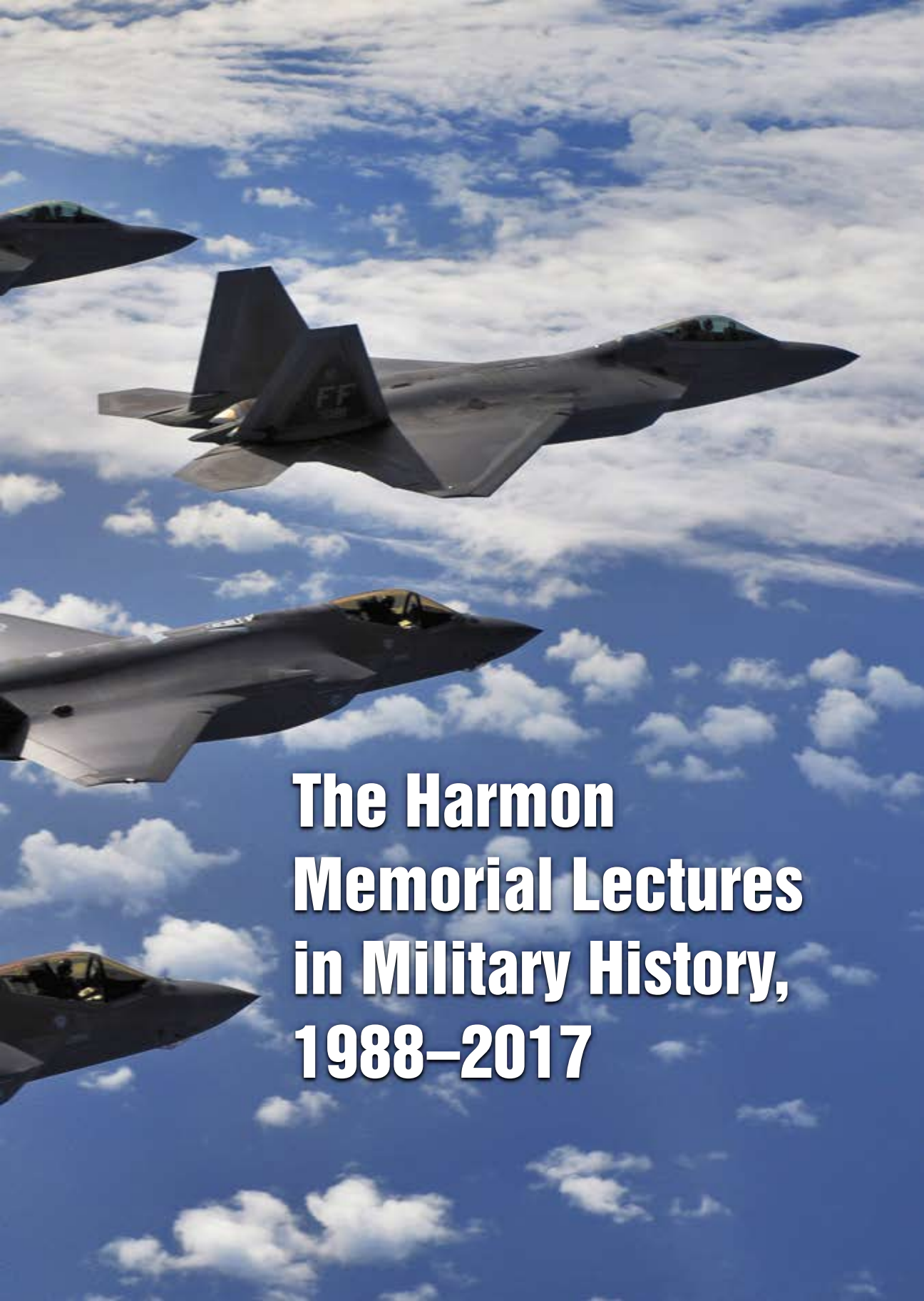

The Harmon Memorial Lectures in Military History, 1988–2017

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A Collection of the Second Thirty (31–60) Harmon Lectures Given at the United States Air Force Academy

