) reinforced Sedgwick’s illusion that he was beset by a vastly superior force, freezing him into inactivity until the meager Confederate troops were reinforced. Over the next several hours, Lowe watched helplessly as the Confederate forces battered Sedgwick’s command, reporting: “The enemy are engaged in full force and driving our forces badly.”⁴¹

At the Battle of Chancellorsville, the Union’s aeronautics unit had been utilized to its maximum potential. For the first time, the reports had been compiled with intelligence from other sources, and the balloons had been positioned in the best possible locations. Captain Comstock’s directives to improve the quality of operations seem to have had a positive impact on their usefulness. The aeronauts had made important contributions in preparing for the battle, and they seem to have made several useful observations during the fighting. The weather conditions and nature of the battlefield, however, had both hampered their effectiveness and exacerbated their shortcomings.

As the dispirited Union forces retreated from Chancellorsville, a heavy storm struck, severely damaging both of the balloons and spoiling the supplies necessary to make hydrogen. Lowe met with Captain Comstock to

address these issues, and also to resolve the pay controversy that had arisen before the battle. When first informed by Comstock of the new pay situation, Lowe had protested to Hooker’s staff, recounting his service and sacrifices over the previous two years, arguing that it would “be impossible for [him] to serve upon any other conditions than those with which I entered the service.” The staff had replied by informing Lowe to route his concerns through the proper chain of command, specifically Comstock. Comstock had replied by stating “that \$6 per day [was] ample pay for the duties [Lowe was] to perform at present.” When Lowe met with him following Chancellorsville, Comstock reiterated this position, at which point Lowe requested “to be relieved.” Comstock granted the request, and Lowe collected his pay and returned to Washington.⁴²

The unpleasant interaction between Lowe and Comstock, both of whom were proponents of military balloon use, is one of the more vivid examples of the importance of personal relationships in the story of Civil War aeronautics. Rivalries among the balloonists themselves were another example. As mentioned above, Lowe’s rivalry with La Mountain had hampered the balloon corps’ activities around Washington, and effectively ended the use of free flight balloon reconnaissance. Initially, Lowe had refused to serve in John Wise’s balloon, because it had been “made by a person in whom [he] had no confidence” and, after becoming the senior Army balloonist, Lowe refused to hire Wise when the balloon corps expanded in the late summer of 1861.⁴³

Lowe’s decision to dismiss one balloonist led to further complications for Union aeronautics when the disgruntled former employee endorsed the alternative balloon proposals of a Mr. B. England. England contacted McClellan, and then Hooker, requesting funding to demonstrate balloon technology that was cheaper, more effective, and less cumbersome than the “meagre and unsatisfactory” techniques developed by Lowe, which he also called “almost useless, and an expensive encumbrance.” The Army an-

swered these proposals by sending an expert to examine them. Their choice expert—Thaddeus Lowe—prompted England to fire off an angry response, stating that he “would have nothing to do with *Mr. Lowe* in the matter. I desire, nay, court, a thorough investigation of my process by any *competent*, but, totally *disinterested* person. . . . I am not willing to divulge my secret plans to *him*.” Lowe published a letter refuting many of England’s more extravagant claims, and proposed that England do what Lowe had done, namely conduct his demonstrations at his own expense. Lowe’s rebuttal was accompanied by endorsements of his methods by the Allen brothers, and nothing further seems to have come of the matter.⁴⁴

As F. Stansbury Haydon first asserted, the civilian balloonists’ relationship with their military counterparts was vital to their success. Many officers initially shared George Custer’s “[s]trong doubts . . . as to the practical utility of balloons in war.” “The large majority of the army,” Custer wrote, “without giving it a personal test, condemned and ridiculed the system of balloon reconnaissances.” Lowe’s ability to overcome these negative views by cultivating the enthusiasm of commanders, like General McClellan, through demonstrations and ascensions was vital to the balloon corps success. A similar experience convinced

(Left) General Sherman, c. 1863
(Right) General Halleck, c. 1863



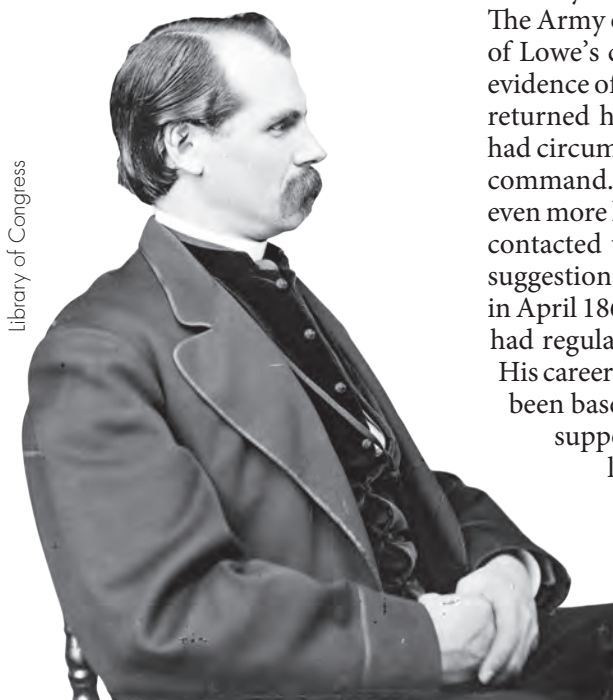
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Custer of the balloons' potential, under certain conditions. Lowe's initial efforts along the Potomac also won over Generals Hooker, Heintzelman, and others. Most enthusiastic of all was General Porter, who offered his assistance and encouragement in Lowe's early endeavors to expand military ballooning. "*You are of value now*," Porter wrote after several balloon demonstrations along the Potomac. Lowe rewarded this friendship with frequent offers to "come and go up with him" and possibly "discover something of interest."⁴⁵

The aeronauts had less luck with other Army officials, many of which remained skeptical of the balloons' tactical value. General Pope had no interest in balloons, nor did Brig. Gen. Thomas W. Sherman, brother of William T. Sherman, who was assigned a balloon in early 1862 for the Port Royal Campaign in South Carolina. General Burnside was a reluctant convert, and his puzzling use of balloons at Fredericksburg was likely a result of this. The disgruntled and ignored balloonist John Steiner had written in early 1862 that Maj. Gen. Henry W. Halleck was also "no friend to the Aeronatics Core [*sic*]."⁴⁶ This would have grave implications for the balloon corps in the aftermath of Chancellorsville.

Thaddeus Lowe, c. 1865



Library of Congress

In his memoirs, Lowe laid the blame for the unsatisfactory conclusion of his wartime career squarely at the feet of the "impossible" Captain Comstock. Those sympathetic to Lowe have castigated Comstock as a "martinet." Charles Evans and Edwin Fishel argued that Comstock was assigned to supervise the aeronautics unit partially in response to allegations from disgruntled former aeronauts that Lowe was mismanaging the balloons, embezzling, and bribing reporters with Army rations for sympathetic media coverage. Lowe's refutation of these claims may have reassured Hooker, but Comstock's directive to Lowe "for an inventory of all public property under [Lowe's] charge" would seem to indicate that suspicions lingered. Comstock's personal views on the situation are unfortunately lost to history, as this period of his career is missing from his diary.⁴⁷

While suspicion may have been one factor, Comstock's balloon experience, new reporting procedures, rigorous ascension schedule, and emphasis on "the efficiency and usefulness of the establishment, as well as its economic management" indicate a more likely reason for his new role. The Army of the Potomac staff wanted to rectify the civilians' informal, inefficient handling of aeronautics, and their persistently vague, "unmilitary" reports. The Army of the Potomac's treatment of Lowe's communications is further evidence of this change. Headquarters returned his pay petition because he had circumvented the proper chain of command. The command responded even more harshly when Lowe directly contacted the War Department with suggestions for a new balloon mission in April 1863.⁴⁸ This was something he had regularly done in the early days. His career with the army, after all, had been based on his ability to gain the support of political and military leaders.

Following his resignation, Lowe continued to work on behalf of military ballooning. He submitted a report to the Secretary of War outlining his

experiences, and recommended that aeronautics be "permanently adopted as an arm of the military service," presumably with a more effective all-military structure. His suggestions were ignored, but Lowe's departure did not mean the end of the corps. Comstock departed for the Western Theater, and the Allen brothers and their assistants were left in the charge of the Corps of Engineers. Initially, James Allen's short service with a volunteer regiment seems to have served him well in his dealings with the military. The balloons continued to monitor the enemy positions near Fredericksburg, noting the withdrawal of Lee's forces. Later observations would indicate that the Confederates were moving northward and receiving significant reinforcements.⁴⁹

The Allen brothers now faced increasing trouble with both their equipment and their military supervisors. The balloons were starting to show the wear from the long campaigns and repairs were becoming increasingly difficult. On 1 June 1863, the lieutenants recently assigned to supervise the corps ignored the warnings of the Allens that the winds were too great and ordered a flight that nearly resulted in disaster. The high winds forced the balloon to plummet nearly a thousand feet and tore a 36-foot gash in the fabric, and it took all of James Allen's skill to prevent the accident from becoming fatal for the passengers. By mid-June, mechanical problems were delaying ascents. The Allens requested that funds be provided to replace their damaged aircraft, but they received no reply from their new chain of command, even after enlisting Lowe's assistance. An attempt by General Hooker to reassign the balloons to the Signal Corps was derailed when the chief Signal officer, Bvt. Col. Albert J. Myer, declined the proposal, pleading lack of men and resources. Eventually, the frustrated Allen brothers resigned.⁵⁰ There would be no balloon corps at Gettysburg, or anywhere, for that matter, for the rest of the Civil War.

A brief article in the *New York Times* seems to have been the balloon corps' only obituary. The article noted that the "Aeronautics Corps" of the Army of the Potomac had been dispensed

with, and the balloons and inflating apparatus had been sent back to [Washington].” The editors took this to mean “that balloons [had] been found of no value in the conduct of military operations, or at least not of sufficient value to justify the expense and trouble of them.” The issue of cost was likely a significant one. The Army had eagerly greeted proposals for more cost-effective balloon operations from the very beginning, when John Wise’s cheaper (albeit ill-fated) balloon had been temporarily adopted in lieu of Lowe’s more expensive proposal. The Army continued to express interest in cheaper, more effective balloon proposals well into 1863; B. England’s proposal was only one of several being examined. A promising offering—it received the endorsement of Lowe’s Smithsonian ally—involved the use of an alcohol-fueled stove to quickly and cheaply provide hot air instead of using hydrogen or coal gas.⁵¹ Nothing came of any of these proposals, but Comstock’s emphasis on “economic management” (to say nothing of Lowe’s dramatic pay cut) shows that the Northern leadership had become convinced that aeronautic operations, while potentially valuable, were currently too expensive.

Despite these pressures, however, the aeronauts had served an important, albeit not entirely effective, role in the Chancellorsville Campaign. They had also performed relatively well in the static periods between major battles. If the heavy fire the balloons drew, even in their final activity in mid-June, is any indication, the Confederates certainly took the balloons seriously. General Joseph E. Johnston had experimented with a primitive hot-air balloon during the Peninsula Campaign. The Confederates even fielded a silk balloon of their own during the Seven Days’ Battles, but it was seized and destroyed after a Union gunboat captured the steamer transporting it.⁵²

That balloon’s operator, Col. Edward Porter Alexander, was puzzled by the Union’s abandonment of aeronautics, finding their conclusion that balloons were not “of much value . . . a decided mistake.” Alexander was “sure that on certain occasions *skilled observers* in balloons could give information of priceless value.” He also recalled the impact of the Union’s balloons on his fellow Rebels: “[T]he very knowledge by the enemy of one’s use of a balloon is demoralizing, & leads them, in all their movements, to roundabout roads

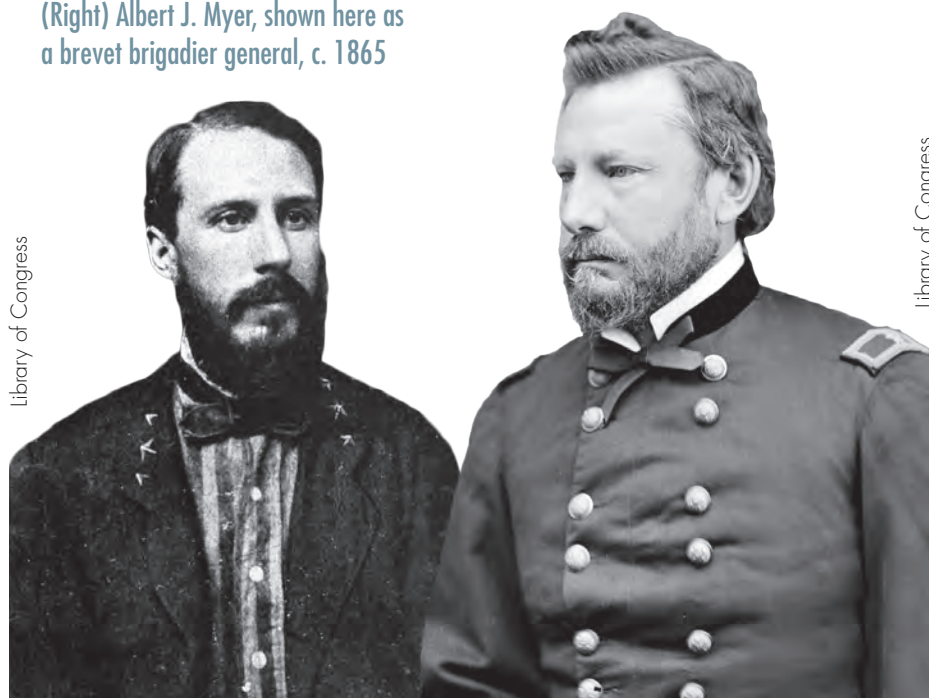
& night marches which are often very hampering.”⁵³

Alexander argued that the use of trained staff officers as observers instead of “the ignorant class of ordinary balloonists” would have made these aircraft even more effective. As mentioned previously, some on the Union side felt the same way. Lowe and the Allen brothers’ frequent suggestions that officers accompany them imply that they too, realized that having military observers present was important.⁵⁴ The balloon corps’ improved performance during Chancellorsville, despite its shortcomings, may have been a testament to Comstock’s brusque attempts at improving the military fitness of his wayward civilian charges.

So why then was the Union balloon corps allowed to wither and die? Though his work was never completed, F. Stansfield Haydon blamed the Army’s decision to treat aeronautics as a hybrid civilian-military operation, which resulted in “slipshod methods and chronic bungling,” but also admitted that this may have been symptomatic of the larger issues of mismanagement, graft, and corruption plaguing the Federal Army at the time. Charles Evans argued that the combative egos among Lowe and his peers hampered their ability to cooperate with each other and contributed to the military’s increasing dissatisfaction with balloon operations. Evans also theorized that an increasingly disenchanted Northern populace came to associate balloons with the dramatic Union defeats in the first years of the war.⁵⁵

Haydon and Evans both identified significant issues that hampered the balloon corps’ abilities and ultimately undermined its potential. The attitudes of the Northern military leadership were also critical. Lowe was chosen as chief balloonist, obtained the resources he wanted, and survived the insurrections of La Mountain and other disgruntled balloonists because of his ties with the senior officials he had impressed with his demonstrations or letters. By mid-1863, however many of these individuals were no longer in positions of authority. McClellan, Burnside, and Hooker had all been

(Left) Colonel Alexander in 1863
(Right) Albert J. Myer, shown here as
a brevet brigadier general, c. 1865



relieved from command of the Army of the Potomac. Heintzelman, who submitted a letter on behalf of Lowe's military balloon proposals, had been relieved of his command and sent to defend Washington. Lowe's even more enthusiastic supporter Brig. Gen. Fitz John Porter had suffered a similar fate. General Sedgwick, who acknowledged the "valuable information" Lowe's balloon had provided, was under a cloud for his poor performance at Chancellorsville and Gettysburg, and would be killed in 1864.⁵⁶ Lowe's access to other important boosters had been severed when his new chain of command was installed.

As the Battle of Second Bull Run had demonstrated, commanders uninterested in balloon operations felt no obligation to use them. Colonel Myer, who refused Hooker's 1863 suggestion that the Signal Corps adopt the balloons, had been in charge of John Wise's early, failed attempt at ballooning during the Battle of First Bull Run, and likely retained a jaded view of aeronautics. Maj. Gen. George Meade seems to have had no interaction with balloon reconnaissance during his rise to command of the Army of the Potomac. General Halleck was apparently so dismissive

of aerial reconnaissance that he, like General Pope, refused to allow John Steiner to conduct demonstrations of balloon capability and ignored directives from McClellan to use and provide for the balloonist. Halleck and Maj. Gen. Ulysses S. Grant had decided against using Steiner's services in their 1862 campaign in Tennessee and Mississippi. When these men rose to prominence in the Union Army, Lowe's personal connections lost their effectiveness and he and the other balloonists could no longer overcome, or conceal, their branch's shortcomings. Meade, Halleck, and Grant's lack of interest in balloons might also explain why they were not used during the siege of Petersburg in 1864–1865.⁵⁷

The handful of men who served as aeronauts during the early years of the Civil War were hard-pressed to shed their reputation as sideshow entertainers, and faced significant technical, tactical, and administrative handicaps. While they likely made little contribution toward the eventual outcome of the war, their work did show promise during several critical phases of the conflict. They could not, however, overcome the cost pressures and personnel turnover that frequently rocked the Northern Army as it struggled to

defeat the rebellion. Initially, the work of Lowe and his lesser-known compatriots had convinced officials and newspapers on both sides that aerial observation could decisively impact the war. The increasingly complex and bloody combat that emerged by 1862–1863, however, made the limitations of nineteenth century aeronautics increasingly evident.

Thaddeus Lowe and his fellow aeronauts would end up as a footnote in history. Author J. Dane Squires would later lament that "we easily forget those whose destiny it is to be ahead of their time." But Lowe's supporters would keep the balloon corps' memory alive over the ensuing decades. Ultimately, the Army would name Lowe Army Airfield at its main aviation training base, in Fort Rucker, Alabama, after the tireless self-promoter who had briefly captivated so many during the Civil War.⁵⁸



NOTES

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Thaddeus Lowe's portable hydrogen gas generators on the Washington Mall in front of the United States Capitol, c. 1861



General Grant,
c. 1863

Library of Congress

ernment Printing Office, 1899), pp. 252–319 (hereafter cited as Lowe Report).

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3. J. Dane Squires, “Aeronautics in the Civil War,” *The American Historical Review* 42, no. 4 (1937): 652–69; F. Stansbury Haydon, *Aeronautics in the Union and Confederate Armies*, vol. 1 (Baltimore: Johns Hopkins Press, 1941).

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5. Sears, *To the Gates of Richmond*, pp. 54, 125–26, 196, also see photo caption after p. 84; Brian K. Burton, *Extraordinary Circumstances: The Seven Days Battles* (Bloomington: Indiana University Press, 2001), p. 89; see George C. Rable, *Fredericksburg! Fredericksburg!* (Chapel Hill: University of North Carolina Press, 2002), pp. 492–93n5, 505n3, 513–14n1; and Frank A. O’Reilly, *The Fredericksburg Campaign: Winter War on the Rappahannock* (Baton Rouge: Louisiana State University Press, 2003), pp. 265, 293, 436; Stephen W. Sears, *Chancellorsville* (Boston: Houghton Mifflin, 1996), pp. 101–02, 244, 250–51, 311, 397–98; Edwin C. Fishel, *The Secret War for the Union: The Untold Story of Military Intelligence in the Civil War* (New York: Houghton Mifflin, 1996), pp. 135–41, 298, 570.

6. Evans, *The War of the Astronauts*, p. 33; “A Balloonist Volunteers,” *Milwaukee Weekly Sentinel*, 29 Apr 1861. See also Haydon, *Aeronautics in the Union and Confederate Armies*, p. 43; Ltr, John La Mountain to Secretary of War, May 7[?], 1861 and Petition “To the

Honorable Secretary of War and the Military Commissioners of the State of New York,” dated May 1, 1861, in first folder marked “Balloons” in “Records Relating to Pilots, the Balloon and Construction Corps, and Sutlers, compiled ca. 1861 - ca. 1865,” RG 94 (Records of the Adjutant General’s Office, 1762–1984), NADC (hereafter cited as Balloons I, NADC); Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 57–61; *Milwaukee Daily Sentinel*, “Wonderful Balloon Trip of Prof Lowe,” 30 Apr 1861; Ltr, Murat Halstead to Lowe, 23 May 1861, in *My Balloons in Peace and War*, pp. 65–67. For an account of Lowe’s adventures in South Carolina, see Lowe, *My Balloons in Peace and War*, pp. 39–63.

7. Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 51–52, 68–71, 84–85; Lowe Report, pp. 254–55; see also Ltr, Joseph Henry to Hon. Simon Cameron, 21 Jun 1861, in *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies* (hereafter cited as OR), ser. 3, vol. 1 (Washington, D.C.: Government Printing Office, 1899), pp. 283–84; Lowe, *My Balloons in Peace and War*, pp. 74–76.

8. See, for example, “Military Ballooning,” *New York Herald*, 20 Jun 1861; photocopy of newspaper clipping by Frank “A Balloon Reconnaissance of the Enemy’s Position at Manassas,” in “Balloons 1861–1862” in “Records Relating to Pilots, the Balloon and Construction Corps, and Sutlers, compiled ca. 1861 - ca. 1865,” RG 94 (Records of the Adjutant General’s Office, 1762–1984), NADC. (hereafter cited as Balloons 1861–1862, NADC); Lowe Report, pp. 258–60; Ltr, Lowe to Major Bache, 29 Jul 1861, pp. 256–57, Ltr, A. W. Whipple to Lowe, 2 Aug 1861, p. 259, and Ltr, M. C. Meigs to Lowe, 25 Sep 1861, p. 264, all in Lowe Report.