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Again, Dedicated
To Those Who Study War
To Assure Freedom and Liberty

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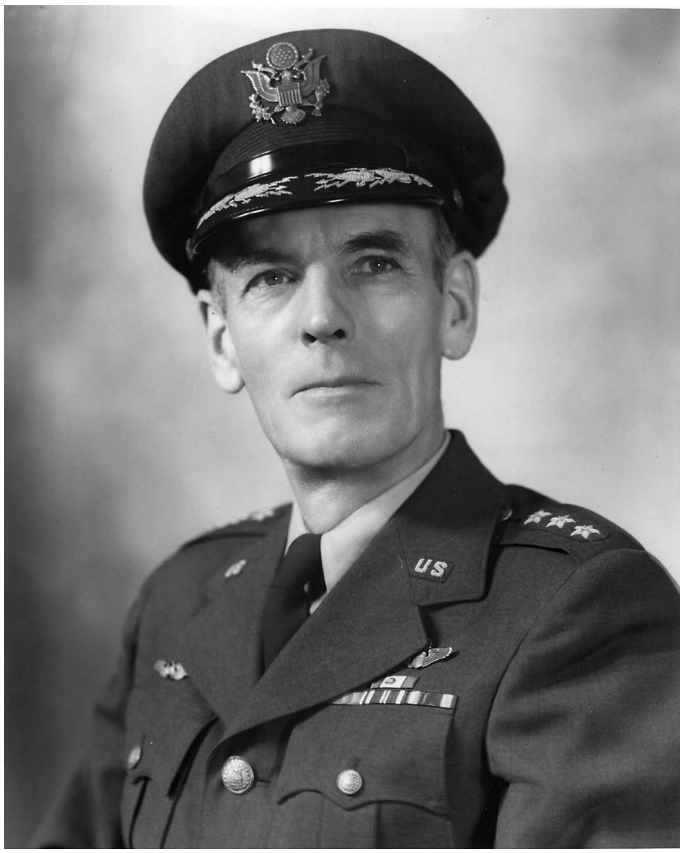
Foreword

The Harmon Memorial Lecture is the oldest and longest-running lecture series at the United States Air Force Academy, occurring continuously on an annual basis since the spring of 1959—before this institution had even graduated its first class. It is a fitting tribute to the man many consider to be the "father" of the Air Force Academy, its first superintendent, Lt Gen Hubert R. Harmon. General Harmon understood that the serious study of military history was an essential element of the military profession, and he was a strong supporter of the two main goals of the series: stimulating "cadets to develop a lifelong interest in the history of the military profession" and promoting the development and dissemination of military history for the benefit of all American citizens.

Each year, the Academy's Department of History selects a leading military historian to present the Harmon Memorial Lecture to all cadets enrolled in the military history courses offered that term. For many years, these lectures were printed and disseminated individually across the Academy, the Air Force, and throughout academia. In 1988, Lt Col Harry Borowski, then a faculty member in the Department of History, edited a volume containing the first 30 years of Harmon Lectures. This volume picks up where Lieutenant Colonel Borowski left off, presenting the next 30 years of Harmon Lectures for the benefit of cadets, faculty and staff, the Air Force, scholars throughout academia, and all persons interested in military history throughout the world. Each of these volumes includes the work and wisdom of the finest military historians of their eras; the contributors represent a veritable Hall of Fame of military historians from 1959 to 2017.

General Harmon understood that military history served a special purpose for those in the American military profession—encouraging a warrior ethos, developing a deeper understanding of the profession of arms, and providing the context so absolutely essential for those entrusted with the security of the American Republic. I'm confident that readers from a wide variety of backgrounds will agree that this volume fully supports its intended purpose.

JAY SILVERIA
Lieutenant General, USAF
Superintendent, USAF Academy



Lieutenant General Hubert R. Harmon

Lieutenant General Hubert R. Harmon

Lt Gen Hubert R. Harmon was one of several distinguished Army officers to come from the Harmon family. His father graduated from the United States Military Academy in 1880 and later served as Commandant of Cadets at the Pennsylvania Military Academy. Two older brothers, Kenneth and Millard, were members of the West Point classes of 1910 and 1912, respectively. The former served as chief of the San Francisco Ordnance District during World War II; the latter reached flag rank and was lost over the Pacific during World War II while serving as commander of the Pacific Area Army Air Forces. Hubert Harmon, born on 3 April 1882, in Chester, Pennsylvania, followed in their footsteps and graduated from the United States Military Academy in 1915. Dwight D. Eisenhower also graduated in this class, and nearly 40 years later the two worked together to create the new United States Air Force Academy.

Harmon left West Point with a commission in the Coast Artillery Corps, but he was able to enter the new Army air branch the next year. He won his pilot's wings in 1917 at the Army flying school in San Diego. After several training assignments, he went to France in September 1918 as a pursuit pilot. Between World Wars I and II, Harmon, who was a major during most of this time, was among that small group of Army air officers who urged Americans to develop a modern, strong air arm.

At the outbreak of World War II, Brig Gen Hubert Harmon was commanding the Gulf Coast Training Center at Randolph Field, Texas. In late 1942 he became a major general and head of the 6th Air Force in the Caribbean. The following year General Harmon was appointed Deputy Commander for Air in the South Pacific under Gen. Douglas MacArthur, and in January 1944 he assumed command of the 13th Air Force fighting in that theater. After the war General Harmon held a series of top positions with the Air Force and was promoted to lieutenant general in 1948.

In December 1949 the Air Force established the Office of Special Assistant for Air Force Academy Matters and appointed General Harmon its head. For more than four years Harmon directed all efforts at securing legislative approval for a US. Air Force Academy, planned for its building and operation, and served on two commissions that finally selected Colorado Springs, Colorado, as the site for the new institution. On 14 August 1954, he was appointed first Superintendent of the Air Force Academy.

Upon General Harmon's retirement on 31 July 1956, the Secretary of the Air Force presented him with his third Distinguished Service Medal for work in planning and launching the new service academy and setting its high standards. In a moving, informal talk to the cadets before leaving the Academy, General Harmon told the young airmen that the most important requirement for success in their

military careers was integrity. Next to that, he placed loyalty to subordinates as well as superiors. "Take your duties seriously, but not yourself," he told the cadets.

General Harmon passed away on 22 February 1957, just months before his son Kendrick graduated from West Point. The general's ashes were interred at the Air Force Academy cemetery on 28 September 1958. In his memory, the Academy's new administration building was named Harmon Hall at its dedication on 31 May 1959.

Preface to the First Volume

Before acknowledging the many individuals who have made this volume possible, it is appropriate to present a brief history of the Harmon Memorial Lectures in Military History, the oldest lecture series at the Air Force Academy. The lectures originated with Lt Gen Hubert R. Harmon, long a student of history and the Academy's first superintendent (1954–56). Harmon strongly believed that history should play a vital role in the new Air Force Academy curriculum. Meeting with the Department of History on one occasion, he described Gen George S. Patton Jr.'s visit to the West Point Library before departing for the North African campaign. In a flurry of activity Patton and the librarians combed the West Point holdings for historical works that might be useful to him in the coming months. Impressed by Patton's regard for history and personally convinced of its great value, General Harmon believed cadets should study the subject during each of their four years at the Academy.

Harmon fell ill with cancer soon after launching the Air Force Academy at Lowry Air Force Base, Denver, Colorado, in 1954, and he passed away in February 1957. He had completed a monumental task over the preceding decade as the chief planner for the new service academy and as its first superintendent. Because of his leadership and the developing Cold War, Congress strongly supported the development of a first-rate school and gave generous appropriations to build and staff the institution. The Academy's leadership felt greatly indebted to General Harmon and sought to memorialize his accomplishments in some way.

Following General Harmon's death, the Department of History considered launching a lecture series to commemorate him. In 1958, Capt Alfred F. Hurley, a new faculty member, was tasked with developing the concept and preparing a formal proposal. Captain Hurley's suggestions were forwarded to Brig Gen Robert F. McDermott, dean of the USAF Academy. The general quickly approved the concept early in 1959, and the annual series was named the Harmon Memorial Lecture Series in Military History.