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10. “The Army Balloon,” *Washington Daily Intelligencer*, 20 Jun 1861; Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 324–26; Ltr, George Stoneman to General S. Williams, 19 Mar 1863, p. 297, Ltr, Lowe to Williams, 20 Mar 1863, p. 297, Ltr, S. Williams to Lowe, 21 Mar 1863, p. 298, all in Lowe Report.

11. Lowe Report, pp. 255, 260, 264–65; Sears, *Chancellorsville*, pp. 100–101; Ltr, Lowe to Bache, 29 Jul 1861, p. 256, Ltr, Lowe to Brig. Gen. S. Williams, 30 Mar 1863, p. 300, Ltr, Lowe to Lt. Col. A. V. Colburn, 12 Nov 1861, pp. 265–66, all in Lowe Report.

12. Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 269–70; Lowe Report, p. 318; George Armstrong Custer, “In the Air Above Yorktown,” in *Battles and Leaders of the Civil War*, vol. 5, ed. Peter Cozzens (Urbana: University of Illinois Press, 2002), p. 154–69; Ltr, Col. Macomb to Lowe, 15 Feb 1862, J. N. Macomb note, 17 Feb 1862, Ltr, J. N. Macomb to S. Williams, 18 Feb 1862, all in Balloons II, NADC.

13. Telg. Mrs. Lowe to Lowe, twenty-fifth of unknown month, 1862, Balloon Corps I, NADC; Telg. Mrs. Lowe to Lowe, 10 Feb 1863, Balloon Corps II, NADC; Ltr, Macomb to S. Williams, 19 Feb 1862, Ltr, J[?]. H. Long to J. H. Steiner, 11 Apr 1862, Ltr, Macomb to Steiner, 26 Apr 1862, Ltr, Steiner to Maj. Gen. Pope, 16 Jun 1862, all in Balloons II, NADC; Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 262–65; Lowe Report, pp. 316–17.

14. Lowe Report, pp. 255–56, 292; Ltr, A. V. Colburn to Lowe, 12 Oct 1861, p. 264, Ltr, J. N. Macomb to Lowe, 12 Mar 1862, p. 271, Ltr, A. A. Humphreys to Lowe, 26 May 1862, p. 278, all in Lowe Report.

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22. Lowe Report, pp. 273–76. For Custer's ascent and a humorous account of Porter's adventure, see Custer, pp. 155–61; Ltr, S. P. Heintzelman to General George B. McClellan, 7 May 1862, *OR*, ser. 1, vol. 11, pt. 1, pp. 456–62.

23. Lowe Report, p. 274; Evans, *The War of the Aeronauts*, p. 180; Sears, *To the Gates of Richmond*, p. 54.

24. Ltr, J. Bankhead Magruder to Lee, 6 Apr 1862, in *OR*, ser. 1, vol. 11, pt. 3, p. 425; Ltr, G. Monteith to Lowe, 3 May 1862, Lowe Report, p. 275; *Detroit Free Press* article in Lowe, *My Balloons in Peace and War*, pp. 113–15.

25. Lowe Report, p. 277, 280; Ltr, Lowe to Humphreys, 27 May 1862; Ltr, Lowe to Humphreys, 29 May 1862, in Lowe Report, pp. 279–80. For McClellan's view, see "Report of Maj. Gen. George B. McClellan . . ." in *OR*, ser. 1, vol. 11, pt. 1, p. 38.

26. Lowe Report, pp. 280–81; Ltr, Lowe to McClellan, 31 May 1862, 4:30 p.m., Lowe Report, p. 280; for the lack of telegraph capability, see Lowe, *My Balloons in Peace and War*, p. 133; see Block, *Above the Civil War*, p. 76, and Hoehling, *Thaddeus Lowe*, pp. 151–55; for quotation, see Squires, "Aeronautics in the Civil War," pp. 662–63.

27. Sears, *To the Gates of Richmond*, pp. 125–26, 412n12; see note 26 on Lowe Report.

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31. Ltr, Lowe to Colburn, 5 Sep 1862, Lowe Report, pp. 291–92.

32. Ltr, S. Williams to Lowe, 1 Nov 1862, Ltr, Lowe to Major-General Parke, 20 Nov 1862, Ltr, Parke to Lowe, 24 Nov 1862, all in Lowe Report, pp. 292–94.

33. Fishel, *The Secret War for the Union*, p. 261; Evans, *The War of the Aeronauts*, p. 257.

34. Lowe Report, p. 294; George C. Rable, *Fredericksburg! Fredericksburg!*, pp. 492–93n5, 505n38, 513–14n1; O'Reilly, *The Fredericksburg Campaign*, pp. 265, 436. For the weather, see Ltr, Daniel Butterfield to Hooker, 14 Dec 1862, in *OR*, ser. 1, vol. 21, pp. 74–75.

35. O'Reilly, *The Fredericksburg Campaign*, p. 265; Evans, *The War of the Aeronauts*, pp. 258–59.

36. Ltr, Lowe to Parke, 22 Dec 1862, Ltr, Lowe to Butterfield, 4 Feb 1863, both in Lowe Report, pp. 294–95; Evans, *The War of the Aeronauts*, p. 262; various messages in Lowe Report, pp. 294–97; for "large camp" comment, see Ltr, Butterfield to Lowe, 7 Feb 1863, Lowe Report, p. 295; for "large force" comment, see Hooker, handwritten comment on Ltr, Lowe to Butterfield, 22 Mar 1863, Balloons II, NADC.

37. Fishel, *The Secret War for the Union*, pp. 238, 298–300; Army of the Potomac Special Orders, No. 95, 7 Apr 1863, Lowe Report, p. 302; Ltr, James Allen to Lowe, 22 and 27 Mar 1863, Lowe Report, p. 299; Sears, *Chancellorsville*, p. 101; Ltr, C. B. Comstock to Lowe, 12 Apr 1863, Lowe Report, p. 303.

38. Various messages, in Lowe Report, pp. 306–09; Fishel, *The Secret War for the Union*, p. 374; Ltr, Williams to Lowe, 29 Apr 1863, Lowe Report, p. 311; Ltr, Lowe to E. S. Allen, 30 Apr 1863, Lowe Report, p. 312.

39. For examples of messages passed during the Chancellorsville Campaign, see Ltr, Lowe to Sedgwick, 1 May 1863, various times, in Lowe Report, p. 313, and Ltr, E. S. Allen to Sedgwick, 1 May 1863, in *OR* ser. 1, vol. 25, pt. 2, pp. 338–39; Ltr, Lowe to Butterfield, 2 May 1863, 6:15 a.m., Ltr, Butterfield to Lowe, 2 May 1863, 12 noon, and Lowe to Butterfield, &c, 2 May 1863, 12:30 p.m., all in Lowe Report, p. 314; Fishel, *The Secret War for the Union*, p. 395; Sears, *Chancellorsville*, p. 244; Ltr, Lowe to Butterfield, &c, 2 May 1863, 1:05 p.m., Ltr, Lowe to Butterfield, 2 May 1863, various times, Lowe Report, pp. 314–15; Ltr, Butterfield to Hooker, 2 May 1863, 3:45 p.m., and Butterfield to Commanding Officer, Sixth Corps, 2 May 1863, 2 May 1863, 5:00 p.m., in *OR*, ser. 1, vol. 25, pt. 2, p. 355; Sears, *Chancellorsville*, pp. 268–69, 283–84.

40. Sears, *Chancellorsville*, pp. 311, 352–57, 376–86; Ltr, Lowe to Sedgwick and Butterfield, 3 May 1863, 5:15 a.m. and 7:15 a.m., in Lowe Report, p. 315.

41. Ltr, E. S. Allen to Hooker, 4 May 1863, 8:15 a.m. and Ltr, Butterfield to Hooker, 4 May 1863, 7:10 a.m., in *OR*, ser. 1, vol. 25, pt. 2, pp. 404–05; Sears, *Chancellorsville*, p. 398; Ltr, Lowe to Sedgwick and Butterfield, 4 May 1863, 12 noon, Ltr, Lowe to Hooker and Sedgwick, 4 May 1863, 6:50 p.m., both in Lowe Report, p. 316.

42. Ltr, Lowe to Comstock, 7 May 1863, Ltr, Lowe to Butterfield, 12 Apr 1863, Ltr, S. F. Barstow to Lowe, 13 Apr 1863, all in Lowe Report, pp. 303–17; Comstock endorsement of Lowe message, 13 Apr 1863, Lowe Report, p. 304.

43. Lowe Report, p. 256; Evans, *The War of the Aeronauts*, p. 116.

44. Ltr, William Paullin to Maj. Gen. Halleck, 7 Mar 1863, Balloons II, NADC; Ltr, B. England to McClellan, Sep 1862, and England to Hooker, 19 Feb 1863, Balloons II, NADC. Quotes are from the message to Hooker, emphasis in the original; Ltr, England to Rufus Ingalls, 25 Mar 1863, Balloons II, NADC, emphasis in the original; Ltr, Lowe to Williams, 30 Mar 1863, Ltr, James Allen to Lowe, 1 Apr 1863, and E. S. Allen to Lowe, 1 Apr 1863, all in Lowe Report, pp. 300–301.

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1, vol. 5, pp. 653–54; Ltr, Heintzelman to Lowe, 1 Jul 1863, in *My Balloons in Peace and War*, pp. 200–201; Ltr, Porter to Lowe, 9 Sep 1861, Lowe Report, p. 261; Ltr, Porter to Lowe, 11 Sep 1861, in *My Balloons in Peace and War*, p. 89, emphasis in the original; Ltr, Lowe to Porter, 20 Sep 1861, in *Balloons I*, NADC.

46. Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 376–80; Steiner quoted in Evans, *The War of the Aeronauts*, p. 161.

47. Lowe, *My Balloons in Peace and War*, p. 167; Hoehling, *Thaddeus Lowe*, p. 168; Evans, *The War of the Aeronauts*, pp. 271–74; Fishel, *The Secret War for the Union*, p. 365; Ltr, Comstock to Lowe, 12 Apr 1863, Lowe Report, p. 303. Evans also suggested this idea about financial suspicions, p. 274; see Cyrus B. Comstock, *The Diary of Cyrus B. Comstock*, ed. Merlin E. Sumner (Dayton, Ohio: Morningside, 1987), p. 241. Sumner finds the missing pages from Comstock's diary a tad suspicious (see Preface, p. viii).

48. Ltr, Comstock to Lowe, 12 Apr 1863, Lowe to Hon. P. H. Watson, 10 Apr 1863, Ltr, Lowe to Williams, 19 Apr 1863, Ltr, Williams to Lowe, 19 Apr 1863, Ltr, Lowe to Comstock, 20 Apr 1863, Ltr, Comstock to Williams, 20 Apr 1863, all in Lowe Report, pp. 302–05.

49. Lowe Report, p. 318; Comstock Diary, p. 242; Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 55, 291; Ltr, Butterfield to Major-General Meade, 4 Jun 1863, in *OR*, ser. 1, vol. 27, pt. 3, p. 5; Ltr, J. C. Bates to Butterfield, 4 Jun 1863, Lowe Report, p. 6; Ltr, Hooker to Halleck, 12 Jun 1863, in *OR*, ser. 1, vol. 27, pt. 1, p. 36; Hooker to Major-General Dix, 12 Jun 1863, in *OR*, ser. 1, vol. 27, pt. 3, p. 70.

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52. Ltr, E. S. Allen to Gen. Warren, 12 Jun 1863, *Balloons II*, NADC; John Randolph Bryan, "Balloon Used for Scout Duty," *South-*

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54. *Ibid.*; Custer, "In the Air Above Yorktown," p. 156. For an example of the balloonists requesting military observers, see Ltr, Lowe to Porter, thirteenth day of unknown month, 1861, *Balloons I*, NADC, or Lowe to Humphreys or Marcy, 2 Jun 1862, Lowe Report, p. 284.

55. Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 306–07; Evans, *The War of the Aeronauts*, pp. 293–94.

56. Ltr, Heintzelman to Lowe, 1 Jul 1863, *My Balloons in Peace and War*, pp. 200–201; Ltr, Sedgwick to Lowe, 3 Sep 1863, *My Balloons in Peace and War*, p. 201.

57. Haydon, *Aeronautics in the Union and Confederate Armies*, pp. 68–71, 389–92; Evans, *The War of the Aeronauts*, pp. 160–61; Fishel, *The Secret War for the Union*, p. 443.

58. Squires, "Aeronautics in the Civil War," p. 669; AirNav: KFOR - Lowe Army Heliport (Fort Rucker); <http://www.airnav.com/airport/KFOR> (accessed 1 Aug 2014).

NEWSNOTES

Continued from page 5

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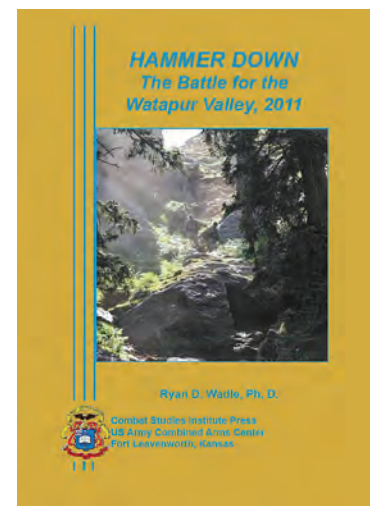
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COMBAT STUDIES INSTITUTE PRESS RELEASES NEW MONOGRAPH

The Combat Studies Institute (CSI) Press recently published *HAMMER DOWN: The Battle for the Watapur Valley, 2011*, by Ryan D. Wadle. This book, the third in CSI's Vanguard of Valor series, is the story of a tactical operation conducted by the 2d Battalion, 35th Infantry Regiment, 3d Brigade Combat Team, 25th Infantry Division, in partnership with units of the Afghan National Security Forces. This study illustrates the challenges of combat in mountainous regions, where the terrain can be, at times, more formidable than the enemy. Tactical surprise was difficult for either side to achieve during the battle, and in such an environment logistical preparation, integration of enablers,



and above all, small-unit leadership must provide the margin for victory. The book is available as a free PDF download from the CSI Press Web site at <http://usacac.army.mil/cac2/csi/csipubs.asp>.



U.S. ARMY ARTIFACT SPOTLIGHT

MAJ. JULIAN COOK'S COURAGE UNDER FIRE CROSSING THE WAAL RIVER AND THE BATTLE OF NIJMEGEN

By Dieter Stenger

Operation MARKET-GARDEN was a daring plan to place Allied troops across the Rhine River and capture the Ruhr Valley, but also to trap remaining German forces in western Holland, outflank the West Wall defenses, and position Allied forces for a subsequent drive into northern Germany.

In September 1944, the 82d Airborne Division dropped into the Netherlands near Nijmegen to capture the bridges over the Waal (Rhine) River.¹ Capt. Henry B. Keep, of the 3d Battalion staff, 504th Parachute Infantry Regiment, wondered, "How could this operation succeed? At least three quarters of the battalion would be killed and the rest would drift downstream. It was a humanly impossible undertaking. However, it had to be [done] soon and quickly; the bridge must be taken; the road to Arnhem must be opened up."²

On 20 September 1944, the Allies renewed their attacks against Nijmegen from the east against the northern sector of the city after additional forces—tanks, artillery, and engineers—were brought forward. German units mounted a bitter defense while Allied *Typhoon* fighter aircraft bombed and strafed the northern banks of the Waal. British preparatory artillery and tank fire, along with heavy white phosphorus smoke, allowed the first of two battalions from the 504th Parachute Infantry Regiment, 82d Airborne Division, to conduct a diversionary assault across the river, west of the city, and secure a foothold on the northern bank.³ Capt. Delbert Kuehl, chaplain of the 504th, requested permission to join the men in the assault, recounting later, "We were on a suicide mission and my men didn't even have the choice to volunteer. Since they had to go, I chose to go too."⁴

Maj. Julian A. Cook, commander of the 3d Battalion, 504th Parachute Infantry Regiment,

led his battalion with unparalleled bravery in the initial assault wave during the daring daylight crossing of the Waal River. Although his boatload suffered heavy casualties as a result of the incessant enemy small arms and artillery fire which raked the 250 yard wide stream, he guided the barge safely ashore. Although still under heavy fire, Major Cook remained on the river bank directing the remainder of his battalion coming ashore. On several occasions he plunged back into the river to pull damaged boats ashore and to care for the wounded. During the crossing heavy casualties were suffered, but Major Cook quickly reorganized the remainder of his battalion and led it successfully from objective to objective during the 4000-yard attack, until the north end of the Nijmegen bridge was reached and seized. Major Cook's thoroughness in effecting rapid reorganization and consolidation after the seizure of each intermediate objective was highly instrumental in the success of the entire operation.⁵

For courage under fire, Major Cook was awarded the Distinguished Service Cross (DSC), the nation's second highest award for valor. The DSC and accompanying Militaire Willems-Orde (Military Order of William) of the Netherlands, shown here, belong to the U.S. Army Historical Collection held at the 82d Airborne Division War Memorial Museum at Fort Bragg, North Carolina.



Dieter Stenger is currently serving at the Museum Support Center, at Fort Belvoir, Virginia, as the curator of firearms and edged weapons.

NOTES

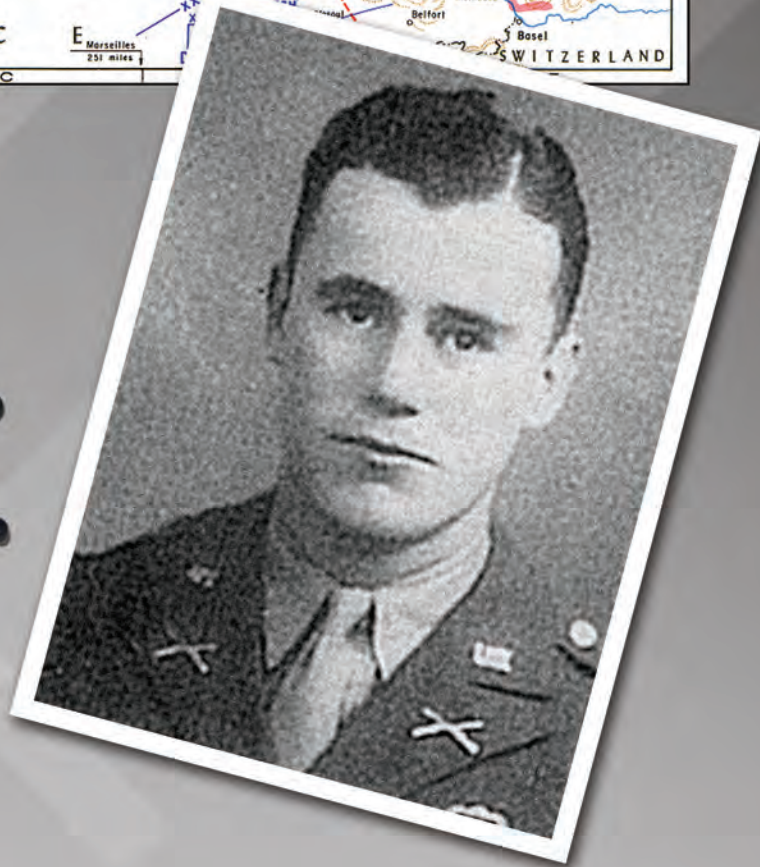
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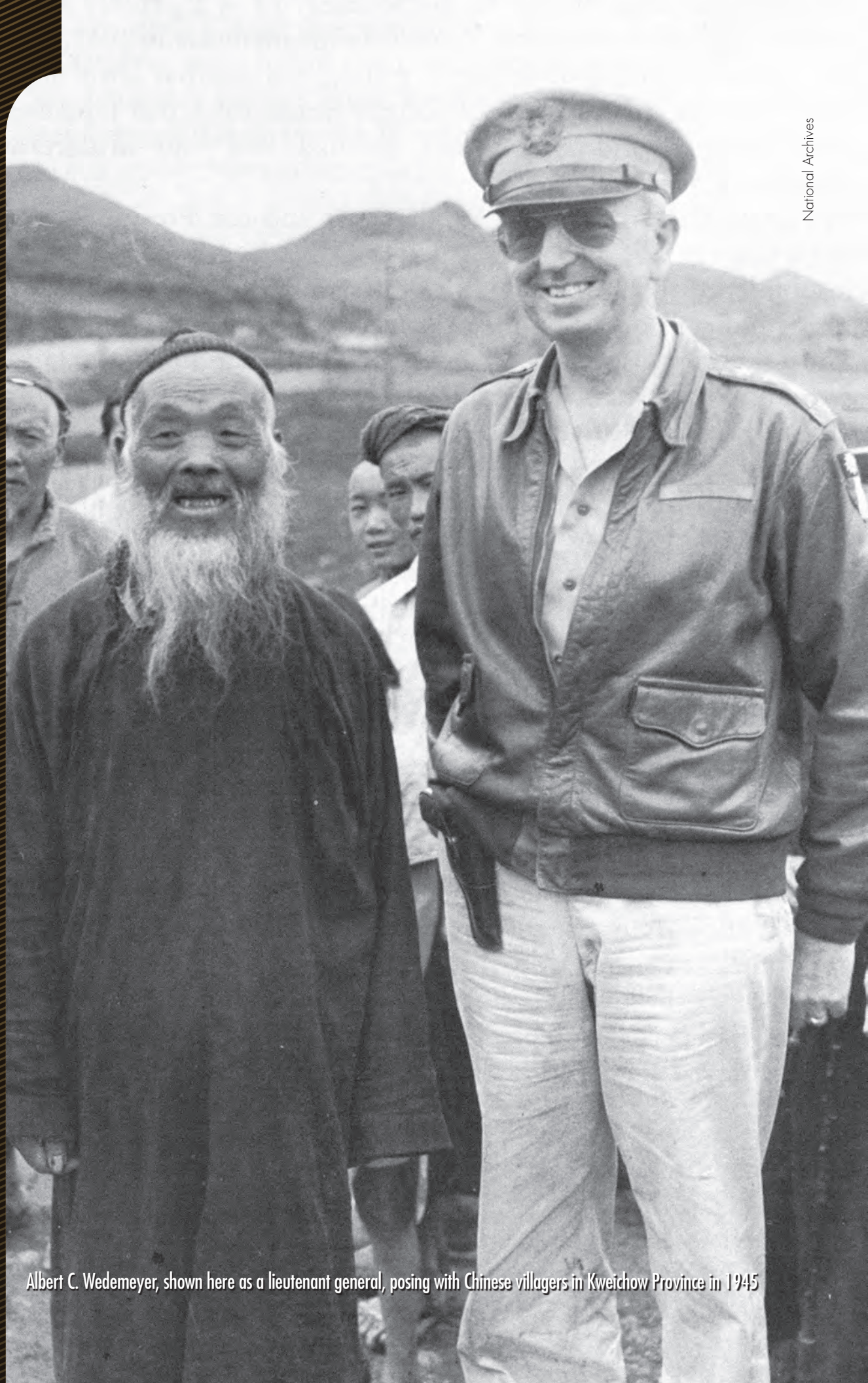
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ABOUT THE AUTHOR

Dr. Raymond E. Bell Jr. is a retired U.S. Army brigadier general. He is a 1957 graduate of the United States Military Academy and holds a doctorate in Central European history from New York University. He attended both the U.S. Army War College and the National War College. He is the author of more than two hundred and fifty private writing commissions, published articles, book chapters, and assorted other publications.