Finding a speaker on short notice for that year posed a major problem, but Wesley Frank Craven quickly came to mind. He had served in the Army Air Forces during World War II and was well known to military historians as coeditor, with James Lea Cate, of the official, seven-volume work *The Army Air Forces in World War II*. Craven was also familiar to the Academy community because he had served on an early advisory committee for Academy curriculum. He applauded the idea of the lecture series and delivered the first address in Fairchild Hall on April 27, 1959.

Although the Harmon Lectures enjoyed success from the beginning, they almost came to an early end. In 1963 discussion arose over the series' usefulness, and a senior department member suggested the lectures be terminated. General McDermott, however, judged the Harmon Lectures too important to military his-

torians and the Academy to suspend, and he insisted they be continued. During this time, Col George Fagan, dual hatted as director of Libraries and professor of History, assumed principal responsibility for continuing the series. In 1966, when Major Hurley was appointed head of the Department of History, principal responsibility for supervision of the series returned to the Department. Concurrently, the library, under Colonel Fagan's guidance, continued to edit and print the Harmon Series until 1975, when the Department assumed those functions as well. In summary, the Harmon Lectures became a permanent part of the Academy's academic curriculum through the efforts of General McDermott, Colonel Fagan, and Colonel Hurley.

As the Academy library printed the Harmon Lectures the Department of History began distributing them to military schools and college libraries throughout the United States. Over the years requests for single lectures mounted, and in the early 1970s Maj David MacIsaac, deputy for Military History in the Department of History, proposed that a commercial or university press publish the first fifteen lectures in a single volume for use by cadets and the academic and military communities. Several obstacles put the proposal on the shelf for nearly a decade. In early 1982 the idea was revived, although now there were an additional ten lectures involved. The concept was finally put into motion, and the publication effort began in 1986 with thirty lectures to be included.

Organizing the volume posed several challenges. Despite the wide variety of topics addressed by the authors, arrangement by subject held the greatest promise. Therefore, the thirty lectures were grouped into six sections prefaced with short introductions. (For a chronological listing of the lectures see the Appendix.) Each Harmon Lecture is presented as originally printed, with the exception of minor stylistic changes, editorial corrections, where necessary, and the condensing of biographical author information (appears at the end of each lecture) to satisfy space limitations. The various lectures addressed topics not commonly developed in contemporary monographs or textbooks. To enhance the lectures' usefulness to cadets, photographs and other illustrations not included in the original printed Harmon Lectures appear in this volume.

In summary, a caveat for the reader concerning the historical perspective of these lectures is in order. The context in which an author interpreted an event in the past is necessarily different than the context in which the author would evaluate the same event today. Although recent scholarship may disconfirm some of the historical interpretation in these essays, the kernel of historical fact they contain remains unchanged and should be read with this understanding.

HARRY R. BOROWSKI
Lieutenant Colonel, USAF
Department of History, USAF Academy

Lt Col Harry R. Borowski was born in Grant, Nebraska, in 1942. After graduating from Perkins County High School in Grant and from Kearney State Teachers College, also in Nebraska, he taught for a year and a half at Loveland High School, Colorado, and then earned a master's degree in Economic History from the University of Colorado, Boulder. In 1966, Harry began his 22-year career as an officer in the United State Air Force. After completing training at Mather Air Force Base, California, he served as a navigator on KC-135 tankers in the Strategic Air Command. He soon participated in missions supporting Air Force operations in Vietnam. In 1972, he joined the faculty at the US Air Force Academy, eventually becoming a full professor and serving as the acting head of the department prior to his retirement in 1988. While assigned to the Academy, Harry earned a doctorate in Economic History from the University of California, Santa Barbara, and completed two books. He wrote and published *A Hollow Threat: Strategic Air Power and Containment Before Korea* (Praeger, 1982), which was the first scholarly assessment of Air Force strategic capabilities between World War II and the Korean War. He then edited this first volume in this series, *The Harmon Memorial Lectures in Military History, 1959–1987* (Office of Air Force History, 1988). Following his Air Force career, Harry was a realtor for more than 20 years in the Colorado Springs area. He also served on the board of directors of the Black Forest Fire Rescue Protection District for 14 years. Harry R. Borowski died on 22 April 2014 in Colorado Springs.

Preface to the Second Volume

Colonel Borowski's preface to the first volume provides a brief introduction to and history of the Harmon Memorial Lectures in Military History, so there is no need to re-cover that ground here. However, it is appropriate to explain the ways that this second volume compares to the first. The editorial team that has prepared this second volume of Harmon Lectures does not know whether or not those involved with the first volume ever expected to have their work emulated and extended, but that is the approach we have taken. Colonel Borowski and the cast of officers, researchers, editors, and publishers, that supported him produced a remarkable volume in 1988—composed of outstanding chapters, neatly organized into discrete sections, cleanly edited, and superbly illustrated. With just a few exceptions, which will be noted momentarily, the editors of the second volume have sought to follow Colonel Borowski's lead—including an equal number of lectures, retaining the same organizational structure, and providing introductions we hope to be similarly helpful.

One of the most obvious differences between the two volumes is that while Colonel Borowski completed the bulk of the editorial effort by himself, we decided that a team of scholars would be required to accomplish this project with the requisite quality and speed. The editorial team decided to retain the basic organizational structure of the first volume, to include the same number of parts, with very similar, but not necessarily identical, section titles. After assigning the specific lectures to the various parts, the team decided that some of the section titles needed to be adjusted. The first two section subjects are exactly the same, with Part I including those lectures that best fit into the general category of "Military History," and Part II comprising those lectures focused on "Leadership and Biography." The third section, originally entitled "Soldiers and Armies," has become "Airmen and Institutions" to highlight the air service focus of its lectures. Part IV, originally entitled "Strategy and Tactics," has become "Waging War: Strategy, Operations, and Tactics" to better reflect the breadth of coverage across the levels of war examined in its lectures. Part V is again entitled "Military Thought and Reform." The final section of the first volume, "The Military and Society," has now become "The Military Professional and Society," which retains an emphasis on the themes of war and society but also captures the special dimension of military professionalism, so important not only to the mission of a service academy, but to the health of the modern Republic. The editors believe these updated section titles retain an important continuity with the organizational scheme of the first volume while more accurately capturing the depth and breadth of the subjects covered by the lectures in each part.

As was the case in the first volume, the lecturers of the last 30 years approached their assignment with a refreshing diversity of approaches. Some presented papers researched, written, and delivered according to the most exacting scholarly

standards, while others offered stimulating multimedia presentations without any reference to a prepared manuscript. In the case of the latter, our editorial team had to prepare transcripts from the original video of the event. In other instances, the lecturer delivered a completed manuscript but did not incorporate any endnotes. In every instance, the editorial team decided that we should maintain the approach, voice, and integrity of the original lecture to the maximum extent possible. However, we also believe that these lectures—some presented over two decades before publication—would at various points benefit from editorial clarification and occasionally even correction. Many of the lecturers made references to contemporary events that were undoubtedly clear to the audience at the time but are likely to be troublingly obscure to later readers. In other rare cases, subsequent scholarship and the passing of time have called for an update, or even an outright correction, to a lecturer's assertion. In both cases, all editorial commentary has been confined to the footnotes at the bottom of the page. The author's original notes, when present, are maintained as endnotes after the chapter.

One other contribution of the editorial staff has been to update the biographies of our distinguished contributors. While a few have passed away, many of the lecturers went on to achieve even greater heights of scholarly achievement, and we wanted to capture those subsequent accomplishments. Those biographies are listed immediately after each chapter.