Albert C. Wedemeyer, shown here as a lieutenant general, posing with Chinese villagers in Kweichow Province in 1945



WITH HAMMERS & WICKER BASKETS

The Construction of U.S. Army Airfields in China During World War II

BY RAYMOND E. BELL JR.

The United States' military experiences in China during World War II occurred in a region that many considered a side-show of the main war effort. Allied global strategy placed action against the Japanese in China, particularly by the U.S. Army Air Force (USAAF), under the constraints of a "win in Europe first" strategy.¹ Concentration on the European Theater of Operations (ETO) resulted in most operations in the China-Burma-India (CBI) theater (especially those in China) taking a back seat, in terms of support, to those in the ETO. The resulting competition for resources was further exacerbated by the U.S. island-hopping campaign across the Pacific Ocean toward Japan, by British and American operations in other areas of the CBI, and by the distances involved in supporting any Chinese efforts against the Japanese forces occupying Chinese territory.

To make matters worse, the Nationalist Chinese leadership was apparently just as interested in squashing Chinese Communist forces as it was confronting and defeating the Japa-

nese. Nevertheless, it had been possible to parry Japanese blows through stupendous effort and sacrifice to the extent that on 7 December 1941 a virtual stalemate existed in China between the Japanese and Nationalist Chinese. The Chinese, who had been fighting the Japanese desultorily for almost a decade, basically saw their need to effectively resist any further Japanese advance as secondary to encouraging the United States to take over the battle burden the Chinese had borne for so long.²

The problem that complicated the entire situation was that the Nationalist Chinese army was incapable of offering the necessary resistance to decisively defeat the Japanese. Chinese Generalissimo Chiang Kai-shek proved a cursory inspirational leader and an arguably inept military strategist.³ He sought an easy, and if possible, American solution to winning China's war. He was unwilling to emphasize the organization and training of an effective army. Instead, he turned to Maj. Gen. Claire L. Chennault, an American air power specialist, to defeat the Japanese.

Chennault believed that, given the proper resources, he could drive the Japanese out of China with air power alone.⁴ He asked for sufficient aircraft to accomplish the task. Allied priorities, however, were elsewhere. He never received enough of the aircraft he felt were required to do what he claimed could be accomplished. But the USAAF's Fourteenth Air Force, which included a composite Chinese-American air group, nevertheless, had a major impact on the war in China, both positively and negatively. For example, by attacking and destroying Japanese iron ore-carrying vessels, mostly those on Chinese rivers, the Fourteenth Air Force severely crippled Japanese steel production, an effect that was not fully realized until after the war ended.⁵ On the other hand, the Fourteenth was so effective that it forced the Japanese to move to overrun and destroy the USAAF air bases. Unfortunately, most of the Nationalist Chinese ground forces protecting the air bases were ineffective and unable to resist the major

Japanese campaign that started in 1944 and lasted until 1945. So desperate was the Nationalist Chinese government that at one time in 1944 it was thought that China would be knocked out of the war completely.⁶

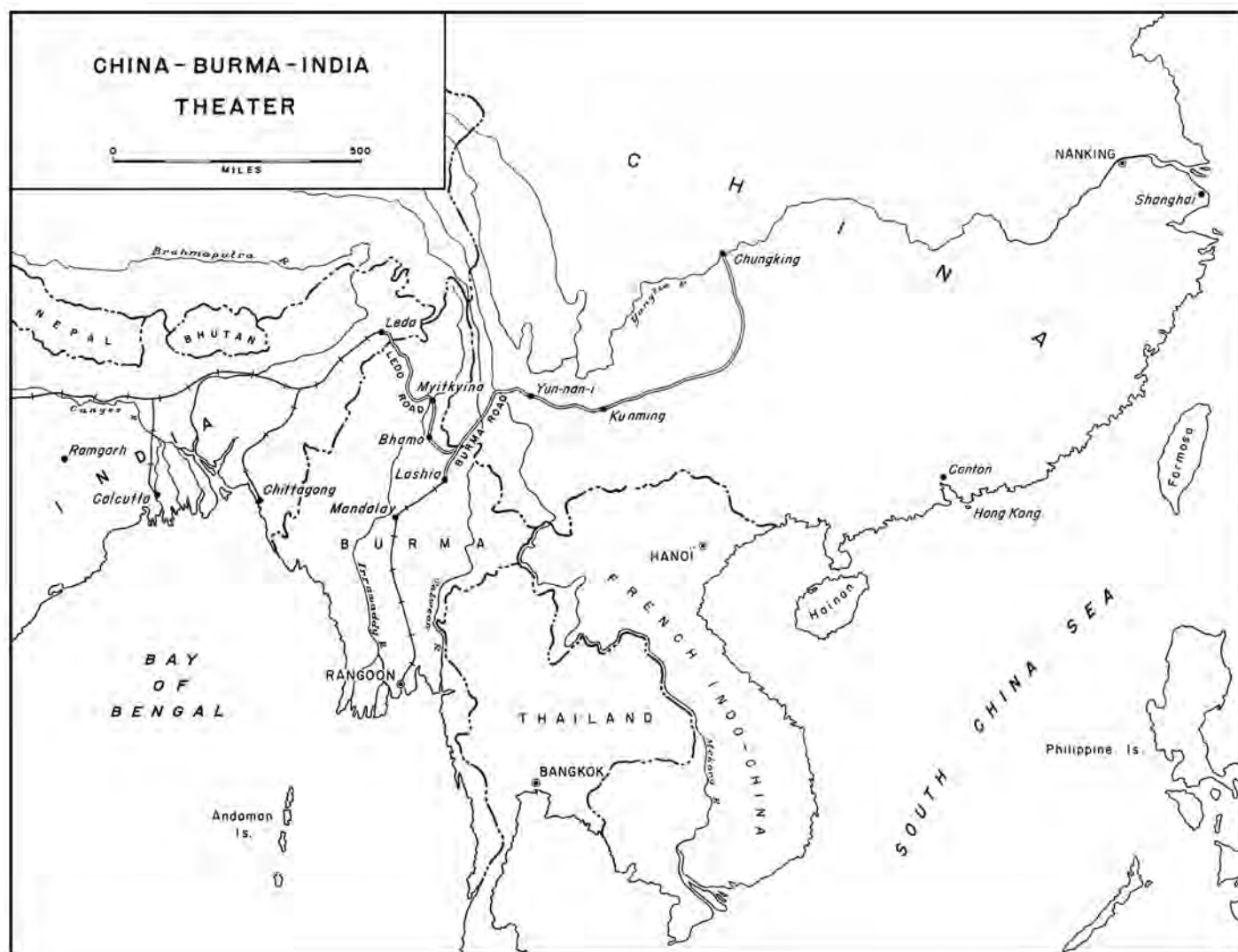
The Chinese may have been incapable of defeating the Japanese in ground warfare, but they were tremendously effective in one particular aspect of the war. It was the ability of the Chinese people, with U.S. Army design and supervision, to build airfields with the least amount of mechanized equipment that allowed the USAAF to almost completely incapacitate the Japanese air force on mainland China. Japanese aircraft were generally ineffective against Chinese ground targets, and with the Fourteenth Air Force gaining almost complete air superiority, Japanese



General Chennault at Kunming, China, c. 1944

troops were, for all practical purposes, completely exposed to the Chinese-American air effort.⁷

If the USAAF based in China benefited from Chinese labor in building a network of airfields in eastern China, so did the USAAF's Twentieth Air Force when it deployed B-29 Superfortress heavy bombers to Chinese soil. Although the B-29s based in China contributed virtually nothing to the strategic bombing campaign against the Japanese homeland and the territory the Japanese occupied, the airfields from which the aircraft flew were masterpieces of Chinese acumen for accomplishing the near impossible with little more than their hands, feet, backs, and stamina.⁸ It is this Chinese-U.S. Army saga that remains largely untold in the history of the Second World War.





A C-46 flies the "Hump" over the Himalaya mountain range en route from India to China.



Terrain in the Kunming area

AIRFIELD CONSTRUCTION EFFORTS AROUND KUNMING

There is hardly a student of World War II history who does not know about the famous, or infamous, "Hump." The Hump was the lower end of the Himalaya range of mountains that separated, among other places, India from China. In early 1942, after the Japanese had occupied Burma and closed the Burma Road, the only connection China had with its allies in the West was the air route between India and China over northern Burma, a land of mighty mountains and almost impregnable jungle.⁹ Until almost the end of the war, USAAF aircraft were required to fly over the Hump from airfields in northeast India, to airfields in China centered on Kunming, to bring supplies and materiel to the beleaguered Chinese. Even when U.S. Army troops completed the Ledo Road, more tonnage was moved by air across the Hump than was carried in trucks over the tortuous road.¹⁰

The key to the successful operation of the USAAF Air Transport Command's effort, beside the incredible dedication of its pilots, was the availability of a large network of airfields in India and around Kunming. The city, however, lies in Yunnan Province in the remote southwestern part of China, so it was only a temporary stopover for the transport of cargo to the Na-

tionalist Chinese government and the Fourteenth Air Force, as well as to the U.S. Twentieth Air Force in late 1944 into 1945.¹¹ Kunming, with its satellite airfields, became the key transport hub for all supplies, munitions, and equipment entering the territory under the control of the Nationalist Chinese government. The protection of these airfields from Japanese ground and air attack, therefore, was a top priority for

Chennault and Lt. Gen. Joseph W. Stilwell, the commander of U.S. forces in the CBI theater of operations. Fortunately, the distance between Japanese airbases in mainland China from those around Kunming was too great for the Japanese. At the same time, the Fourteenth Air Force's superior pilots and combat techniques made any attempt at aerial attack by the Japanese from bases in Thailand, Indochina, and

Generalissimo and Madame Chiang Kai-shek with General Stilwell, c. 1942





A P-40C Tomahawk IIA receiving maintenance at Kunming, c. 1942

Burma against Kunming extremely hazardous. After a few early but unsuccessful Japanese forays, they never seriously threatened the network of Kunming airfields, which remained virtually untouchable throughout the war considering their extensive and effective utilization.¹²

The major air base at Kunming, used primarily for transport operations, was one of five such airfields in the complex. Other fields that served the same purpose and were within a reasonable distance of Kunming were located at Yun-nan-i, Ch'eng-kung, Chanyi, and Yangkai. Many factors—including terrain, weather, and the season in which the building would take place—were considered during the construction of these airfields. Compared to the provinces in eastern China, the terrain in Yunnan Province was verdant. Pilots flying the Hump and who then flew east beyond Kunming noted that the landscape started out a bright green color but gave way first to a dull green and then to a desolate desert brown.¹³ During the monsoon season, the airfields in Yunnan were covered with grass, as opposed to those fields farther east, which became quagmires.¹⁴

Whereas General Chennault began to have airfields built for the Chinese Air Force in the 1930s, the U.S. Army engineer supervisory effort did not

really begin until the summer of 1942 and then only in a minimalist way. On 4 July 1942, 1st Lt. Francis C. Card established the engineer section of the Army's Advance Section, Service of Supply (SOS) in China. As the section's sole member, Card set to work to have the Chinese improve the Kunming airfield, while at the same time he planned for new subsidiary fields near the city.¹⁵ This entailed considerable persuasion because the Nationalist Chinese government had its own way of doing business, which was not as rapid, or ethical, as Card would have liked. However, when it came to performing quality work, he found the Chinese laborers hard to beat in terms of attitude, dedication, and effectiveness.

For a one-man show, Card was exceptionally productive. He persuaded the local officials of the Nationalist Chinese government's Committee on Aeronautical Affairs to undertake improvements on the Kunming airfield, then a relatively primitive installation. The improvements consisted of extending the runway to about 6,800 feet, building expanded hangar and storage facilities, and constructing a headquarters for the commander of the Chinese Air Task Force, consisting of the remnants of the three flying squadrons of the American Volunteer



Control tower at an airfield in Kunming, c. 1943

Group (AVG). Through Card's efforts, by October 1942, work was under way on two additional airfields plus one at Kunming.¹⁶

Kunming was where pilots of the USAAF Air Transport Command terminated most of their flights or stopped briefly before flying farther into China. Those who flew the Hump found Kunming somewhat of a surprise because of the length of its single runway. One pilot reported that the field was only a "one-strip air base," but according to his calculations, it was over 10,000 feet long and quite wide. The height of the airfield above sea level was 6,200 feet, which meant that the air was "thin," causing the landing speed of the heavily laden transport aircraft to be very fast.¹⁷ The length of the now-extended runway gave sufficient distance to compensate for the high landing speed of incoming aircraft.

The construction of the Kunming air base, as at all other American and Chinese airfields in Nationalist Chinese territory, was done by Chinese



Workers breaking rocks to be used for airfield construction at Kunming, c. 1942

civilian contractors and peasants under U.S. Army engineer supervision. While most of the laborers were local Chinese, many others came from far away. At Kunming, for example, workers who came from remote highlands a long distance from the work sites were identified as not being local by their Mongolian features and dark skin.

The individual Chinese laborer, who seldom knew why he or she was working on an airfield, used the most primitive of tools, the basic one being the hammer. Because mechanized rock crushers were not available, workers, often women and children as well as men, would spend days breaking rocks into small pieces. The rocks were then placed in wicker baskets and carried to

some previously designated location. At Kunming, for instance, these rocks were used not only for the foundation and surface of the runway but also for the aprons on which aircraft parked and the protective airplane revetments.¹⁸

The improvement of the Kunming air base was followed by the construction of fields at Ch'eng-kung, which was under way by October 1942, and at Yangkai, some forty miles north of Kunming. As at Kunming, Nationalist Chinese civilian and military agencies took charge of the construction under U.S. Army supervision with the Chinese government paying for the work. But as was often the case, more than one agency had its "finger in the pie." For example, either the Aeronautical Affairs Committee or the Military Engineering Commission could be responsible for the hiring of contractors and the direction of work. Even the Yunnan-Burma Railroad Authority, which ceased to be functional with the fall of Burma to the Japanese, got into the act. The actual work, nevertheless, was done either by contractors or by peasants conscripted for the task by the governor of Yunnan Province, Lung Yun.¹⁹

Although the bulk of this work was performed by hammer- and shovel-wielding peasants, some heavy construction equipment was occasionally available. The Yangkai airfield, for

An airfield under construction at Ch'eng-kung, c. 1942



Army engineers unloading a partially disassembled bulldozer from an Allied transport plane, c. 1942



Francis K. Newcomer, c. 1950

example, had a bulldozer available for earthmoving. To fit into the C-46 aircraft for transport to China, the equipment had to be disassembled in India by U.S. Army personnel. Once the equipment arrived at Yangkai, it was reassembled and placed into operation, but the availability of construction equipment was the exception rather than the rule.²⁰

By late January 1943, the SOS Advance Section, now designated Advance Section Number 3, had the airfields at Ch'eng-kung, Yangkai, and Kunming in full operation. Two additional fields, at Chanyi and Yun-nan-i, had been improved by extending the runway at Yun-nan-i and building more taxiways and hardstands at both Yun-nan-i and Chanyi. By 31 May, the two airfields were in relatively good shape, with major construction at Yun-nan-i complete. Also, the U.S. Army engineer presence in China was augmented with Col. Francis K. Newcomer moving from India to China, where he assumed responsibility for airfield matters.²¹

These air bases around Kunming served throughout the war as the hub for all equipment, supplies, ammunition, and fuel flown into China. They were vital to any successful Allied operations in China as there were no land or sea routes open that could serve as a viable line of communications until the Ledo Road became available. Nevertheless, the Air Transport Command flights continued to be relied on for



Disassembled equipment being loaded onto a C-46 in India





American and Chinese P-43 Lancers being serviced at an airfield in China, c. 1942

the bulk of the logistical support, even after the land route was reestablished. As important as the airfields were for bringing in much-needed materiel, when a Japanese advance forced the Chinese to abandon airfields in eastern China, the air bases around Kunming also acted as the fall-back positions for the combat elements of the USAAF Fourteenth Air Force. However, the Kunming area fields represented only a few of the bases constructed for aerial operations against the Japanese in China.

INITIAL CHINESE AIRFIELD CONSTRUCTION

General Chennault had, early in his service to the Nationalist Chinese government, started building airfields in the countryside. He began by attempting to construct a permanent runway at Nanking, but was stopped by the Japanese capture of the city in 1937. He was more successful elsewhere when, for example, 120,000 workers labored for sixty days using their primitive tools to complete a 4,800-foot runway at Hankow. The airfield became part of Chennault's construction program of 1938 and 1939 when he modernized air bases in eastern China.²²

The establishment of this original network of air bases was one of three

components of Chennault's strategic plan to win the war—not just the air war—against the Japanese in China. First and foremost was to deploy well-trained and effective Chinese and American air units. The “Flying Tigers” (the AVG) formed the original core of this initial component. The AVG evolved into the USAAF Fourteenth Air Force, which Chennault, now an Army Air Force major general, commanded. The second component

was an airplane spotter corps of Chinese observers that blanketed both Japanese occupied and unoccupied areas of China. Despite inadequate and unsophisticated communications methods, these spotters were unusually proficient in providing early warning of Japanese air attacks. Chennault relied heavily on the spotters to give him the edge in dispatching his own counterattacking aircraft. The third component was the air base building program which, for the most part, was centered on the eastern fringe of the Chinese territory not occupied by the Japanese. By the time the Fourteenth Air Force was organized in 1943, fields—such as those at Heng-yang, Ling-ling, Kweilin, and Liuchow—were already in existence.²³

CHINESE AIRFIELDS EAST OF KUNMING

The construction or modernization of the Fourteenth Air Force airfields in the vast region east of the Kunming complex was another important feat accomplished by Chinese workers. While perhaps not thoroughly enjoying the work, the laborers did occasionally laugh and smile as they went about their business with hammers and wicker baskets. When an air base's construction was begun, each village that was within a specified distance of

Chinese and American pilots walking by their P-40s





Harry S. Truman Library & Museum

Henry A. Byroade, c. 1950

the base was requested, often required, by the local government to furnish a quota of workers. These men, women, and children brought with them animals, carts, wheelbarrows, shovels, rakes, wicker baskets, hammers, and any other tools capable of breaking rocks or moving soil.²⁴

At the same time, the involvement of U.S. Army engineers in the actual business of construction was minimal. They performed no manual labor but rather designed the fields and provided overall supervision of the work. It was not until early in 1944, however, before there was the beginning of a comprehensive Army engineer design and supervisory framework to oversee construction. During this time frame, SOS Advance Sections 3 and 4 were transferred to Chennault's control. The work fell to the 5308th Air Service Area Command with Col. Henry A. Byroade assigned as project engineer. The area command organized three districts: one encompassing the many airfields around Kunming, one constructing B-29 airfields for the Twentieth Air Force at Cheng-tu, and the third constructing fields for the Fourteenth Air Force in eastern China.²⁵

One of the few U.S. Army officers involved in supervising the construction of air bases in eastern China was Capt.



Courtesy of John Belknap

Robert Belknap, shown here as a major, c. 1945

Robert Belknap. Initially involved in petroleum delivery construction work in India, he was one of the officers who trekked out of Burma with General Stilwell in March 1942. Eventually, he was charged with fuel resource distribution to the Chinese under the lend-lease program. As an Army engineer, however, he helped with the building of some thirteen airfields in eastern China, all of which but one eventually

fell to the Japanese in their 1944–1945 ground offensive.²⁶

Initially, the threat of Japanese attacks had little impact on the construction and upgrading of Allied air bases in eastern China. After Japanese seizures of Chinese ports, cities, and other key locales, the Japanese restricted their troop movements to foraging and punitive expeditions. Having subdued a region or robbed it of its economic bounty, the Japanese would then withdraw to previously established positions.

When the Japanese made such forays, they were conducted with incredible brutality. According to Chennault, when Brig. Gen. James Doolittle's B-25 bombers landed in China after their 1942 spring raid on Tokyo, the Japanese, in a three-month campaign, "drove their bloody spear two hundred miles through the heart of East China."²⁷ They devastated some twenty thousand square miles of land, ploughed up airfields, and exterminated anybody even remotely suspected of assisting Doolittle's raiders. Chennault asserted that entire villages, through which Doolittle's surviving air crewmen had passed, were destroyed with everyone to the last child being slaughtered. One sizable city was apparently razed for no other reason than its citizens had dared to fill Japa-

A B-24 Liberator flies over a number of parked P-40s at an airfield in Kunming, c. 1943.



National Archives



Chinese laborers at work building an unidentified airfield, c. 1943

nese bomb craters on a nearby airfield. The principal air bases of Chu-hsien, Yu-shan, and Li-shui, located near the Chinese coast, were, as a result of this Japanese campaign, so destroyed that they were never rebuilt.²⁸

Although the Japanese were not a constant threat to USAAF efforts to help China in 1944, the eastern Chinese fields posed a logistical challenge that was difficult to meet. According to the U.S. Army Corps of Engineers official history, "The inefficiency of the line of communications [LOC] eastward [in 1943] from Kunming to Chennault's forward bases left much to be desired."²⁹ A large part of the problem was that this LOC was not under proper Chinese-American control. There was, for example, a 500-mile stretch of tortuous road from the cities of Kutsing to Tushan. There were never enough trucks to make the long haul; no maintenance or overnight facilities for drivers; and inflation meant that drivers were forced to carry civilian cargo and passengers for private remuneration.³⁰ Again, under the best of conditions, it was alleged that it took eight weeks to get a ton of supplies from Yunnan Province to one of the eastern Chinese air bases.³¹

The logistical bottleneck that ensued made it difficult to base an increased number of USAAF units on the eastern airfields. While the construction

of runways was pushed forward using primitive but effective methods by local Chinese laborers, providing the necessary support and facilities was more difficult, as the estimated capacity of the current LOC was only 1,500 tons of supplies a month. From May 1943 onward, this LOC capacity was barely enough to support two fighter squadrons (about twenty-four aircraft) in eastern China. As Chennault increased the number of Fourteenth Air Force flying units by the addition of three fighter and two B-25 squadrons, he stressed the need for increased LOC capacity. The Chinese, however, operating the ground line of communications could not meet Fourteenth Air Force requirements so the principal burden of supply support continued to fall on the Air Transport Command.³²

Although the logistical challenges were awesome, the airfields in eastern China proved key to Chennault's effective hit-and-run air tactics. The area of operations generally extended from Heng-yang in the north, south through Ling-ling and Kweilin, to Liuchow and Nan-ning. In 1942, these airfields were little more than 3,000-foot runway fighter strips. The Chinese peasant, as usual, was the patient and long-suffering worker, who by the thousands built

the airfields by hand with mud and crushed rock. If the fields lacked even basic facilities, they made up for it in durability and thus were almost impossible to bomb out of commission. Hordes of Chinese laborers would descend on a bombed air strip as soon as Japanese bombers departed. Once, at Kweilin, forty-five craters made by Japanese bombs were filled in less than two hours. According to Chennault, "The only way the Japanese could destroy the effectiveness of these fields was to catch our planes on the ground and the Chinese warning net made that task extremely difficult."³³

But if the Chinese peasant worked unremittingly, those Chinese in positions of authority proved to be continuous hindrances. The U.S. Army Corps of Engineer's history spoke of such difficulties when it recorded that the Nationalist Chinese government was in such a disorganized state that it was sometimes hard to tell with whom to deal, for example, in selecting building contractors. The lieutenant governor of the economically paralyzed province of Kiangsi, for instance, was looking for a way to help put the province back on its feet. He was well aware that by working on American military projects good money was to be made.



A C-46 flying the Hump, c. 1944

The lieutenant governor thus organized two contracting firms and promulgated ordinance that required all contractors to be “certified” to work on the airfields. The only firms that ended up qualifying for certification were the two he organized. To tighten restrictions even further, only local authorities permitted the distribution of rice to the workers. With such stringent controls, the lieutenant governor was able to extract kickbacks from the contractors, a process called “squeeze.” Taking such payments was legitimate in China but was considered a form of racketeering by the Americans. When the U.S. Army tried to circumvent this system by bringing in its own contractors, they were thrown in jail by the Chinese authorities. Thus, the Americans were cheated when they had to pay the higher wages demanded by the “certified” contractors.³⁴

Despite the corruption, the airfields were built. One of the key installations in the chain of air bases stretching in a north to south arc was the one at Heng-yang. In 1938–1939, during the existence of the AVG, when American pilots flew under the Chinese flag, the Chinese had built, modernized, and equipped several airfields, including the Heng-yang airfield. General Chennault had storage space built for aviation fuel, bombs, and machine gun ammunition at the fields in anticipation of action by the nascent Chinese air force.³⁵

The Heng-yang runway was constructed on the red clay banks of the Sian River. The living quarters on the base were relatively sophisticated in that they had been those of a former girl’s school.³⁶ The AVG established a forward field at this base in 1942, and the 75th Fighter Squadron of the Fourteenth Air Force’s 23d Fighter Group later operated at this airfield.³⁷

The next key air base south of Heng-yang was at Ling-ling. Like Heng-yang, the airfield was built on the relatively flat banks of the Sian River. Living quarters, however, were not nearly as comfortable as those at Heng-yang. A simple hostel built of mud and bamboo with a tile roof served the purpose. The Chinese had constructed the field in 1938–1939 and also stocked it with the required supplies, fuel, and ammunition.³⁸ In 1944, until overrun by the Japanese, the airfield was the forward base of the 23d Fighter Group’s 16th Fighter Squadron.

Perhaps the most important airfields in the chain were at Kweilin. Built along with those at Heng-yang and Ling-ling, the bases served several vital functions. Initially far away from Japanese-occupied China, the three field complex was relatively secure from occasional Japanese ground incursions. With the early-warning net, there was usually ample time to get aircraft airborne before Japanese bombers could strike. The network of fields was the home of the 23d Fighter Group’s 76th Fighter Squadron and

served as a forward base for B-24 heavy bombers. The air bases were also the terminus of the Air Transport Command’s eastern China “legs.” Aircraft crossing the Hump would refuel at Kunming and then fly on to Kweilin.³⁹ It was also overrun by the Japanese in 1944.

The amount of work on the Kweilin complex illustrates the scope of the U.S. Army engineer design and supervision of air base construction. As some of the original fields in eastern China had been constructed in 1938–1939, there were already foundations in place on which to build. By the first week of June 1943, the small Army staff was either supervising or planning additional construction at up to seven bomber fields that were at various stages of completion. The work consisted primarily of building support facilities, such as repair shops, housing, fuel storage tanks, and communication sites. The Chinese workforce also built new taxiways and revetments. To support the ever-growing Fourteenth Air Force, the Chinese, under American supervision, constructed a half-dozen fighter strips north and east of Kweilin.⁴⁰

The southernmost of the key airfields in the eastern Chinese network were those at Nan-ning and Liuchow. Along with Kweilin, the air base at Liuchow was considered one of the Fourteenth Air Force’s best.⁴¹ Like the neighboring fields to the north, which had initially been constructed in 1938 and 1939, they required modernization as the air effort increased. Once upgraded, they were then stocked with fuel and ammunition. Their locations put them far from the Japanese armies in the north, but closer to Canton and Indochina from where the Japanese could more easily send their bombers. The air warning net, however, frustrated Japanese efforts to knock out these air bases more than once.

Other important airfields closely associated with the five previously mentioned were located at Chinkiang, northwest of Heng-yang, and at Sui-chuan, which was to the east of Heng-yang and one of the most easternmost air bases. The location of Sui-chuan with its auxiliary air strips



The airfield at Liuchow, note the heavy bomb damage to the airstrip, c. June 1945

at Kanchow, Namyung, and Hsin-ch'eng made it possible to launch aerial attacks against Japanese ships that sailed through the Formosa Strait. The complex remained the Fourteenth Air Force's springboard for its very effective attacks on one of Japan's key lines of seaborne communications until the end of the war.⁴²

All these air bases, plus many others of lesser importance, enabled the USAAF to hammer the Japanese. The effectiveness of Chinese-American fighters and bombers through 1943, in attacking not only Japanese troops but also coastal traffic and river shipping—which hauled iron ore from the Shihweiyao mines and semifinished products from smelters—greatly agitated the Japanese high command.⁴³ But Fourteenth Air Force flyers would not have attained this high degree of effectiveness if it were not for the thousands of Chinese who not only built but also modernized and repaired the large network of airfields. The individual Chinese peasant, however, gained little recognition for his or her colossal efforts. Because the successes of the Fourteenth Air Force were mostly achieved away from the airfields, the laborers rarely realized just how important their contributions were.

The effectiveness of the airfield construction program, however, had its downside. The air bases in eastern China posed a dilemma for the Americans. Knowledge of the uneven performance of the Nationalist Chinese army was a

main stumbling block to the continued success of the air campaign. American leaders, and most importantly General Stilwell, were afraid that the productive use of the eastern China airfields would provoke the Japanese to take punitive action and that the Chinese ground

forces would not be able to defend the air bases. Chiang Kai-shek, however, was confident that the airfields could be protected by his troops on the ground.⁴⁴

JAPANESE REACTION TO THE EASTERN CHINESE AIRFIELDS

The American fears of a violent reaction to the construction of the eastern China airfields were nevertheless soon justified. On 17 January 1944, the Japanese Imperial Headquarters made the decision to capture and destroy the eastern China air bases.⁴⁵ The Japanese planned to launch Operation ICHIGO in three phases. Phase one was to take place in June and July with the objective of capturing the key city and air base at Heng-yang. The second phase, slated to begin in July and terminate in September, was to eliminate the airfield complexes at Ling-ling, Kweilin, and Liuchow. The final phase was to emanate from Heng-yang and Canton. To be launched in October, the campaign would overrun Fourteenth Air





Clinton D. Vincent, shown here as a colonel, in 1943

Force airfields at Sui-chuan and Nan-hsiung, open the Canton-Hankow Railroad, and capture the far south city of Nan-ning.⁴⁶

On 27 May, the Japanese began to advance south from their base of operations at Hankow. The major target was Heng-yang, which was not only a critical point on the Canton-Hankow Railroad but was also the location of the largest Fourteenth Air Force base in Hunan Province. The area was defended by the 16,000-man Nationalist Chinese Tenth Army under General Fang Seien-Chuech.⁴⁷

The *Japanese Eleventh Army* encountered little resistance as it advanced along the rail line until it reached the outskirts of Heng-yang. There, General Fang Seien-Chuech's troops stopped the Japanese in a prolonged and stubborn defensive action.⁴⁸ A key element in the success of the Chinese defense was the Fourteenth Air Force's violent and effective campaign. The stiff Chinese resistance and the difficulty in supplying the Japanese forces were the major causes of a two-month stalemate in the Japanese advance.⁴⁹

The huge logistics problem that the Japanese faced reflected great credit on Brig. Gen. Clinton D. Vincent's 68th Composite Wing. Vincent's pilots drove the Japanese to take cover dur-



U.S. Army personnel, preparing to abandon the airfield at Heng-yang, set fire to the buildings, August 1944.

ing the day by strafing even individual Japanese soldiers. At night his airmen attacked Japanese motor transport, bringing virtually all supply activities to a halt.⁵⁰

However, American misgivings about Chinese troops were well founded. Daring pilots could not do it all. Although the Nationalist Chinese Tenth Army held the Heng-yang area for over two months, it failed to take advantage of numerous opportunities to attack the Japanese lines of communications made vulnerable by the Fourteenth Air Force. Heng-yang and its airfield finally fell to the Japanese on 8 August 1944.

At the beginning of September, the Japanese began their advance south from Heng-yang with the main body of troops moving against Ling-ling. Another column advanced toward the bomber airfield at Shao-yang, which U.S. Army engineers disabled on 14 September. Simultaneously, a Japanese column moved west from Canton to threaten the bomber complex south of Kweilin at Liuchow. The Chinese ground troops were unable to stop these probes, much as Stilwell had feared. Army engineers, therefore, had to render those fields, soon to be overrun by the enemy, unusable. On 4 September in the face of the Japanese moving along the railroad from Heng-yang, the U.S. Army resident engineer

directed the destruction of the airfield at Ling-ling by burning the facilities and dynamiting the runways. Four days later, the Japanese arrived to find the air base out of commission.⁵¹

After the fall of Heng-yang, the Japanese advance was limited mainly by logistical difficulties. The Fourteenth Air Force continually attacked the vulnerable enemy supply lines with great effectiveness, even as Army engineers were supervising the destruction of the forward airfields. At the same time, the inexorable Japanese advance required Chennault to consider abandoning the air bases farther south around Kweilin and Liuchow.⁵²

As the Japanese advanced south from Ling-ling, the Americans had to decide quickly what they wanted to do about the major airfields near Kweilin. On 14 September, with the Japanese only seventy miles from Kweilin, Stilwell went to the city to make a personal assessment of the situation. When he learned that Chiang Kai-shek had ordered the local commander to defend the city from within the city's walls, a futile measure leading to inevitable defeat, Stilwell had Chennault give orders to destroy the three heavy bomber fields close to the city. This was accomplished by burying and detonating bombs in the runways and taxiways. Meanwhile, USAAF personnel burned the buildings on the bases. On 25 September, the



Japanese troops fire a machine gun at Allied forces in China, c. 1944.



Colonel Rector, c. 1944

process was repeated 120 miles to the south at the Tanchuk air base, which was in the path of the Japanese advance from Canton.⁵³

Stilwell had Chennault keep one Kweilin airfield open until the last moment. Stilwell, with Chiang Kai-shek's approval, planned to reinforce the city and its environs. By keeping one field operational, Stilwell would have the means to bring in the troops he hoped would stop the Japanese advance. But when Chiang personally ordered three divisions into the city to defend it, almost assuring its capture, Stilwell ordered the last field destroyed and U.S. Army personnel moved out. As he predicted, the Japanese caught the Chinese in Kweilin in what Stilwell called a "rat trap," which resulted in another Nationalist Chinese defeat.⁵⁴

A Hump pilot flying into the Kweilin air base complex noted a large number of C-46 transport aircraft parked on the last remaining landing strip just as the Japanese were about to capture it. The C-46s were to bring the American soldiers stationed there back to Kunming and also to evacuate war material, consisting primarily of generators used to provide power for communications and navigation operations and considered priceless in China.⁵⁵

Chinese tactics at Kweilin, as in many other cases, were dictated from Chungking, the Nationalist Chinese capital, and had proved useless. Chinese generals on the ground and General Stilwell protested Chiang Kai-shek's interference but to no avail. In September, American officials in China were so pessimistic that some predicted that the Nationalist Chinese government might have to go into exile.⁵⁶

While the Japanese advanced on Kweilin, the southern pincer of their double envelopment, emanating from Canton, swept into Liuchow, the southern anchor of the crescent of key eastern Chinese air bases. When the Air Transport Command pilots flew into Liuchow for the last time, they found the airfield abandoned by all except for a few Chinese soldiers and those personnel ordered to execute the demolitions. The air strip had previously been mined and was to be blown up just before the Japanese arrived.⁵⁷

The loss of all these air bases to the Japanese required the Fourteenth Air Force to retreat four hundred miles to the west in order to continue operations. Only the airfield at Nan-ning, an intermediate field serviced by the Air Transport Command, remained

to serve as a forward combat base by the end of September. However, as autumn approached, this seventh of the air base complexes, from which the Fourteenth Air Force flew, fell to the enemy.⁵⁸

THE AMERICAN EFFORT REGROUPED

If the Fourteenth Air Force lost all its important airfields along the strategic arc running from Heng-yang to Liuchow, however, it only stimulated the construction of new airfields to replace those captured by the Japanese. In October, Chennault revised his aerial battle plans and decided to redeploy most air units to fields along a north-south axis centered on Chungking, which placed them out of immediate harm's way.⁵⁹

In the meantime, two air bases behind Japanese lines in eastern China continued to be employed by Fourteenth Air Force aircraft, one at Suichuan and the other at Kanchow. Elements of Col. Edward F. Rector's 23d Fighter Group were among those flying from these bases until the Japanese made a move to shut them down;⁶⁰ which they did by mid-February 1945 when they captured two airfields and a landing strip at Chenhsein. Japanese



A crew chief indicating the number of aerial kills painted on the side of a P-40, c. 1943



A B-29 Superfortress crosses the Hump as part of Operation MATTERHORN in 1944.

success, however, was short-lived as on the night of 10–11 March 1945 when Nationalist Chinese Marshal Hsueh Yo recaptured Sui-chuan. He accomplished this with the minimum of supplies and ammunition, a notable achievement. It appears he was one of the few fighting generals the Nationalist Chinese had. Hsueh Yo's success made it possible for Fourteenth Air Force aircraft to use the airfield at Sui-chuan until the end of the war.⁶¹

In the spring of 1945, the Japanese made what was to be a final stab at destroying the Nationalist Chinese armed forces and capturing the air bases to the west of Heng-yang, which were key to Allied operations. Chihkiang, long an important air base, was the Japanese objective. The National-

ist Chinese army, aided significantly by Fourteenth Air Force flyers who now dominated the skies, managed to slow down the Japanese advance. Cooperation between air and ground units was excellent and finally led to a major success against the enemy. Some eleven thousand casualties were inflicted on the enemy, and the Japanese were forced to retreat. This was to be the first important victory achieved by Nationalist Chinese troops in more than two years.⁶²

In the meantime, U.S. Army engineers were continuing to supervise work on airfields to replace those overrun by the Japanese in eastern China. Nine additional airfields east of Kunming, for example, were constructed by thousands of men and women

laborers. The workers also built seven more fields north of the Yangtze River and east of Chungking.⁶³

In June 1945, the Japanese, having become overextended, began to pull back from the territory conquered the previous year. The Chinese followed closely behind as did the Fourteenth Air Force. As the Japanese evacuated the air bases in the Sian River valley (Heng-yang, Kweilin, Ling-ling, and Liuchow), the 14th Air Force reoccupied, repaired, and reactivated the fields.⁶⁴ When Liuchow was recaptured at the end of June 1945, for example, elements of the U.S. Army's 930th Aviation [Engineer] Regiment flew to the air field and took charge of rehabilitating the heavy bomber base.⁶⁵

By the end of the war, the Fourteenth Air Force completely dominated the air over China. This enabled the Nationalist Chinese army, following closely on the heels of the withdrawing Japanese, to reclaim large areas of eastern China lost to the enemy during Operation ICHIGO.

BASES FOR B-29 BOMBERS

While the Japanese were overrunning most of the Fourteenth Air Force bases in eastern China, Americans were doing more than just trying to train Chiang Kai-shek's army and combating the enemy from the air. In 1943, the military leadership in Washington decided to base a number of the new B-29 heavy bombers in China from where they could attack the Japanese homeland. This plan, however, turned out to be one of the most costly and counterproductive in the war, although impressive from the airfield construction point of view.

President Franklin D. Roosevelt was a firm supporter of air power, which he saw as a means to a short and decisive victory in the Far East.⁶⁶ The strategy set forth by his military advisers in Washington to crush Japan by bombing it with the B-29 appealed strongly to Roosevelt's imagination.⁶⁷ As a result, he authorized the plan to base B-29s in China and support them from India with the mission to hit the Japanese steel industry on the enemy's homeland.⁶⁸

In 1943, the Operations Division of the War Department was postulating that Operation TWILIGHT, as the project was initially called, was the only hope of bombing Japan safely. As a result, in August 1943 USAAF planners called for basing the Twentieth Air Force's XX Bomber Command's B-29s on Chinese airfields with the aircraft being supported by a mass of transport aircraft flying the Hump from India.⁶⁹

When the matter of supplying the B-29s in China was broached, however, it was decided that the bombers would be self-supporting and carry their own supplies to China. This was designed to relieve pressure on the already overloaded Hump aerial logistics effort.⁷⁰ Unfortunately, it was impossible to provide the level of support by air that was required to make an aerial campaign against the principal Japanese islands effective.