Finally, the important caveat offered by Colonel Borowski in his original preface is worth restating here. The editorial team of this volume wholeheartedly agrees with him that "the context in which an author interpreted an event in the past is necessarily different than the context in which the author would evaluate the same event today." While each lecture in this volume stands alone as a distinct piece of historical scholarship, it is also just a single contribution, made at a specific time and place, to a long and vibrant historiographical discussion that has only expanded in the intervening years. History remains a never-ending debate with the past, and we hope and trust that the aggregation of hard work, sound scholarship, and the continued pursuit of objectivity leads us toward a more complete and increasingly accurate understanding of the human experience. However, we also believe that much of the scholarship included in this volume will stand the test of time and enrich the minds and lives of its readers for many years to come.

MARK E. GROTELUESCHEN
Lieutenant Colonel, USAF, Retired
Department of Military and Strategic Studies,
USAF Academy

Acknowledgments

The editorial team that completed this volume relied on the support and assistance of numerous friends and colleagues, going back some three decades to the lecturers, many Academy faculty and staff members, and generous donors that made each Harmon Lecture such a successful event. When the Harmon Lecture series began in 1959, nothing like it existed in North America, or perhaps anywhere with the possible exception of the United Kingdom, which made one of its two purposes—to encourage an increased interest in military history—an important and rather optimistic goal. As of 2019, a number of excellent lecture series, conferences, and symposia on the subject of military history now exist. Beyond this, arguably no sub-field of history is better served by the quantity, quality, and variety of its published work than military history. While it would border on the preposterous to assert that the Harmon Lecture series was exclusively, or even primarily, responsible for this new reality, all those who have contributed to the accomplishment of this original goal should be proud of its share in the ultimate success.

First, the editorial team thanks the lecturers themselves. We know that each of these remarkable scholars was extraordinarily busy with his or her own obligations and projects, and we are grateful to them for being willing to travel to the Academy, present their lectures, and visit with our cadets and faculty. In many cases, the lecturers attended or even taught classes while visiting, and most gave a special, less-formal "brownbag" talk to the Department of History faculty, which often was as insightful as the main event later in the visit.

We also want to thank the Air Force Academy's leadership for its support of this flagship program. Between 1988 and 2018, 10 superintendents, 15 commandants, and five deans as well as numerous unit commanders across the Academy installation have provided support and encouragement for the annual Harmon Lecture. Without their commitment to the program, it could not be maintained.

The leadership of the Department of History since 1988 deserves special recognition for sustaining the quality of the series. When the first volume was published in 1988, Col Carl W. Reddel headed the department. He was succeeded by Col Mark K. Wells in 2000, who ran the department until his retirement in 2016, when Col Margaret C. Martin became the department's current Permanent Professor and Head. Col Edward Kaplan and Lt Col Vance Skarstedt served as acting heads during this period, as well. For the entirety of the last three decades, the deputy, director, or chief of the department's Military History Division (the title changed but the duties remained the same) was responsible for managing the execution of the lecture series—proposing a list of potential speakers, scheduling dates, staffing approval for the event through the Academy chain of command, coordinating support from other departments and base agencies, arranging the travel and visitation agenda for the lecturer, and making the lecture itself a suc-

cessful event. Many excellent officer-scholars held this position over the past three decades, to include John J. Abbatiello, Stephen D. Chiabotti, Mark Clodfelter, John T. Farquhar, Paul Gillespie, Mark Grotelueschen, Bud Jones Jr., Edward B. Kaplan, Douglas B. Kennedy, Tony Kern, Phillip S. Meilinger, John Plating, Christopher Rein, John Shaw, Jim Tucci, and William J. Williams. Of course, much of the heavy lifting was accomplished by other members of the department, both officers and civilians, who served as the dedicated Harmon Lecture project officer, including John J. Abbatiello, Matthew R. Basler, Scott Bell, John T. Farquhar, John Grenier, Donald B. Hondrum, John Jennings, Michael Kennedy, Wolfgang K. Kressin, Miguel Lopez, Ryan Menath, John Plating, Christopher Rein, Garrett Roberts, John Roche, Chuck Steele, Mike Terry, Derek Varble, Edward B. Westermann, and Karl H. Zimmerman. In a few cases, faculty members had the additional task of correcting rough papers or transcribing raw video into a workable draft. Other members of the Air Force Academy community helped the editorial team sort through obscure, decades-old references, verify information, or find suitable illustrations. Especially, we thank Mr. Joe Barry, a truly extraordinary librarian at USAFA's McDermott Library; Dr. Mary Elizabeth Ruwell, the chief of the library's Special Collections branch; as well as Dr. Charles Dusch and Maj Raymond Ng of the Academy's Command Historian office. This volume could not have been completed satisfactorily without their support and contributions.