Despite the soon-to-be-critical situation concerning logistical support, Operation TWILIGHT proceeded under the new title of Matterhorn. The first B-29s were to be ready to fly in the winter of 1943. If the required airfields could be constructed in the vicinity of Cheng-tu, it was considered possible to begin a mass bombing campaign by October 1944. The supply challenge,

however, was not clearly addressed when the attack program was formulated. Nor were the total number of airfields to be built in China definitely determined.⁷¹

Nevertheless, planning went forward while General Stilwell, in the meantime, took overall command and control of XX Bomber Command. Actual command was exercised by Maj. Gen. George E. Stratemeyer. Washington feared that if Chennault was given control of the B-29s, then he would base them too near Japanese-occupied territory and also use them to bomb Japanese shipping on the Chinese rivers and off the coast. This plan in turn, it was believed, would provoke the Japanese to capture the airfields, the effective defense of which by the Chinese was considered unrealistic by Washington and others.⁷²

The safest area in China for basing the B-29s was determined to be around Cheng-tu, a relatively remote location from the Japanese-occupied parts of China. Roosevelt sent word to Chiang Kai-shek that five airfields would be required near Cheng-tu by 1 March 1944. If the Chinese would supply the workforce and material, the U.S. Army engineers would provide construction planning and supervision along with lend-lease funds. Thus, the colossal Matterhorn airfield building project was set in motion.⁷³

Construction plans called for each field to be built with runways 8,500 feet long and capable of supporting a seventy-ton aircraft. Construction material was to be locally available rock, gravel, and sand. Such material was chosen for the runways because it was impracticable to bring either large amounts of asphalt or cement as well as concrete mixers by air from India. In addition to the runway, each field was to have taxiways, hardstands, revetments, fuel distribution capabilities, and quarters for crews servicing and manning the bombers.⁷⁴

This vast undertaking was to become very expensive. The construction began in January 1944 and it soon became evident that fears based on economic and financial grounds were all too real. Arthur N. Young, in China at the time as a financial adviser to the

Americans, noted in his 15 February 1944 diary page that the U.S. Army was spending wastefully. It was offering double the amount agreed with the Chinese, and sometimes the Army acted as if money was of no importance. It was hard to obtain sufficient banknotes to pay the hundreds of thousands of peasants who built the airfields. If it was hard for the laborers to get paid, the situation with the dispossessed landowners was just as bad. They received imperfect compensation for their lost land. Worse still, the peasants driven from their homes and places of work were not paid at all. Young noted that the pay grievances against the Nationalist Chinese government were carried over into the Chinese Communist era and that the area around Cheng-tu proved very susceptible to later penetration by the Communists.⁷⁵

Money proved to be a key factor even before construction of the bomber fields began. The Chinese estimated that the cost of the fields would come to five billion Chinese yuan, considered a fantastic sum. It was also estimated by the Americans that "squeeze" in the Cheng-tu area would further inflate that figure, so that by spring the estimates ran as high as seven billion Chinese yuan. This translated into a cost of 350 million

George E. Stratemeyer, shown here as a lieutenant general, c. 1948



Arthur N. Young, c. 1950





Chinese workers building the airfields at Cheng-tu, c. 1944



Chinese laborers breaking rocks into smaller pieces for use as gravel during airfield construction, c. 1943

U.S. dollars for airfields at the official rate of exchange of twenty Chinese yuan to one U.S. dollar.⁷⁶

THE CHINESE LABOR FORCE

Despite the doubts about the economic feasibility and military justification, building the air bases around Cheng-tu went ahead as planned. The ever-hardworking Chinese peasant was soon to construct new airfields, just as he or she had done earlier around Kunming and in eastern China airfields for the Fourteenth Air Force. The project was to become a colossal affair. Some 300,000 impressed laborers, in addition to 75,000 contract workers, were engaged in building the airfields.⁷⁷

Only fourteen U.S. Army engineers worked on the airfield project, and

in order to make the most effective use of the tremendous amount of indigenous manpower, they sought to streamline the organization of the workforce. Their idea was to organize the workers into gangs according to their trades. The Chinese, however, vetoed this plan.⁷⁸

Instead, groups of from 40,000 to 100,000 laborers assembled on each field according to their local *hsein*, or districts. Each *hsein* was charged with filling a certain quota of workers. The Chinese authorities required that each worker bring tools and food for ninety days of work with them. Thousands arrived at the work site carrying implements and sustenance on their backs, in wheelbarrows, and on carts.⁷⁹

The reasoning for assembling work gangs in this manner was uniquely Chinese. It was a matter of the psy-

chology of dealing with the Chinese peasant. The Chinese authorities asserted that people from different *hsien* could not be mixed. There would be too many quarrels and fights as the people went about their tasks. It would also be difficult to control and keep track of the different groups of people. The Chinese overseers said that the best way to get the work accomplished was to give each *hsein* a sector of an airfield to construct and hold it responsible for getting the work done.⁸⁰

This organization for work also facilitated logistical support of the laborers as everything had to be moved either by hand, cart, or wheelbarrow from the encampment to the work site. Whole villages could erect their sheds of straw mats for sleeping quarters close to their place of work, thus much downtime was to be avoided when moving workers from one place to the other. Bringing food to the laborers on the job from the encampment site, for example, was facilitated by having both sites near to each other. At the same time, peasants having, in effect, moved their entire community to the airfield could take advantage of the benefits that consolidation of facilities provided. In case of illness, the workers would have easy access to local health clinics. The *hsein* authorities were better able to ensure the supply of clean water as well as enforce protective measures against health hazards.⁸¹ In one instance, the beginning of an epidemic of dysentery was caught in time by local health authorities who were able to keep the debilitating illness from being a serious threat to the *hsein's* work program.⁸²

Meals were an especially important time for such huge organizations and needed to be as efficient as possible. A special effort had to be made by all engaged in the building project to ensure that the minimum amount of work time was lost. A U.S. Army engineer observed how this was accomplished.

At mealtime cooks for each gang shuffled on the field with shoulder poles, carrying bushel-sized wooden buckets of steaming rice and smaller buckets with a few cooked vegetables. Now and then, not more



Chinese peasants at Yun-nan-i airfield pull a giant concrete roller in order to tamp down the landing strip's foundation.



A Chinese boy carrying rocks in wicker baskets at an unknown airfield

than once a week, there would be a little meat, and twice a week there was bean curd. In still other buckets were boiling hot water, crude earthenware bowls, and chop sticks. Each gang squatted down on haunches, devoured meals, and returned for additional bowls of rice. In empty rice bowls each man dipped up steaming water and sipped it until his thirst was quenched. Cooks gathered up empty buckets, bowls, and chopsticks and trailed away to nearby mat-sheds, and after a brief rest the gangs returned to work.⁸³

CONSTRUCTION TECHNIQUES

Most of the work on the airfields was done by hand with the simplest of tools. In addition, some 1,000 oxen carts and 15,000 wheelbarrows were brought in from all parts of China. About 1,500 trucks were scrounged up to carry building materials, and 200 concrete rollers, each pulled by 300 workers, were used to tamp the earth and rock.⁸⁴ The entire job was accomplished with no bulldozers, steam shovels, or road graders. Local

materials, as noted, had to be used as there was insufficient cement available to make enough concrete for runway surfaces.⁸⁵

The first stage of the construction project was to remove the rich topsoil from the rice paddies, of which many had been worked for as long as three thousand years. In some places, the subsoil had to be dug up as well. Men and boys moved the dirt in wicker baskets and with buckets attached to shoulder poles. The amount of soil removed from all the airfield sites was the equivalent of a ditch three feet wide and eighteen inches deep that could stretch from New York City to Phoenix, Arizona.⁸⁶

Once the subsoil was reached, it was rolled flat using huge concrete cylinders, which hundreds of workers pulled back and forth, making the surface level.⁸⁷ Then head-size rocks were hauled in by a seemingly endless line of wheelbarrows from nearby streambeds to form a foundation sufficient to support the seventy-ton bombers. Women and girls then shaped these rocks with hammer and chisel so that the rocks would not roll about and destabilize the runway surface. Once a layer of stone was in place, a thin slurry of topsoil and subsoil was used as a binder for succeeding rock layers. After each layer of stone was put in place, the giant concrete rollers were employed to pack down the layer of rock and mud slurry.⁸⁸

U.S. Army participation in this gigantic effort was limited to just a few army engineers, most of whom had experience in large building projects. Along with Chinese engineers, the fourteen Army officers laid out the new strips and those extensions to the bomber airfields, which had previously existed for lighter aircraft.⁸⁹ The main responsibility for building the airfields lay in the hands of Lt. Col. Waldo I. Kenerson, the chief Army engineer of District 2. He and his engineers drafted specifications, prepared layouts, made inspections, and assisted in organizing, administering, and paying the hundreds of thousands of peasant laborers.⁹⁰

The engineers rode back and forth in their quarter-ton trucks with an inter-

preter. If they saw work that did not meet specifications, they would stop and summon the Chinese overseer responsible for that area. The Chinese overseer called the gang foremen together and through gestures, drawings on the ground, demonstrations, and repeated statements the American had the required adjustments made.⁹¹

All the while the work went on. One pilot who regularly flew the Hump likened the vast undertaking to a scene out of the book *Gulliver's Travels*. He was particularly impressed by the huge rollers and the thousands of laborers who pulled them back and forth. He related, "They used something visible several miles from the endless strip they were working on, it was a huge concrete roller. There were long lines attached to it, each line was pulled by hundreds and hundreds of coolies. I had the impression that the coolies were to be kept at their roller-pulling until they went far over the horizon."⁹²

General Chennault commented, "One of the most stirring sights I have ever seen was when flying over the great network of B-29 fields around Cheng-tu while they were under construction. More than 350,000 Chinese were swarming over the network of fields with all the outward confusion and inward planning that is so typical of Chinese construction work."⁹³

Yet what Chennault lightly termed "outward confusion" was, as he recognized, hardly that because within the mass of laborers there was explicit order. Headmen of the villages overseeing their own townspeople wore wide-brimmed hats and carried pennants with the name and number of each gang emblazoned on them. The headmen took their orders from a group leader, who in turn received his from a Chinese overseer, who then reported to a U.S. Army engineer.⁹⁴

DIFFICULTIES ARISE

The impression of mass confusion belied the facts of what was actually happening as steady progress was being made. The principal work was to be accomplished in three months, and the Chinese labor force met this time line when the first B-29 landed on

29 April 1944.⁹⁵ Yet, as steady as the progress was, there were difficulties to be surmounted. In the latter part of February, for example, there was a noticeable slowdown in construction. The causes were twofold: first, a lack of trucks to haul material from afar, and second, a breakdown in the Nationalist Chinese government's system for distributing funds.⁹⁶

Other problems also had to be addressed. The laborers worked dutifully, but many were unwilling and wanted to go home to plant their crops. At the same time, Japanese agents were at work stirring up discontent. Ancient superstitions also played a part as a local soothsayer prophesied that a child born in one local district would someday restore the old empire and become the founder of a new dynasty, overthrowing the Chiang Kai-shek regime. The rumor mill swiftly spread the word, and the Japanese surreptitiously produced handbills that encouraged the workers to rise up against the government. Quick action by the province and *hsein* authorities, however, suppressed the incident and work continued.⁹⁷

There were also problems with the U.S. Army engineers who were intent on completing the airfields in time and knew little about Chinese customs and traditions. The language barrier and cultural differences also caused difficulties. For example, a young Army engineer, accustomed to solving problems using "aggressive methods" had a dispute with a Chinese official overseeing a section of a runway. The American lost his patience over a wet spot in the runway in front of a crowd of Chinese onlookers. The engineer seized the official by the collar and shoved his face in the mud. The official could do nothing and suffered great "loss of face." The Chinese laborers immediately took offense, and that night the Chinese overseer in charge of the project at that airfield had a tough time keeping ten thousand Chinese workers from staging a revolt.⁹⁸

Despite such challenges, the Chinese local governments did a magnificent job of organizing and executing the task "in a completely Chinese way."⁹⁹ By the use of every kind of hand tool and every means of moving soil, gravel, and rock, as well as pulling the huge rollers with sheer human muscle power, the Chinese laborers finished

Chinese workers at Kweilin dig a pit for explosives, in order to sabotage the airstrip, to keep the Japanese from using it once they captured the airfield.





B-29s at Cheng-tu prepare to take off to attack Yawata, Japan, June 1944.

four B-29 airfields and three fighter strips by 1 May 1944.¹⁰⁰

IMPACT OF THE B-29 BOMBERS

The first missions by B-29 bombers against the Japanese took place soon after the fields were finished. The targets hit, however, contributed nothing to the effort to stop the Japanese offensive in eastern China. The first sortie launched by the B-29s was against the railroad workshops in Bangkok, Thailand.¹⁰¹ The initial attacks against the Japanese home island of Kyushu were launched from India on 14 June 1944 and then staged out of the Cheng-tu airfields.¹⁰² The target was to be the supposedly important steel-producing mills of Yawata. This aerial attack against the enemy homeland came just three days before the Chinese bastion of Changsha in Hunan Province fell to the Japanese in Operation ICHIGO.¹⁰³

This operation, the first major land offensive launched in China after the bombing of Pearl Harbor in December 1941, not only threatened the eastern Chinese airfields, but also those at Cheng-tu. The defense of the B-29 fields fell to the Fourteenth Air Force. Under orders from General Stilwell, Chennault assigned the mission to six squadrons of P-47 fighter-bombers and a squadron of B-25 bombers of the Chinese-American Composite Wing. While complying with the order, Chennault protested. He told

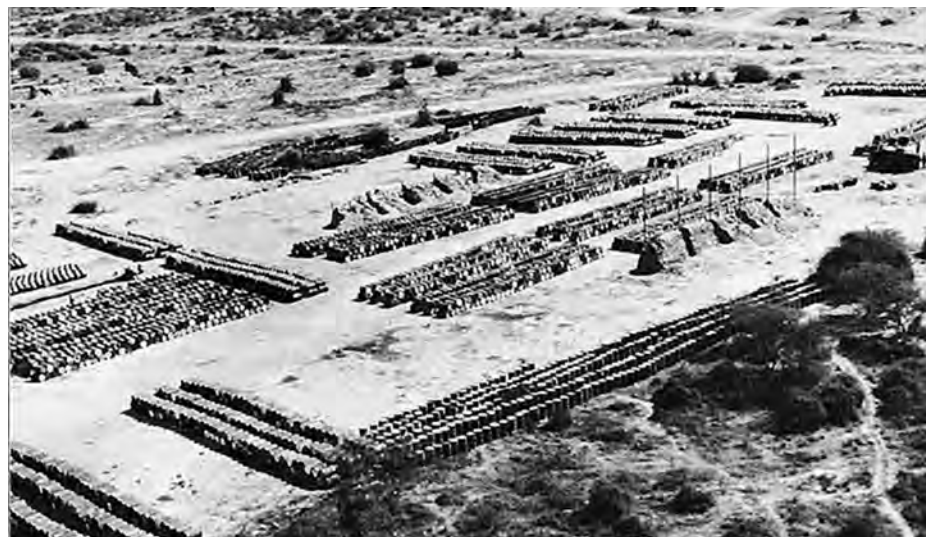
Stilwell that defending the B-29 airfields would be “child’s play” in comparison to resisting the overall Japanese ground offensive, which threatened to overwhelm not only the Nationalist Chinese army but to capture the advanced eastern Chinese airfields as well.¹⁰⁴ Stilwell backed off allowing Chennault more flexibility to deal with the multitude of challenges he was then facing throughout China. As it turned out, the airfields were adequately protected by virtue of their inland location and the major thrust of the Japanese offensive, which sent the enemy south and not west.

Nevertheless, Chiang Kai-shek became alarmed as the Japanese of-

fensive approached the city of Hsian, which was the gateway to his capital at Chungking and to the air base complex at Cheng-tu. This threat and the need to protect the B-29 airfields resulted in further concessions by Stilwell, who was being pressed by both Chiang Kai-shek and Chennault for immediate assistance. The Nationalist Chinese army was doing little to stop the enemy offensive, and Chiang wanted more tonnage flown in over the Hump as well as use of the B-29s, both of which Stilwell controlled. The compromise reached, however, hardly filled all of Chiang Kai-shek’s and Chennault’s requests. Their use of the B-29s, for example, was denied. Stilwell, however, allowed the heavy B-24 bombers of the 308th Bombardment Group to haul airplane fuel and oil to Chennault. Stilwell also permitted Chennault to employ the P-47s, until now concentrated on protecting the B-29 air bases, as Chennault saw fit.¹⁰⁵

While a compromise was being worked out, the B-29s were flying against targets on the Japanese homeland and having no impact on the enemy ground offensive in China. From June to October 1944, the bombers made only nine raids. Four were made against steel and aircraft plants on the island of Kyushu, three against a major steel-producing facility in Manchuria, one against an oil refinery on the island of Sumatra, and one against an aircraft factory on the island of

U.S. Army Air Force fuel dump at Assam, India





U.S. Air Force

An elephant helping load fuel drums into a C-46 at Assam, India

Formosa. The number of missions fell short of American desires, and by the autumn of 1944, few airmen thought the effort in China was worth the cost of the B-29 raids.

The problem was not the condition of the airfields or facilities, but the lack of logistical support required to sustain the bombers. It turned out to be impossible to increase the mission rate beyond an average of two aircraft sorties a month. Sufficient fuel for the aircraft could not be supplied to make the B-29 sorties profitable. Both munitions and aviation fuel for each strike had to be flown over the Hump from India to Cheng-tu by transport airplanes or by the bombers themselves, which meant significant overtime for planes and crews. The stress induced by these logistical requirements was so great that on 3 October 1944, Secretary of War Henry L. Stimson stated that the drain on transports in the CBI theater could well mean an extra winter fighting on the other side of the world in Europe.¹⁰⁶

The planners for the B-29 campaign originating in China against Japan had anticipated that Operation MATTERHORN would be self-sustaining. But between February and October 1944,

the Air Transport Command had to fly 17,931 tons of fuel, munitions, and other supplies to Cheng-tu. This very heavy draw on the few resources available for American operations in China was equal to the entire tonnage flown into China for the Nationalist Chinese army from May 1942 to October 1944.¹⁰⁷ The irony was that the presence of the B-29s, which took up

so much of the Hump tonnage, were used as further justification by the Japanese for their offensive in 1944. Yet the minimal effort of the B-29s against the Japanese homeland did nothing but hinder Stilwell's attempted reform of the Nationalist Chinese army by denying it required resources to stop the Japanese advance.¹⁰⁸

In the fall of 1944, Army Chief of Staff General George C. Marshall, at Chiang Kai-shek's request, relieved Stilwell of his duties in China. Stilwell was succeeded by Maj. Gen. Albert C. Wedemeyer. While Stilwell could not obtain authority from the Joint Chiefs of Staff to employ the B-29s in support of Chiang Kai-shek, Wedemeyer was somewhat, if only slightly, successful. He was granted permission to launch one hundred B-29s against the Japanese-occupied Chinese city of Hankow on 18 December 1944. Although the massive attack was deemed a "great success," it really contributed nothing to the overall war effort in China. The air bases in eastern China had already been in Japanese hands for over a month, and Chiang Kai-shek's influence and authority, as far as the Americans were concerned, had already begun to deteriorate substantially. In the spring of 1945, however, the Japanese began to retreat voluntarily from their most forward occupied positions.¹⁰⁹

Chinese laborers transporting a recently delivered fuel drum



U.S. Air Force

Also in early 1945, the B-29s left China to be redeployed to various Pacific Ocean islands that were much closer to Japan. The XX Bomber Command moved according to evacuation plans prepared well beforehand with the least amount of difficulty.¹¹⁰ Support of the big bombers had proved too great a strain on the Hump operation. At the same time, the B-29s flying from China, having contributed nothing to the defense of the eastern Chinese air bases, had little impact on the final defeat of Japan.¹¹¹

The XX Bomber Command, staged from the airfields that had been so quickly constructed around Cheng-tu by thousands of Chinese laborers, flew a total of only twenty missions. Japan's home islands received nine of those raids, and the only one that even remotely helped Chiang Kai-shek was that flown against Hankow. The official U.S. Army Air Force history concluded that the missions "did little to hasten the Japanese surrender or to justify the lavish expenditure poured out in their behalf."¹¹²

The U.S. Strategic Bombing Survey concluded that the China-based B-29 operations did not warrant the diversion of effort entailed in airfield construction and logistical support. The survey suggested that the anti-shipping operations of the Fourteenth Air Force could have been expanded with the aviation fuel and other sup-

plies that went to the big bombers. As it was, the relatively small weight of eight hundred tons dropped by China-based B-29s were of "insufficient weight and accuracy to produce significant results."¹¹³

CONSTRUCTION MASTERPIECES

The first airfield complex that thousands of Chinese laborers, under U.S. Army engineer direction, upgraded and expanded was around the Yunnan provincial city of Kunming. These fields became the terminus of the USAAF Air Transport Command's airlift from India over the Hump. Too distant for the Japanese to reach effectively by air and land, these bases served a critical logistics role up until the time the war was won in China. In the vicinity of Kunming, the Chinese peasants not only built these construction masterpieces, but also toiled ceaselessly and without due recognition or compensation to maintain them.

The second complex of air bases constructed were the far-flung airfields in eastern China. Some of these were actually located behind Japanese lines and formed the advance staging bases for the Fourteenth Air Force. Unlike around Kunming, these fields were extremely vulnerable to Japanese air, and late in the war to ground, attack. So effective, however, were air force

pilots in sweeping the Japanese from the skies, interdicting ore shipments on the rivers, and harassing enemy movements that the Japanese finally launched their largest ground offensive—Ichigo—to capture these airfields. The Japanese overran most of the air bases during the operations, but Chennault simply withdrew the squadrons further west toward Kunming and Chungking. The Chinese peasants who originally constructed these fields under U.S. Army supervision stood to be severely punished by the advancing enemy. But they exposed themselves willingly to danger and dauntlessly filled in runway craters made by Japanese bombs until the bases were overrun. When the Japanese withdrew, the laborers moved in behind them and repaired the airfields for the Fourteenth Air Force units.

The third complex of airfields, and the most expensive but of least value, was located at Cheng-tu. From here, B-29 heavy bombers flew against Manchuria and the Japanese home islands sadly contributing virtually nothing to the war effort. Yet, the construction and enhancement of the nine airfields around Cheng-tu in only three months was a triumph for the thousands of Chinese laborers who worked on them.

In constructing airfields, the real hero of the Chinese struggle against Japan was the humble peasant who worked indefatigably building, improving, and maintaining the three large airfield complexes from which Nationalist Chinese and American pilots flew against the enemy. Although unaware of a struggle between Chinese and American leaders at the very highest levels, every diligent Chinese laborer engaged in the tedious work of digging and moving soil and rock, breaking boulders into small pieces, and smoothing and packing the construction material so that heavy aircraft could fly against the Japanese. If nothing else, the Chinese peasants' impressive construction accomplishments stand as fitting tributes to their selfless efforts in the final defeat of Japan.



General Wedemeyer arrives in Chungking, c. October 1944.



NOTES

1. Barbara Tuchman, *Stilwell and the American Experience in China, 1911–1945* (New York: Macmillan, 1971), p. 215.

2. Ibid., p. 161.

3. Aside from failing to support Lt. Gen. Joseph W. Stilwell's attempts to reform and train the Nationalist Chinese army, Chang Kai-shek often interfered with local commanders' decisions. See Charles F. Romanus and Riley Sutherland, *Stilwell's Command Problems* (Washington, D.C.: U.S. Army Center of Military History, 1955), p. 435, as an example of his interference in the defense of the city of Kweilin.

4. Romanus and Sutherland, *Stilwell's Command Problems*, p. 5.

5. Ibid., p. 16.

6. Arthur N. Young, *China and the Helping Hand* (Cambridge, Mass.: Harvard University Press, 1963), p. 312. See also Romanus and Sutherland, *Stilwell's Command Problems*, pp. 365–66.

7. Karl Dod, *The Corps of Engineers: The War Against Japan* (Washington, D.C.: U.S. Army Center of Military History, 1966), p. 662.

8. Tang Tsou, *America's Failure in China, 1941–50* (New York: William Sloan Associates, Inc., 1950), p. 52. See also Young, *China and the Helping Hand*, p. 304.

9. Bliss Thorne, *The Hump* (New York: J. B. Lippincott, 1965), p. 36.

10. Guangqui Xu, "The Issue of US Air Support for China during the Second World War, 1942–1945," *Journal of Contemporary History*, 36, no. 3 (2001): 483.

11. Romanus and Sutherland, *Stilwell's Command Problems*, pp. 19–20 and Dod, *The Corps of Engineers*, p. 425. See also Robert Hotz, ed., *Way of the Fighter: The Memoirs of Claire Lee Chennault* (New York: G. P. Putnam's Sons, 1949), pp. 232–33 for difficulties encountered and Bob Bergin, interview, "Flying Tiger Ace," *Military History* (February 2001): 34–40, 80.

12. Hotz, *Way of the Fighter*, p. 130.

13. Thorne, *The Hump*, p. 156.

14. Hotz, *Way of the Fighter*, p. 106.

15. Dod, *The Corps of Engineers*, p. 402.

16. Ibid.

17. Thorne, *The Hump*, p. 30.

18. Ibid., p. 38.

19. Dod, *The Corps of Engineers*, pp. 402–03.

20. Thorne, *The Hump*, p. 83. The pilots who flew a bulldozer into the airfield at Yangkei experienced some anxious moments when they found that the entire cargo compartment was

filled with parts of the machine. The fit was so tight that the pilots had difficulty getting into the cockpit and were apprehensive the entire time of the flight that their load would cause the aircraft to crash.

21. Dod, *The Corps of Engineers*, pp. 415–16.

22. Hotz, *Way of the Fighter*, p. 81.

23. Ibid., p. 97.

24. Thorne, *The Hump*, pp. 71–79.

25. Dod, *The Corps of Engineers*, p. 439.

26. Annabar Jensis, "Community College Economics Professor Robert Belknap: From the Exotic Spots of the World to the Halls of Ivy," *The Daily Mail*, 10 Oct 1970.

27. Hotz, *Way of the Fighter*, p. 169.

28. Ibid.

29. Dod, *The Corps of Engineers*, p. 425.

30. Ibid.

31. Hotz, *Way of the Fighter*, pp. 232–33.

32. Romanus and Sutherland, *Stilwell's Command Problems*, pp. 19–20.

33. Hotz, *Way of the Fighter*, p. 186.

34. Dod, *The Corps of Engineers*, pp. 419–20.

35. Hotz, *Way of the Fighter*, p. 81.

36. Ibid.

37. Bergin, "Flying Tiger Ace," pp. 35–36.

38. Hotz, *Way of the Fighter*, p. 81.

39. Bergin, "Flying Tiger Ace," pp. 35–36.

40. Dod, *The Corps of Engineers*, pp. 419–20. See also Xu, "The Issue of US Air Support for China," p. 462, for effectiveness of B–25 bombers flying from these bases.

41. Romanus and Sutherland, *Stilwell's Command Problems*, p. 433.

42. Hotz, *Way of the Fighter*, p. 256.

43. Dod, *The Corps of Engineers*, pp. 452–53.

44. Xu, "The Issue of US Air Support for China," p. 469. See also p. 472 for Stilwell's opinion as to Chiang Kai-shek's claim.

45. Dod, *The Corps of Engineers*, pp. 452–53. See also Romanus and Sutherland, *Stilwell's Command Problems*, p. 316.

46. Romanus and Sutherland, *Stilwell's Command Problems*, p. 319.

47. His-Sheng Ch'I, *Nationalist China at War* (Ann Arbor: University of Michigan Press, 1982), p. 77.

48. T. D. Stamps and V. J. Esposito, eds., *A Military History of World War II with Atlas: Volume II Operations in the Mediterranean and Pacific Theaters* (West Point, N.Y.: United States Military Academy, 1956), p. 378.

49. Romanus and Sutherland, *Stilwell's Command Problems*, p. 400.

50. Ibid., p. 401.

51. Dod, *The Corps of Engineers*, p. 469.

52. Stamps and Esposito, *A Military History of World War II*, p. 379. See also Romanus and

Sutherland, *Stilwell's Command Problems*, p. 433.

53. Dod, *The Corps of Engineers*, p. 469. See also Stamps and Esposito, *Military History of World War II*, p. 379.

54. Romanus and Sutherland, *Stilwell's Command Problems*, pp. 434–35.

55. Thorne, *The Hump*, p. 159.

56. Young, *China and the Helping Hand*, p. 312.

57. Thorne, *The Hump*, pp. 156–57.

58. Stamps and Esposito, *Military History of World War II*, p. 380.

59. Dod, *The Corps of Engineers*, p. 469.

60. Bergin, "Flying Tiger Ace," pp. 35–36.

61. Hotz, *Way of the Fighter*, p. 334.

62. Stamps and Esposito, *Military History of World War II*, p. 432.

63. Dod, *The Corps of Engineers*, p. 662.

64. Bergin, "Flying Tiger Ace," p. 40.

65. Dod, *The Corps of Engineers*, p. 662.

66. Tsou, *America's Failure in China*, p. 81.

67. Dod, *The Corps of Engineers*, p. 428.

68. Romanus and Sutherland, *Stilwell's Command Problems*, p. 16.

69. Ibid., p. 15.

70. Tsou, *America's Failure in China*, p. 81.

71. Dod, *The Corps of Engineers*, p. 428.

72. Romanus and Sutherland, *Stilwell's Command Problems*, p. 113.

73. Ibid., p. 17.

74. Dod, *The Corps of Engineers*, pp. 440–41. Note that sufficient concrete did become available to construct the giant rollers used to compact the surface of the airfields.

75. Young, *China and the Helping Hand*, pp. 302–03.

76. Dod, *The Corps of Engineers*, pp. 451–52.

77. Young, *China and the Helping Hand*, p. 302. See also Romanus and Sutherland, *Stilwell's Command Problems*, p. 115, and Dod, *The Corps of Engineers*, pp. 451–52.

78. Gerald F. Winfield, *China: The Land and the People* (New York: William Sloan Associates, Inc., 1950), p. 196.

79. Tuchman, *Stilwell and the American Experience in China*, pp. 413–14.

80. Winfield, *China: The Land and the People*, p. 196.

81. Ibid., pp. 195–96.

82. Ibid., p. 198.

83. Ibid.

84. Hotz, *Way of the Fighter*, p. 238.

85. Winfield, p. 195.

86. Hotz, *Way of the Fighter*, p. 238.

87. Dod, *The Corps of Engineers*, p. 439.

88. Winfield, *China: The Land and the People*, p. 90.

89. Romanus and Sutherland, *Stilwell's Command Problems*, p. 115. See also Tuchman, p. 414.

90. Dod, *The Corps of Engineers*, pp. 440–41.

91. Winfield, *China: The Land and the People*, p. 197.

92. Thorne, *The Hump*, p. 139.

93. Hotz, *Way of the Fighter*, pp. 238–39.

94. Winfield, *China: The Land and the People*, p. 197.

95. Young, *China and the Helping Hand*, p. 302.

96. Dod, *The Corps of Engineers*, pp. 451–52.

97. Winfield, *China: The Land and the People*, p. 199.

98. *Ibid.*, p. 202.

99. *Ibid.*

100. Romanus and Sutherland, *Stilwell's Command Problems*, p. 115.

101. Tsou, *America's Failure in China*, p. 83.

102. Dod, *The Corps of Engineers*, p. 456.

103. Tsou, *America's Failure in China*, p. 83.

104. Romanus and Sutherland, *Stilwell's Command Problems*, p. 323. See also Hotz, *Way of the Fighter*, p. 278, for comment on P-47 fight-bombers.

105. Romanus and Sutherland, *Stilwell's Command Problems*, pp. 323–25. See also p. 368 for measures Stilwell took and Chiang

Kai-shek's use of his China National Aviation Corporation at this time.

106. Dod, *The Corps of Engineers*, p. 467.

107. Romanus and Sutherland, *Stilwell's Command Problems*, p. 115. See also Tsou, *America's Failure in China*, p. 81.

108. Romanus and Sutherland, *Stilwell's Command Problems*, p. 116.

109. Tsou, *America's Failure in China*, p. 84.

110. Young, *China and the Helping Hand*, p. 306.

111. Tsou, *America's Failure in China*, p. 84.

112. Young, *China and the Helping Hand*, p. 304.

113. Hotz, *Way of the Fighter*, p. 277.

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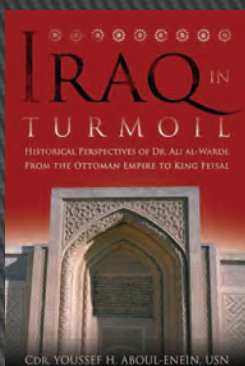
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BOOKREVIEWS

Iraq in Turmoil: Historical Perspectives of Dr. Ali al-Wardi, From the Ottoman Empire to King Feisal



By Cdr. Youssef H. Aboul-Enein, USN
Naval Institute Press, 2012
Pp. xvii, 188. \$26.95

Review by Wm. Shane Story

Like its subject, *Iraq in Turmoil* is a maddening book. It has, in effect, two authors who never met and did not collaborate. Instead, Youssef H. Aboul-Enein encapsulated the magnum opus of another author, the Dr. Ali al-Wardi (1913–1995) of the subtitle. Because there are two authors, *Iraq in Turmoil* has two layers of every element that normally distinguishes one book from another. Aboul-Enein wrote in English to summarize a history of Iraq that al-Wardi wrote in Arabic. Aboul-Enein and al-Wardi differed in their purposes, in the context in which each wrote, and in their perspectives. Neither resolved whether he should follow a chronological or a topical format, thereby leaving to the reader the onerous task of sorting out the sequence of events and keeping track of the subject matter. These factors make *Iraq in Turmoil* difficult to read or recommend, but its limited survey of Iraq's troubled history

does provide some useful context for America's war in Iraq.

A secular Shi'ite born in Baghdad, Dr. Ali al-Wardi studied at the American University of Beirut and received his Ph.D. in sociology from the University of Texas in 1950. He then founded the sociology department at the University of Baghdad and later published a multivolume work titled *Lamahat Ijtima'iya min Tarikh al-'Iraq al-Hadith* (*Social Glimpses of Iraqi Modern History*) (Baghdad, 1969). Covering a period extending from the fourteenth through the early twentieth centuries, *Social Glimpses'* structure suggests the influence of the mid-twentieth-century Western education that overlay al-Wardi's Iraqi Shi'ite upbringing. Hence, the Sheriefs of Mecca and the Ottoman and Safavid empires gave way to rising European empires, which spent themselves in the First World War. This led to the British Mandate and the Revolt of 1920, which al-Wardi covers in detail before ending his account with the formation of the Kingdom of Iraq in the 1920s.

Cdr. Youssef H. Aboul-Enein's path to studying Iraqi history was far more circuitous. A U.S. Navy officer, Aboul-Enein was born in Mississippi and raised in Saudi Arabia. He knew little about Iraq and nothing about al-Wardi until 2007 when an Iraqi detainee told a U.S. Army officer that insurgents were using al-Wardi's history to stoke resistance to the Coalition. The Army officer passed this tip to Aboul-Enein. After tracking down the six volumes that make up *Social Glimpses of Iraqi Modern History*, Aboul-Enein believed he had uncovered critical information that the Coalition needed to comprehend to win the battle of ideas against insurgents. To reach an English-speaking military audience, Aboul-Enein summarized al-Wardi's tomes in eleven articles that he published in *Armor* magazine in 2009 and 2010.

Iraq in Turmoil is a compilation of those articles.

The strength of *Iraq in Turmoil* lies in its multiple references to things that had considerable impact on American operations in Iraq. These include the Sunni-Shi'a split within Islam, Persian influence, the Karbala shrines, Ashura, and Twelver Shiism. The book stresses the incessant nature of tribal conflicts and the long-term threats posed by Wahhabi raiders from the Arabian Desert. It discusses Sultan Abdul Hamid II's need for French and British support to fend off Russia in 1877 and the stunning impact of western imperial invasions. British troops landed in Al Basrah in 1914 to protect British oil interests in Persia; Ottoman weakness inspired their march to Baghdad, and the campaign bogged down before ending in siege and a humiliating British surrender at Al Kut. *Iraq in Turmoil's* coverage of the 1920 Revolt against British rule offers valuable insights on Iraqi attitudes toward rule by foreigners. One key point, made early and shown to be consistent over time, is that Iraqi tribes lined up with and against various invaders and switched sides based on the highest bids for loyalty, the credibility of protection offered, and the best prospects for self-preservation (p. 18).

The book's greatest weaknesses derive from the omissions and poor analysis that attend its abysmal chronology. There is a brief reference to the succession crisis following the Prophet Muhammad's death in 632 CE, but not even a few lines of background on the origins of Islam or the significance of the various caliphates. Its misunderstanding of the beginning of the First World War is profound. It notes, accurately, that the Ottoman Empire entered the war on 29 October 1914 when German ships flying Ottoman flags bombarded Russian ports in the Black Sea (p. 54). A power whose belligerency depended on others' inter-

ests and designs could not be long for this world. A few pages later, however, the reader learns that Iraqis awoke one morning in August 1914 “to the beat of drums and pamphlets ordering [their] mobilization . . . to fight on the Russian front”; the purpose was imperial expansion driven by the Ottomans’ “obsession with the offense” (p. 61). In August 1914, of course, there were no Iraqis and the Ottoman Empire had no Russian front. Moreover, after the disasters of the Balkan Wars of 1912–1913, the empire was far more concerned with defending its fragile position than with mounting an offensive in any direction.¹ Hence, *Iraq in Turmoil* erroneously transposes the imagery of August 1914 mobilizations from European armies massing on one another’s borders to the backwaters of the Ottoman Empire.

The context and perspective of each author’s work warrant special attention. As a prominent sociologist, al-Wardi described civilization in Iraq as having an extremely thin veneer. Forever beset by internal strife due to fragmentation by race, sect, and tribe, national identity in al-Wardi’s Iraq was sundered by a duality of rural-urban conflicts. It was analysis like this that led Ali A. Allawi, a longtime Iraqi opposition figure who served as Minister of Defense and Finance in the post-Saddam Iraqi government, to credit al-Wardi with coming closer than anyone “to unlocking the secrets of the Iraqi character.”² It is worth noting, though Allawi himself made no mention of the fact, that al-Wardi published his volumes on Iraqi history from 1969 to 1976. These were the years when the Ba’ath Party, after seizing power in a 1968 coup, consolidated its control by arresting, torturing, and slaughtering Jews, Communists, and other real or perceived threats to Ba’athist Iraq.³ It is not casting stones to observe that al-Wardi’s work laid out a problem whose implicit solution lay in the figure of one able to embody Iraq itself.

The context for Aboul-Enein’s work was altogether different, but his environment and his intended audience had their own encumbering effect on his writing. A field grade officer driven to use his Arabic language skills to help his comrades and his country comprehend Iraq, Aboul-Enein mined al-Wardi’s

anecdotes to explicate Iraq’s internecine struggles. To his credit, Aboul-Enein delivers a detailed historical context for many of the names, dates, and issues that continue to resonate in Iraqi politics. On the other hand, he fell into a paradigmatic trap called “information operations” that constrained the ability of many policymakers and military officers to comprehend others’ perspectives. The paradigm began with the conviction that American policy was right, whatever the issue at hand, and the presumption that ideas properly packaged and delivered through the correct media could accomplish key strategic objectives. The point of information operations was not to understand but to convince. Oversold enthusiasts propagated the notion, which Aboul-Enein embraces, that endless amounts of data could lead to “information dominance” (pp. 152, 161). Aboul-Enein correctly stresses the importance of studying Iraqi sources; his mistake comes in believing that information dominance provides a means of controlling either enemy forces or civilian populations.

Despite *Iraq in Turmoil*’s many shortcomings, a few valuable observations do emerge from the centuries of history it provides for the three Ottoman provinces of Al Basrah, Baghdad, and Mosul. First, violent sectarianism left these areas incessantly weak and thus vulnerable to foreign invasion, but it also crippled invaders’ attempts to secure their objectives. Second, fragile to nonexistent property rights meant that honor—the barest claim to having any rights at all—has long been a paramount concern in Iraq. Since dishonor jeopardizes what few rights remain, violence in defense of honor and status is the defense of life itself. Finally, Iraq’s history suggests an abiding sense of betrayal, something lying just below the surface and guaranteed to emerge with any new grievance. Hence, the Sunni-Shi’a split originated in each party believing that the other had betrayed Muhammed, and self-flagellation in the Shi’a ritual of Ashura derives from multiple layers of betrayal. After the Gulf War of 1990–1991, many Iraqis followed a well-worn script in accusing President George H. W. Bush of betraying them by leaving Saddam Hussein in power. After the regime collapsed

in April 2003, Iraqis across the political spectrum again felt betrayed by the Coalition’s failure to secure and serve their particular interests. These traits—violent sectarianism, a devotion to honor, and a sense of betrayal—do not encompass all that Iraq is, and they are not entirely unique to Iraq, but they do help make sense of the country’s difficulties.

Given the book’s shortcomings—besides those already noted, it offers nothing useful about Iraq since 1922—prospective readers must read a number of related books to make good use of this one. Charles Tripp’s *A History of Iraq* (New York, 2000) and Phebe Marr’s *The Modern History of Iraq* (Boulder, Colo., 1985) provide excellent, updated overviews of Iraq beginning with the Ottoman Empire. Of even greater value, Vali Nasr’s *The Shia Revival: How Conflicts Within Islam Will Shape the Future* (New York, 2006) explains the broader regional and sectarian context for much of the turmoil that the Coalition encountered in Iraq and that now bedevils American policy in Syria.

How, though, would a serving officer or other professional justify so much reading in a specialized topic—especially for a war that Americans want now to consign to the past—when there are so many other demands for one’s attention? An anecdote recounted by Tony Lagouranis, who was a U.S. Army interrogator in Iraq in 2004, shows how obtuseness undermined the mission in Iraq and would likely do so in other campaigns. In his telling, interrogators learned quickly how to abuse prisoners but were much slower to comprehend Iraq. “One interrogator,” Lagouranis writes, “who was especially fond of using stress positions [on Iraqi detainees], once asked me, after he came back from an interrogation, ‘What’s the Ba’ath Party?’”⁴ It is ignorance at the user level that makes books like *Iraq in Turmoil* required reading, but it takes much more work than Aboul-Enein has done to make information accessible and useful.

NOTES

1. Barbara Tuchman, *The Guns of August* (New York: Macmillan, 1962), p. 161; Ulrich Trumpener, “The Ottoman Empire,” in *The Origins of World War I*, eds. Richard F. Hamilton and

Holger H. Herwig (Cambridge, UK: Cambridge University Press, 2003), pp. 345–53.

2. Ali A. Allawi, *The Occupation of Iraq: Winning the War, Losing the Peace* (New Haven, Conn.: Yale University Press, 2007), p. 12.

3. Samir al-Khalil, *Republic of Fear: The Inside Story of Saddam's Iraq* (New York: Pantheon Books, 1989), pp. 229–53.

4. Tony Lagouranis and Allen Mikaelian, *Fear Up Harsh: An Army Interrogator's Dark Journey Through Iraq* (New York: NAL Caliber, 2007), p. 103.

Col. Wm. Shane Story is the chief of the Contemporary Studies Branch at the Center of Military History. He has a Ph.D. in history from Rice University and deployed to Iraq as a historian with the Coalition Land Forces Component Command in 2003 and with Multi-National Forces–Iraq in 2007–2008.



Price's Lost Campaign: The 1864 Invasion of Missouri



By Mark A. Lause
University of Missouri Press, 2011
Pp. 264. \$29.95

Review by Steven C. Haack

As the autumn of 1864 approached, the Confederate leadership understood that the looming presidential election could seal their fate. A victory for Abraham Lincoln would lead to the continued prosecution of the war and nobody believed that the Confederacy could hold out for another four years.

It was with this concern in mind that Lt. Gen. Edmund Kirby Smith, Confederate commander of the Trans-Mississippi theater, ordered Maj. Gen. Sterling Price to invade Missouri.

The strategic impetus for such an invasion was manifold. Federal resources would have to be withdrawn from other areas to counter the invasion. Furthermore, taking St. Louis would provide significant stores of weapons, ammunition, and other useful materials. Political considerations were even more compelling. The opening of an additional front could turn a war-weary North against President Abraham Lincoln and help Maj. Gen. George McClellan into the White House. At which point, with a Confederate state government installed in Jefferson City, the state of Missouri would become part of what was hoped to be an established and recognized Confederate nation. Such was the plan.

The operation began in early September as Price's three divisions, comprised of some twelve thousand men, slipped largely unopposed into Missouri from Arkansas. When word of the invasion reached St. Louis, Maj. Gen. William S. Rosecrans, Union commander of the Department of the Missouri, was incredulous and slow to react. Rosecrans had been reassigned to that department in September of 1863 after the poor showing he had made at the Battle of Chickamauga. When it became clear that an incursion was indeed afoot, Rosecrans sent Brig. Gen. Thomas Ewing to assess the situation. At Pilot Knob, Ewing determined it would be best to move his 1,450 troops into Fort Davidson, an earthen structure built the previous year to counter guerrilla activity. Surrounded by high ground, Fort Davidson was not ideally positioned, but Ewing's men held out well against Price's siege, with the well-handled Union artillery taking a fearsome toll. Ewing understood that his situation was untenable, and on the night of 27 September, he managed to evacuate his forces, slipping silently through the enemy pickets. A few men stayed behind to detonate the powder magazine. Price pursued the Union soldiers, but the siege had cost him up to 10 per-

cent of his forces and morale was low.

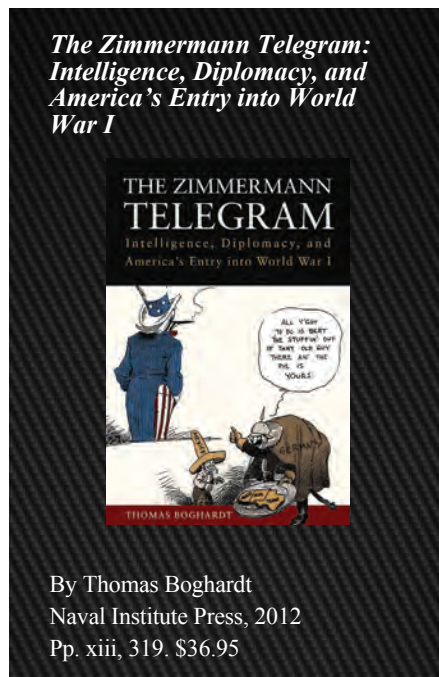
Price had been assured that if he actually secured a portion of Missouri, infantry reinforcements would be dispatched. Either he failed to reach a threshold of success or the troops were not available, as those reinforcements never arrived. Furthermore, he hoped the citizens of Missouri would rally to support him, but it was not to be. Price had led a ragtag army into Missouri. Many of the men were without weapons and many were, in fact, barefoot. When they took small towns they indulged in looting and the settling of old scores with local Unionists. German emigrants, not yet assimilated into the regional culture, were singled out for retribution regardless of their political leanings. Price's officers did little to contain such behavior and subsequently the invasion saw very little support from local citizens. These circumstances may have contributed to Price's decision to turn away from St. Louis. He may have concluded that such an army would perform poorly against a well-trained army guarding a fortified metropolitan area. This was a stroke of luck for Rosecrans as he had grossly overestimated the city's defenses, basing his view more on bookkeeping than on actual counts. Price's forces probably outnumbered the Union forces at St. Louis by two to one.

Price now turned to Jefferson City, still entertaining the fantasy of installing a Confederate state government there. The defenses surrounding Jefferson City also proved too intimidating, and Price headed northwest to pillage through Missouri. Rosecrans was still slow to respond effectively. He had done little to stop Price's forces from destroying bridges and rail lines and now used their destruction to justify his inability to pursue the invading forces. More troops were set to work repairing infrastructure than were sent to locate Price and put an end to his campaign. It was not until the Battle of Westport took place in the northwest corner of the state on 23 October that Price was defeated and retired from the field, returning south through Kansas and Indian territory. Militarily, the raid was a failure and politically it was counterproductive. The behavior of Price's troops did

Lincoln's presidential campaign more good than harm.

Mark Lause's book covers the campaign only to the point where Price abandons his plan to take Jefferson City. The significant battles of Sedalia, Lexington, Little Blue River, Independence, and Westport are not covered. Thus, it is not the book for the reader seeking a comprehensive history of Price's raid. The book is rich in detail, but this often gives it a choppy texture as broad descriptions of strategy and tactics are interrupted to insert the experiences and comments of individual soldiers and citizens. Over-shadowing this criticism, however, is the book's lack of maps. Only two large-scale maps reprinted from the *War of the Rebellion* (Washington, D.C., 1880) are included, and they are of little value. Combatants on both sides were constrained by the rough topography of southern Missouri, and some of the descriptions of the action are unintelligible without a map at hand. Many readers will find themselves downloading and printing a variety of maps just to enable a better following of the text. Many small towns, railroad depots, and bridges are discussed without the geographic context needed to give their mentions meaning. This being said, it must also be acknowledged that the Trans-Mississippi War has been neglected in Civil War scholarship and any good analysis of the events is welcome. This book provides a decent background and context for Price's campaign and does a good job in explaining the complex political landscape of Missouri during the Civil War.

Steven C. Haack has published research on a variety of subjects, including ancient astronomy, Egyptology, paleontology, and the history of the American West. His article "Peace Be to Their Ashes: The 11th Kansas Cavalry and the Battle of Red Buttes" was featured in the Summer 2011 issue of *Army History* (No. 80).



Review by Gregory W. Ball

The reasons behind the U.S. government's decision to declare war on Germany after nearly three years of neutrality have been debated in countless works since the end of World War I. While Germany's decision to implement unrestricted submarine warfare is often cited as a primary factor, other factors certainly played a role, including the German Foreign Ministry's famous telegram to the German envoy to Mexico in which the German government offered to aid Mexico in regaining lost territory, now part of the United States, in return for Mexico's support should the United States enter the war. In *The Zimmermann Telegram: Intelligence, Diplomacy, and America's Entry into World War I*, Thomas Boghardt has written one of the most far-reaching examinations of the telegram and its impact. He has done an exceptional service by placing the Zimmermann telegram within the diplomatic and military context of the war and fully describing all aspects of this event. While noting that the telegram was issued at a "critical moment in the conflict" (p. 1), Boghardt reminds us that "few historians would argue that the telegram alone pushed the United States into World War I" (p. 2). Still, as the author shows, it was one of the factors that spurred U.S. entry into the war.

Boghardt's composition is crisp, clean, and straightforward. He uses

all the major primary and secondary sources to illuminate this episode in diplomatic and military history with style and substance. His review of the literature surrounding the telegram is insightful and highlights the strengths and weaknesses of the two works that have cast the longest shadow over the history of the telegram: Barbara Tuchman's *The Zimmermann Telegram* (London, 1958) and Friedrich Katz's *The Secret War in Mexico: Europe, the United States, and the Mexican Revolution* (Chicago, Ill., 1981). With nearly a century of scholarly literature on the subject, Boghardt refreshingly uncovered new material, including records of the German Foreign Office and the personnel file of one of Zimmermann's key subordinates in the foreign office, Hans Arthur von Kemnitz, the man who produced the first draft of the telegram. Boghardt also mined new discovered documents in the files of the State Department's Bureau of Secret Intelligence. The use of these sources, of course, broadens our understanding of the context in which the telegram was written. While the use of these new sources did result in a major reassessment of the telegram and its impact, Boghardt writes that it also led to "new thinking in several respects" (p. 4). Perhaps most importantly, he concludes that the telegram was not the result of a "carefully crafted German strategy" to strengthen its influence in the Western Hemisphere, nor was it simply stupidity on the part of Zimmermann and the Foreign Office, but instead was the "product of a particular historic situation in wartime Germany" (p. 4).

Boghardt invites us to view *The Zimmermann Telegram* through three lenses. The first is through "geographic balance," by which Boghardt contends that the telegram took shape through the interplay of "German politics, British Intelligence, and American intervention." All of which the author gave equal weight in his book. The second lens is "intelligence," and it is little surprise that the role of intelligence forms a central strand of this work. Finally, and perhaps most significantly, the third lens is the "historical effect and long-term consequences" of the

telegram. Noting that a “systematic study” of the telegram’s consequences is “conspicuously absent” in the historical literature, he likens the Zimmermann telegram to a rock thrown into a pond, the resulting ripples can be traced “through the twentieth-century and beyond in Germany, Britain and the United States” (p. 7).

The book contains a number of important sections. The first provides generous background material of the German Foreign Office, the life of foreign minister Arthur Zimmermann, and efforts by the German government to increase its influence over Japan and Mexico. With his background in intelligence history, Boghardt handles this with ease. After setting the stage, the author provides an in-depth treatment of how the telegram came to be written and how Zimmermann’s personality influenced events. This is followed by a broad section on the role played by William Reginald Hall and the British Naval Intelligence Division (known as Room 40). Exhaustively researched and presented with meticulous detail, Boghardt’s description of the power wielded by Reginald Hall is stirring. The third section of the book deals with the impact of the Zimmermann telegram in the United States and includes sections on the response of the Woodrow Wilson administration, the debate in Congress over the telegram, and the reaction of the American public through a survey of newspapers and political cartoons from different regions. Not surprisingly, Boghardt concludes that the telegram had less of an impact on the administration, Congress, and the American people than other historians have argued. For instance, in his exceptional examination of public opinion reflected through newspapers, those most vocal for war were ready for war long before the issuance of the telegram. In other words, the release of the telegram did not serve as a mechanism to push public opinion toward war. Perhaps a little more surprisingly, Boghardt argues that the Zimmermann telegram played almost no role in congressional deliberations to declare war. In conclusion, Boghardt aptly compares the Zimmermann telegram to the “butterfly effect” concept of Ed-

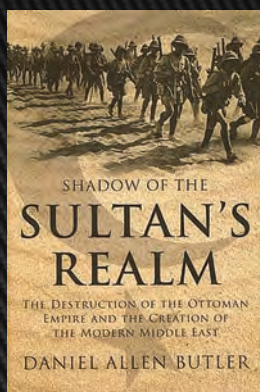
ward Lorenz in which “minor actions might have major consequences” (p. 245). Although the telegram “constituted a minor subplot of the war,” but due to its interception, translation, and publication, it “generated significant turbulence from its place of origin, all the way across the Atlantic, and back again in ways completely unforeseen and unintended.” (p. 245).

Overall, this is an outstanding book. With the centennial of World War I upon us, interest in the Zimmermann telegram will no doubt increase. For those who wish to know the full story, one must only turn to this book for a definitive treatment.

Dr. Gregory W. Ball is a member of the Air Force History and Museums Program and currently serves as the historian for the 24th Air Force. He received his Ph.D. in U.S. history from the University of North Texas and is the author of *They Called Them Soldier Boys: A Texas Infantry Regiment in World War I* (Denton, Tex., 2013).



*Shadow of the Sultan’s Realm:
The Destruction of the Ottoman
Empire and the Creation of the
Modern Middle East*



By Daniel Allen Butler
Potomac Books, 2011
Pp. xiv, 271. \$29.95

Review by Clark Capshaw

Shadow of the Sultan’s Realm is a richly detailed history of the Otto-

man Empire, sketching that history from the founding by Sultan Osman I in 1299, but mainly concentrating on the decline of the empire following its zenith in 1683—a zenith forever marked in time by a cannonball lodged in the wall of St. Stephen’s Cathedral during the Ottoman siege of Vienna. After this epochal moment, the empire began its slow retreat and decline, culminating in its dissolution as one of the consequences of the First World War.

For readers who may be unfamiliar with the history and personalities of the Ottoman Empire, the book’s detailed accounts prior to the twentieth century may be off-putting. The part of the story likely to be most familiar begins to emerge in Chapter 5, “Gallipoli,” where the reader begins to encounter well-known names—Winston Churchill, T. E. Lawrence (Lawrence of Arabia), the Young Turks (the Committee of Union and Progress), the Three Pashas (a dictatorial triumvirate), and Kemal Atatürk—and familiar battles and themes such as Gallipoli, the Dardanelles, the Armenian massacre, and the usage of *fatwa* (religious opinion) and *jihad* (holy war) in a military context.

Both Churchill (then, First Lord of the Admiralty) and Lawrence played roles in the Gallipoli campaign, which began as an attempt by the Allied Powers (principally Great Britain) to use sea power to enter the Sea of Marmara through the Dardanelle Straits and to seize Constantinople. This strategy was intended to force an early Ottoman exit from the war, which it had entered on the side of the Central Powers in 1914. Mistakes, intelligence failures, and blind luck helped the empire repel the British advance in the Sea of Marmara, which then led to an ill-fated amphibious landing of Allied troops on the Gallipoli Peninsula. Though the lessons learned in this amphibious landing would prove to be useful almost thirty years later during D-Day, this dress rehearsal on the Turkish coast was a disaster. Allied troops met fierce resistance on the ground, led by Lt. Col. Mustafa Kemal, later to become famous as Atatürk. After Gallipoli, Allied soldiers began

to take Turkish troops more seriously. Moreover, this campaign and the campaign in Mesopotamia (Iraq) against the Ottomans took away troops and resources from the European Western Front at a time when trench warfare was at its fiercest level.

In an attempt to use religion as a wedge, Ottoman Sultan Mehmed V persuaded Turkish Sheikh Essad Effendi to issue a *fatwa* against the Allies, and called for *jihad* against them in order to defend the interests of the empire. This concerned the Allies, particularly as some of the troops they were using in the Mesopotamia campaign were Indian Muslims. This tactic was ultimately exposed as the cynical political maneuver that it was, and the *fatwa* was even nullified by a British ally, Sheikh Hussein ibn Ali, the emir of Mecca, who said that “the Holy War [proposed by Sultan Mehmed V] is doctrinally incompatible with an aggressive war, and absurd with a Christian ally, namely Germany” (p. 136).

Chapter 7, titled “Armenian Agony,” is likely to be controversial as the author addresses the Turkish massacre of Armenians. Butler describes the slaughter and the events that led up to it in detail, noting how it began with the Tehcir Law of 1915, authorizing deportations of persons deemed to be a threat to national security. Tension and conflict had occurred in the past between Turks and Armenians, but this law represented the nadir of those tensions. Butler writes:

Beginning in early June 1915, hundreds of thousands of Armenians were turned out of their homes at gun and bayonet point. For months to come, on roads across the length of Anatolia could be seen processions . . . of individuals, men, women, and children, their only belongings what they could carry on their backs, with literally nowhere to go. Tens of thousands would die of starvation and exposure; other tens of thousands would succumb to disease. . . . More sinister, off in distant fields or gullies would be found rows of corpses, Armenians of both genders and all ages shot out of hand by Turkish soldiers. A sort of frenzy overtook the Otto-

man Army units assigned to the task of removing the Armenians from their homes, and scenes of wholesale rape and slaughter were common as Turkish troops moved through Armenian villages and towns (p. 154).

That such atrocities were horrific, the author does not dispute. He chronicles the facts of the massacre in detail. What he does dispute is the use of the word *genocide* to describe it (that is, to denote a planned massacre, on the scope of Hitler’s *final solution*, as opposed to an unjust deportation of masses of Armenians that then devolved into the death of hundreds of thousands). He also takes the Armenian community to task for turning the idea of *Armenian genocide* into an article of faith—“They are too shrill, too strident, too adamant in their refusal to answer rational queries or respond to objections with reason and evidence. . . . Anyone questioning their evidence or their conclusions is immediately accused of having a ‘pro-Turkish’ bias or being ‘anti-Armenian’” (p. 157).

Chapter 8 tells the story of T. E. Lawrence, “Lawrence of Arabia,” along with the story of the Sykes-Picot Agreement and the Balfour Declaration, diplomatic instruments that were to be so central in the history of the modern Middle East. Of Lawrence’s leadership of the Arab raiders, the author notes that the capture of Aqaba by those very raiders in July 1917 signaled the end of the Ottoman Empire. “With the fall of the Red Sea port, the war in the Middle East was entering its endgame. . . . For the Turks, the long death watch was coming to a close: the Ottoman Empire was going to die at last” (p. 182).

Following the fall of the Ottoman Empire, the region of Anatolia emerged as modern Turkey, under the leadership of Mustafa Kemal Atatürk. He had made his name at Gallipoli, and he made himself the undisputed leader of the Turks by resisting the Allied partition of Anatolia after the war and by leading the fight in the Greco-Turkish war of 1919–1922. The book gives just enough detail on the emergence of modern Turkey to leave us curious for more, without departing

from the author’s main intention to trace the decline and fall of the Ottoman Empire, and not to focus on what has come after.

With the book’s conclusion, the author leaves us to ponder the possible consequences of a different decision by the Ottoman Empire to enter the Great War. He shows how so much of the modern Middle East was shaped by this decision in 1914, and that events may have turned out very differently in the twentieth century had this not been the case.

Dr. Clark Capshaw is an operations research analyst at the U.S. Navy Military Sealift Command in Washington, D.C.



World War I: The American Soldier Experience



By Jennifer D. Keene
University of Nebraska Press, 2011
Pp. xvi, 217. \$19.95

Review by Larry A. Grant

World War I has been largely overshadowed in the American collective memory by World War II. Given the relative magnitude of American involvement and the shift from junior to senior partner status in the latter war, this is not surprising, but it is unfortunate.

Jennifer D. Keene is the respected author of two previous books on

World War I, *Doughboys, the Great War, and the Remaking of America* (Baltimore, Md., 2001) and *The United States and the First World War* (New York, 2000). Now she attempts to introduce a broader group of Americans to the Great War, writing, "More than a compilation of facts and figures, this book transports students and general readers of history to the trenches to feel the terror of constant bombardment and smell the rotting corpses on No Man's Land" (p. vii). An ambitious goal, only partially realized.

The first chapter provides an overview for the entire war period, from the assassination of Archduke Franz Ferdinand and his wife to the failure of the U.S. Senate to ratify the Versailles Treaty. The remaining text presents a topical exploration of the individual American soldier's experience, beginning with "Drafting and Training the Army" and ending with "Coming Home." The 2011 paperback edition includes a timeline, a glossary, a bibliography with a list of Web sites, and an index.

The bibliography is arranged topically and focuses on social, cultural, political, gender, and ethnic sources. General histories of the American Expeditionary Forces (AEF) are listed, but there are no specialized sources on strategy, tactics, or operations. As is often the case, lists of Web site links do not age well. Most links listed functioned when this review was written.

The introductory comment to the short glossary suggests the terms were coined in the war years, but many—*blockade*, *conscription*, *destroyer*, and *shrapnel*, for example—had been in use long before World War I. The index also could be more complete. For example, the YMCA entry, an important service organization, misses many pages in the text that mention the topic.

Examination of a single page, 45, illustrates the benefits, frustrations, errors, and loose ends of the book. This page opens with a cliché, "Recruits were quickly learning . . . that standing in line was a major part of military life," and continues with a description of the uniform, though Keene's use of *gaiters* and *leggings* leaves the reader

uncertain whether she is familiar with the term *puttee*.

Meals are described with an unlikely level of precision. The ration "provided a whopping 4,761 calories a day" during basic training. American recruits were well fed, but this very exact figure cannot be serious. Religious complications at mealtimes are also noted with the tautological comment that, while Catholics might receive dispensation to eat meat on Friday, "observant Jews could still not touch pork any day of the week" (p. 45).

The page briefly mentions the various tests conducted in the first weeks of training before offering the usual tall tale of recruits facing their first test of courage in the inoculations line. Keene ends the section with an indictment, "Besides inoculating soldiers with proven serums, the army also experimented during the war with other vaccines; essentially using soldiers as guinea pigs to assess their effectiveness" (p. 45). Few historians are surprised to hear about such government experimentation, but this attention-grabbing sentence is unsupported by a citation or other detail.

The page ends with a paragraph on War Risk Insurance that also presents some confusing numbers. "The government promised to aid disabled veterans or families of deceased soldiers, but allotments topped out at \$200 a month" (p. 45). A \$200 a month allotment seems improbable, since soldiers' allotments and government subsidies topped out at only \$80 even for families of more than six children. Again, there is no citation.

Despite having written extensively on the First World War, Keene sometimes shows surprising gaps in her familiarity with the details of military history and with some of the scholarship. For example, Keene criticizes the "early AEF decision to arm their units with heavy French 75mm and 155mm guns that improved their firepower, instead of light howitzers that were easier to maneuver in battle" (p. 21).

Most artillerymen consider the French 75-mm. field gun a light artillery piece, and it was chosen by American field artillery units for the very good reason that the United States

was not ready then (or able before the end of the war) to manufacture an American gun. Also, there may be some confusion about the differences between field guns and howitzers and the reasons for selecting one over the other. A book for general readers is no place for a detailed discussion of such points, but accurate descriptions are important.

This same unfamiliarity also surfaces in the short section dealing with the naval role in delivering troops to France, confusing hydrophones with sonar. A few other nautical misses include saying that U-boats had trouble hitting destroyers because they "tended to pass over the average path of the torpedo" (p. 125). Also, suggesting that "difficult conditions [in the stormy North Atlantic] kept crews alert" (p. 125), an interesting misconception as anyone who has endured those conditions can confirm; or stating that U-boats used "machine guns" to sink merchants to save torpedoes when deck gun is the correct term (p. 126).

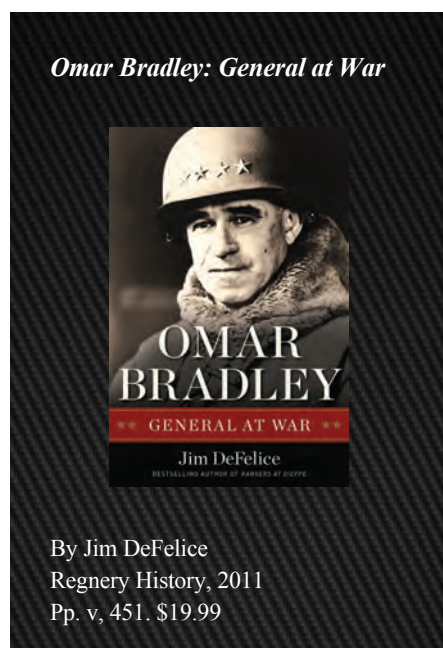
In terms of other scholarship, Keene mentions "the purported benefits of close order drill" (p. 51) in a way that seems to betray a lack of familiarity with a study like William H. McNeill's *Keeping Together in Time: Dance and Drill in Human History* (Cambridge, Mass., 1995). McNeill shows that drill endowed groups with a capacity for cooperation, a characteristic crucial to military performance. Keene also claims "Noncombatants formed sixty percent of the overall wartime force" (p. 150), but John J. McGrath's study, *The Other End of the Spear: The Tooth-to-Tail Ratio (T3R) in Modern Military Operations* (Fort Leavenworth, Kans., 2007), lists AEF forces as 53 percent combat, 39 percent logistics, and 8 percent headquarters and administration.

A few minor copy errors also show up—ships sailing in convoy "with" lights (p. 125) when "without" is obviously correct; "a terrific bolt" for "jolt" (p. 127); "[s]cores of barbed wire" for a noun more likely to refer to dense fields of wire (p. 140); and "became vomiting" for "began vomiting" (p. 143).

Serious students may be frustrated occasionally by the book, and there is

a possibility that the novice looking for a quick introduction to some aspect of the life of the doughboy might be misled by the errors and loose ends that crop up. Still, for the intended audience, *World War I: The American Soldier Experience* is an interesting, if somewhat “encyclopedia-like,” introduction to the lives and experiences of those caught up in the war.

Larry A. Grant is a retired Navy officer and is the editor of *Caissons Go Rolling Along: A Memoir of America in Post-World War I Germany* (Columbia, S.C., 2010) by Maj. Gen. Johnson Hagood.



Review by Jon B. Mikolashek

Jim DeFelice, the author of numerous books, attempts in *Omar Bradley: General at War*, to write the first in-depth biography of General of the Army Omar N. Bradley. While DeFelice fails to write the definitive study on Bradley, the author does offer the reader a quick and easy read about the life of one of the most important military officers in U.S. history.

While DeFelice offers the first biography on Bradley, his research relies on secondary sources and offers a broad overview of his career, rather than a detailed and nuanced look. This is quite a shame, as DeFelice is correct, when he writes that historians and the American public have forgotten about Bradley, while the careers and lives of General George S. Patton and former President Dwight D. Eisenhower have led to multiple studies (p. 3). Omar Bradley was a member of what historian Martin Blumenson calls “the essential quartet of American leaders who achieved victory in Europe.”¹ While this book may be the first Bradley biography, it offers nothing new on Bradley, the commander, or the man. The author tries to argue that Bradley is more than just a “GI general,” but concludes that he was “an undramatic figure” and was “a modest, ‘regular’ guy” (p. 356). This “plainness” partially explains the lack of studies on Bradley. He was extremely vital to the war effort, but he never became a president, and never had a movie made about his life.

The book spends little time on Bradley’s upbringing and concentrates almost solely on Bradley’s World War II career. Once the war begins, DeFelice does attempt at balancing the reputation of Bradley. To the general public, Bradley, along with Mark W. Clark, are the two forgotten generals of the war. Both were successful Army and Army Group commanders, but little work has been done on either figure compared to Eisenhower and Patton. What work there is on Bradley, often portrays him as unimaginative, dull, and prodding. While Bradley was not nearly as aggressive or colorful as Patton, he was an exceptional and professional officer, who contributed greatly to American and Allied success in Western Europe. DeFelice, like most biographers, gives Bradley the benefit of the doubt, but his work is not hero worship like Paula Broadwell’s recent biography on General David Petraeus, and is not a scathing indictment like Stanley Hirshson’s 2003 study on Patton.

The book reaches a high point following the Allied landings at Normandy. DeFelice, like most World War II biographers, still spends too much time comparing and contrasting Bradley to Patton. Bradley and Patton had a unique and complicated relationship, but at times this discussion overwhelms the study, and it often reads like a book on Bradley and Patton’s relationship. This becomes obvious when DeFelice discusses the decision to promote Bradley to Army command. Patton was the logical choice to lead American forces into France, but the famous slapping incidents left Patton in limbo and nearly destroyed his career. DeFelice attempts to throw Mark W. Clark into the discussion, but Clark was already in command of the United States Fifth Army, so Bradley was not only the logical choice, but the only choice. The relationship issue with Patton detracts from Bradley’s story. While Patton played an important part in Bradley’s professional career, their relationship receives too much attention.

The life and military career of Omar Bradley is certainly deserving of multiple studies. Jim DeFelice’s does an admirable job telling the story of his World War II career. For those looking for the definitive biography on Bradley, or on his years following World War II, this is not it. The book is still a great read, as the author is an exceptionally entertaining writer. *Omar Bradley: General at War* will appeal to history “buffs,” but professional historians will be left wanting. While DeFelice attempts to analyze certain events in Bradley’s career, he generally glances over details, specifically the Battle of the Falaise Pocket and the Battle of the Bulge. Because he relies so heavily on secondary sources and Bradley’s two autobiographies, the author does not discover anything new to Bradley’s career or offer a unique evaluation. Instead, DeFelice continues the narrative that Bradley was a successful, yet boring officer. There is more to Bradley, and hopefully this book will lead to a more in-depth and thorough study in the future.

NOTE

1. Martin Blumenson, *Mark Clark* (London: Jonathan Cape, 1984), p. 1.

Dr. Jon B. Mikolashek is the author of several articles on World War II and the Global War on Terrorism. He is also the author of *General Mark Clark: Commander of U.S. Fifth Army and Liberator of Rome* (Havertown, Pa., 2013). He is an assistant professor of history at the U.S. Army Command and General Staff College.



Pacific Blitzkrieg: World War II in the Central Pacific



By Sharon Tosi Lacey
University of North Texas Press, 2013
Pp. xviii, 282. \$27.95

Review by James D. Perry

In *Pacific Blitzkrieg: World War II in the Central Pacific*, author Sharon Tosi Lacey examines ground combat during five amphibious operations of the Pacific War—Guadalcanal, the Gilberts, the Marshalls, Saipan, and Okinawa. Lacey shows how the U.S. Army and Marine Corps “melded themselves into a single joint strike force, capable of synergistically supporting each other” (p. xv). She demonstrates that despite the famous “Smith versus Smith” controversy, the Army and Marine relationship was generally harmonious and ef-

fective. The operations themselves are described rather tersely, which may make the book less useful to the general reader. However, the author analyzes each operation using a similar approach in order to show how the “lessons learned” process produced new doctrine and technology over the course of the war. Readers familiar with these battles should find her analysis interesting and convincing.

Lacey’s discussion of the development of Army and Marine amphibious doctrine and technology before the war is rather sketchy. She should have examined prewar evolution of that doctrine and equipment in more detail, especially because she claims that the operations on Guadalcanal and the Gilberts “verified the basic soundness of U.S. amphibious doctrine and equipment” (p. 91). Instead, the narrative jumps directly from the introduction into the conduct of operations on Guadalcanal.

For each operation, the author describes the strategic setting, the operational planning, and the precombat training. She then outlines the recent history of the Army and Marine divisions assigned to the operation. After describing enemy preparations for the battle, she discusses the landing operations and the subsequent combat. The meat of each chapter is the analysis of the planning, the intelligence preparations, the training, the casualties, the leadership, and the lessons learned. One metric used to compare Army and Marine effectiveness is casualties suffered and casualties inflicted on the enemy. A contentious issue during the Pacific War was whether slower and more deliberate Army tactics produced fewer casualties than Marine tactics, which emphasized rapid, direct assault into the teeth of the enemy defenses. Some Marine generals, most notably Holland Smith, criticized Army units for allegedly advancing too slowly and regarded low Army casualties as evidence of cowardice. The author finds that Army and Marine casualty rates were virtually identical on Saipan, and thus, “if Holland Smith wanted to measure fighting spirit and capability by casualties, then the army was equal to the marines” (p. 156).

The author chose to examine five Central Pacific operations in which Army and Marine units fought side by side. However, there are a few obvious gaps in her analysis. Guadalcanal was not a Central Pacific operation, but was included because it greatly influenced future operations. However, the author should also have analyzed the campaigns on Bougainville and New Britain, where Army and Marine divisions fought together for extended periods. Her discussion of Operation FORAGER focused almost entirely on the invasion of Saipan. For the sake of completeness, she should also have analyzed operations on Guam and Tinian. Guam is of particular significance to her thesis because Army and Marine divisions fought together under Marine command without any of the rancor experienced on Saipan. She omits analysis of Peleliu, perhaps because this was not a Central Pacific operation, although the operation certainly required Army-Marine cooperation. Nor did she examine Iwo Jima, doubtless because no Army units participated. One of her major themes is that amphibious doctrine and technology evolved from operation to operation. Therefore, she should have examined Peleliu and Iwo Jima in order to show how previous operations affected these operations, and to show how these operations affected the invasion of Okinawa. Happily, the basic arguments of the book remain sound even without detailed analysis of Bougainville, Guam, Tinian, Peleliu, and Iwo Jima.

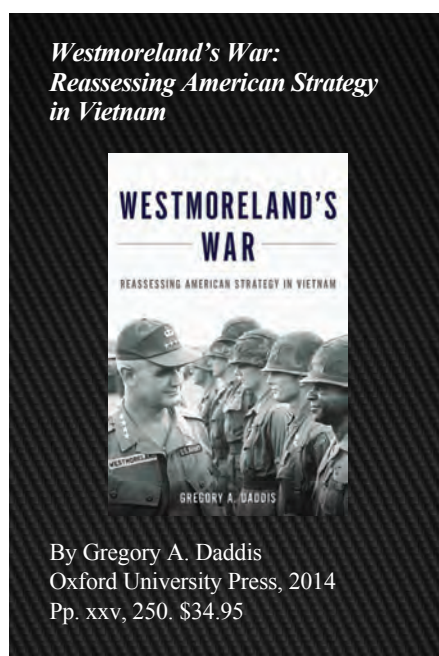
The author notes that wartime adaptation resulted from a “rigorous program for the organized collection of post-engagement lessons learned” (p. 210). Unfortunately, nowhere in the book is the nature of that program described. The Army and Marines obviously recognized at an early stage the necessity of a formal process to collect and promulgate lessons learned. Moreover, two different organizations had to institute this formal process in two different theaters under the command of different services. Did the Southwest Pacific and Central Pacific drives learn from each other? The book does not address this point.

Finally, the process of adaptation involved more than just indoctrinating troops—it successfully called upon the industrial base to create large quantities of new equipment very quickly. The author does not explain how this worked. Given the importance of the formal lessons learned process to the author’s basic thesis, she should have explained the creation and functioning of this process.

In her conclusion, the author observes that the dominant narrative of the Pacific War is that the Army and the Marines were constantly at odds, yet this did not reflect the reality of the high level of effective cooperation between the Army and Marines. The “Smith versus Smith” controversy was greatly overblown with media stories and Holland Smith’s self-serving memoir contributing to postwar Army-Marine antipathy that poisoned relations until after Vietnam. Fortunately, the “ghost of Holland Smith” receded over time, and relations between the two services greatly improved after the Goldwater-Nichols Act of 1986.

Much of the above review has discussed what additional topics the author should have covered in order to improve her work. These omissions aside, the book has definite positive value. Her five case studies are thoroughly and persuasively analyzed, and the work is well supported with primary and secondary sources. Although she is an Army officer, her viewpoint on Army-Marine disagreements and the relative accomplishments of the two services is quite objective. The book is also well-written and easy to read. I highly recommend this book to anyone interested in joint operations, amphibious warfare, or the history of the Pacific War.

Dr. James D. Perry received a Ph.D. in history from George Washington University. He is a senior analyst with a major aerospace corporation that specializes in airpower and unmanned systems.



Review by Andrew J. Birtle

Fifty years after the deployment of the first U.S. combat troops to Vietnam, Americans still have much to learn about the Vietnam War. Half-truths and misunderstandings clutter the historical literature, making it difficult to obtain an accurate picture of this controversial event. For if successful wars breed heroes, defeats lead societies to look for scapegoats. No one has suffered more from the societal witch hunt than General William C. Westmoreland, the commander of U.S. military forces in Vietnam from 1964 to 1968.

One of the more egregious myths about Westmoreland is that he was a dolt who single-handedly lost the war by leading an equally unimaginative U.S. Army to employ a “strategy of attrition” based solely on killing. This contemptuous image of Westmoreland and his methods first arose in the 1960s and has remained a prevalent feature of both scholarship and popular culture ever since. But in the words of Bob Dylan’s famous protest song of the 1960s, “the times they are a-changin.” One of the leaders of this change is West Point history professor and Army lieutenant colonel, Gregory A. Daddis, whose book, *Westmoreland’s War: Reassessing American Strategy in Vietnam*, both rehabilitates Westmoreland’s image and plants a stake in the heart of the distorted specter of him

that has long haunted Vietnam War historiography.

After opening the book with a useful discussion about the nature of strategy, the author reviews the evidence of Westmoreland’s alleged incompetence in thematically oriented chapters on U.S. military strategy, operations and tactics, pacification, and assistance to the armed forces of South Vietnam. Backed by copious endnotes, Daddis demonstrates that contrary to legend Westmoreland developed an intelligent and comprehensive military strategy that was consistent with U.S. national policy and President Lyndon B. Johnson’s larger political agenda. Destroying the enemy, while an important part of this strategy, was but one means to the ultimate end of building a viable nation in Vietnam. Contrary to the stereotype that he was blind to any deviation from conventional soldiering, Westmoreland understood contemporary theories of counterinsurgency and nation building and tried to apply them within the sphere of his responsibility. Many of his subordinates understood counterinsurgency doctrine too, and they never ceased learning and adapting as they waged what Westmoreland had always understood would be a long and exceedingly complex politico-military conflict. Too often scholars and pundits have ignored these facts, writes Daddis, producing “wildly simplistic” histories that “reduce the American experience to the point of distortion” (pp. xx, 171). Thanks in part to this lucidly written book, this twisted interpretation is finally giving way to a fuller and more objective understanding of General Westmoreland and his strategy.

If Daddis is more complimentary of Westmoreland than many previous authors, he does not give the general a free pass. He criticizes Westmoreland’s tolerance of heavy firepower and large-scale population dislocation as working against broader political objectives. Most serious of all in the author’s estimation, Westmoreland failed as a strategic communicator, and this shortcoming contributed to the backlash against the war that occurred in the wake of the Communist Tet offensive in 1968—a backlash that

doomed the possibility of achieving a successful conclusion to the war. But by and large, Daddis exhibits satisfaction with U.S. military strategy. The fatal flaws in the allied war effort lay in matters beyond the general's control—the president's refusal to take effective action against enemy infiltration routes in Laos and Cambodia, and “the inability of Saigon's leaders to fashion a political community” (p. 144). The most fundamental error of all, however, was one that was deeply embedded in U.S. national policy, grand strategy, and doctrine—namely, the widely shared belief that “military power, broadly defined, could achieve political objectives in post-colonial states during the Cold War era” (p. 14). In Vietnam, at least, this proved not to be the case.

Contrary to some authors who condemn Westmoreland for ignoring one of counterinsurgency theory's cardinal tenets—population security—Daddis argues that Westmoreland appreciated its significance and worked with his South Vietnamese partners to try and achieve it. The problem was not that Westmoreland ignored population security, which was difficult to achieve and maintain under Vietnam's conditions, but that achieving it did not necessarily obtain the presumed result of a more stable nation. An inadequate Vietnamese government, weaknesses inherent in South Vietnamese society, and the ever-present influence of large enemy conventional forces externally based and supported doomed the “fal-

lacious” assumption that population security would automatically lead to political stability and a successful resolution of the conflict (p. 61). Equally false was the assumption that an external power like the United States could wield political, social, and economic programs to transform an independent, culturally alien, and troubled society that was in the midst of a serious internal conflict. “This of course,” writes Daddis, “presents an uncomfortable truth, especially for those who served, and who continue to serve, in uniform. Talented American generals can develop and implement a comprehensive politico-military strategy and still lose a war” (p. 14).

History is important, not just for its own sake, but because conceptions of the past—be they accurate or not—often shape the decisions of later generations. This certainly has been true of Vietnam, as people have dredged up the alleged “lessons” of the war every time America has contemplated using force since 1975. One school of thought has argued that the United States would have won the Vietnam War had Westmoreland and his forces followed “good” counterinsurgency practices—practices that this school of thought believed would also bring success if followed in future wars. By demonstrating that the Army did try (not always successfully) to apply counterinsurgency doctrine and that this doctrine was insufficient to produce

victory, *Westmoreland's War* directly challenges the unrealistic faith that some people have placed in counterinsurgency and nation building. Since there is not much difference between counterinsurgency theory of the 1960s and that of today, such a conclusion has stark ramifications for the viability of traditional American conceptions of counterinsurgency. Had they understood that counterinsurgency was indeed applied in Vietnam and that it had failed, some American soldiers, doctrine writers, pundits, and policy-makers might have approached the tasks of quelling resistance and of building viable socioeconomic and political institutions in Iraq and Afghanistan with a lot more humility.

The Chief of Staff of the Army recognized the importance of this book by placing it on his 2014 professional reading list.

Dr. Andrew J. Birtle is the chief of the Military Operations Branch at the U.S. Army Center of Military History where he oversees the preparation of the Army's official history of the Vietnam War. He is currently writing a book about U.S. Army activities in Vietnam between 1961 and 1965.



THE CHIEF HISTORIAN'S FOOTNOTE

DR. RICHARD W. STEWART



THE ARMY HISTORY PROGRAM

The Army History Program, like love, is “a many splendored thing.” It has many parts and performs many functions throughout the Army. In fact, it is so fragmented that few people, uniformed or civilian, really understand all of the components and how they interrelate. Part of the problem with understanding the entire program is that it operates in a highly decentralized manner. Each Army Command (ACOM), Army Service Component Command (ASCC), and Direct Reporting Unit (DRU) completely controls its own history program. History and museums are so decentralized that many observers even take issue with the very concept of there being *one* Army History Program. This belief is somewhat supported by the fact that each historical office or museum follows its own path with many areas of overlap with the efforts of other programs. However, many aspects unify all of our historical efforts and those elements of unity, in my opinion, justify the concept of one program, regardless of the decentralized management of it. Here are just a few of the major areas in which all of us—history, museums, and even archives—share in being part of one Army History Program.

Mission: The mission of the Army History Program is essentially the same for all of its constituent members. We are all responsible for collecting, preserving, interpreting, and expressing the Army’s history and displaying its material culture. We are all obliged to use our skills to serve the Army by being the custodians of its past. No other element of the Army has that mission. Other parts of the Army may concentrate on presenting aspects of the Army’s story (the Army Public Affairs community), or writing doctrine (Training and Doctrine Command [TRADOC]), or sustaining the Army’s current materiel (Army Materiel Command), but only the members of the Army History Program focus on preserving and interpreting the past to ensure that the Army of today is thoughtfully looking backward to its own past for guidance, inspiration, and wisdom. We are the guardians of the Army’s past. Our mission is, and should be, the unifying principle of the Army History Program.

Policy: The Army History Program must also be considered to be one program because of the regulations and policies that establish and sustain it. Army Regulations (AR) 870–5, *Military History: Responsibilities, Policies, and Procedures*, and 870–20, *Army Museums, Historical Artifacts, and Art*, are the key documents that forge the responsibilities and interrelationships between all aspects of historical and museum entities in the Army. While subordinate commands create their own implementing historical and museum regulations, they cannot violate the Army’s regulations but merely interpret how they are to be accomplished. One does not have to establish strict lines of command and control to provide the necessary unifying guidance and standards.

Membership: The Army History Program is a term that encompasses all of the historical work undertaken by historians, museum professionals, and supporting administrative personnel at the Center of Military History and throughout the Army. It includes, as a minimum: historical professionals within the Army School System (belonging mostly to TRADOC and including civil servants and Title X civilian historians); those acting as command historians throughout the service; museum curators and material culture specialists at both active and reserve component institutions; and even the uniformed and civilian historians serving in commands and units throughout the world. Though few of these individuals report to the Director of CMH, they are all members of one historical program pursuing similar goals. That program also incorporates the talents of many editors, archivists, visual information specialists, program analysts, and artists who support the various historical elements. All are focused on the same mission of preserving and interpreting the Army’s past and all are important members of the Army History Program.

Standards: The entire community is united by holding to the highest professional standards of the historical, archival, editorial, and museum professions. These norms transcend regulations or chains of command because they are set by the various professional historical and museum organiza-

tions in the United States and the world. Essential concepts such as objectivity, balance, use of original work, rigorous documentation of sources, care in conservation, etc., are followed by all members of the Army History Program. All are expected to adhere to the highest standards of their respective professions. When you have a community of professionals who agree, in principle, on the key elements of their professions and the criteria by which their performance is judged, you have one Army program.

Professional Development: With the recent unveiling of Career Program 61 (the topic of many past columns), the Army History Program now has one document (the ACT-EDS—Army Civilian Training, Education, and Development System—plan) that lays out the career maps, professional and educational goals and standards, intern plans, and professional development processes. It is thus a unified system for finding, applying for, and obtaining funding to pursue professional development opportunities. All historians, archivists, and museum professionals in the Army are or should be in this new Career Program, and this unites the community as never before.

Products: Through research, writing, and displaying of artifacts, all members of the Army History Program create a wide variety of historical products. These include not only traditional publications—books and monographs—but also small yet timely staff studies, pamphlets, and information papers of all manner; maps, posters, brochures, and other smaller historical studies; lineage certificates; and other print and electronic products. The primary purpose of such work is to increase the effectiveness of today's Army. The Army History Program creates products that provide a firm foundation for Army doctrine. Those products also provide historical perspective to current decision-makers, enhance unit morale and traditions, and in a more general sense give soldiers an appreciation of how the past shapes our responses to the future.

Our museum and archival products are no less influential. Archivists have a vital interest in preserving key documents and images, now increasingly those of an electronic nature that would not be otherwise saved. Preservation of the material culture and its display are the primary missions of

the Army's museum system, and these involve a broad collection effort that often takes curators to remote battlefield locations in search of unique and evocative artifacts of Army life and operations. The museum professional must have a deep technical expertise to preserve and account for such material for generations of soldiers to come.

Another product of the Army History Program is more ephemeral but no less important: the transmission of knowledge through teaching in the classroom and in the museums. This vital task encompasses classroom and staff ride instruction in the Army's officer and noncommissioned officer educational systems, with history-related courses offered at the branch schools, the Command and General Staff College, and the Army War College to soldiers, noncommissioned officers, officers, and Army civilians. This teaching mission spills over to telling the Army story to the American people who need now more than ever to understand that today's Army is part of a continuum of over 239 years of service to the nation.

In short, the Army History Program has more that unites it than divides it. We are all driven by the same sense of purpose and mission, holding the same standards, guided by the same policies, and working together to create similar and complementary products that serve the Army. Since we are all part of the same community, it behooves us, especially in the trying times ahead as the Army draws down its force structure, to spend some time remembering this. We need to remind each other and our commands of the importance of our community of guardians of the past and not turn on each other for a temporary gain for a corner of the program to the detriment of the program as a whole. We *must* be "one team, one fight." As Benjamin Franklin is attributed to have said in 1776 to his fellow revolutionaries in the Continental Congress, "We must, indeed, all hang together or, most assuredly, we shall all hang separately." Let's hang together in these trying times, united by our love of the past and our love of the Army.

As always, I can be reached at Richard.Stewart2@us.army.mil.



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