While in the early years the Harmon Lecture was financially sustained with institutional funding, in recent decades the Association of Graduates and the USAFA Endowment have provided crucial financial support to ensure the quality of the program. Special thanks goes to the Hurley family, who, in honor of Brig Gen Alfred Hurley, former Permanent Professor and Head of the Department of History, has generously provided the funds required to bring in leading historians from around the world in recent years.

Finally, the editors would like to thank the expert team at Air University Press, under the leadership of Lt Col Darin Gregg, for providing such dedicated support to this volume. Dr. Ernest Rockwell backed the effort from our very first inquiry and personally managed the process for the first few months. Upon his arrival at AU Press in mid-2019, Dr. Chris Rein (who knew the Harmon series from the inside thanks to his years in the Academy's Department of History) provided renewed initiative to improve the final product and ensure that it was published in print form. He also assigned Donna Budjenska as the dedicated project lead. She made significant improvements to the volume while shepherding it through the final editing and publication stages. Rounding out the AU Press publication team are Susan Fair and Daniel Armstrong, who prepped all the photos and designed the covers; Nedra Looney and Vivian O'Neal, who put all the words and images together in a layout that both refers to and respects that of volume I while providing a contemporary look for today's readers; and Diane Clark, who did all the behind-

the-scenes tasks that enabled this work to be printed, released, and distributed. Despite changes in leadership and staffing, the professionalism, commitment, collegiality, and hard work of the AU Press team were crucial not just to the quality of this important piece of scholarship, but to its very completion.

Despite all this support and assistance, the editorial team accepts responsibility for any and all weaknesses and errors.

JOHN J. ABBATIELLO

MARK E. GROTELUESCHEN

DOUGLAS B. KENNEDY

CRAIG F. MORRIS

CHUCK STEELE

ROBERT P. WETTEMANN

Series Introduction

The publication of the second volume of Harmon Memorial Lectures transforms *The Harmon Memorial Lectures in Military History, 1959–1987* from a stand-alone publication to the first in a series. As we neared lecture 60, it was an easy decision to follow the example of our 1980s Department of History colleagues and compile these outstanding reflections on a variety of military themes into a companion volume to the first.

During the first 30 years, the Air Force Academy published and disseminated hard copies of the individual lectures. Over the next 30, the Academy published very few—if any—of the lectures. Although the advent and widespread use of the internet provided a platform for the department to maintain digital copies of many of the lectures, the finicky nature of the department's website led to gaps in availability. Furthermore, those digital files rarely received the editorial attention that help put them in conversation with past and future lectures. The desire to create a holistic collection, to comment on period-specific references a contemporary reader may not understand, and to set the stage for future volumes underpins this latest effort.

This undertaking could not have been completed without dedicated effort from the project lead, Dr. Mark Grotelueschen, Lieutenant Colonel, USAF, retired, and the five section editors: Dr. John Abbatiello, Colonel, USAF, retired; Dr. Doug Kennedy, Lieutenant Colonel USAF, retired; Lt Col Craig Morris, USAF, PhD; Dr. Chuck Steele; and Dr. Bob Wettemann. Each of these scholars represents the best of USAFA's Department of History—past and present—and they deserve our heartfelt appreciation. Their insight, persistence, and thoughtful editing have yielded a volume we hope will be of use to Airmen, warriors, and scholars for a long time to come.

MARGARET C. MARTIN
Colonel, USAF, PhD
Permanent Professor and Head,
Department of History,
USAF Academy

Part I. Military History

Introduction to Part I

Mark E. Grotelueschen

My purpose has been to suggest that history can give depth to our understanding—even of the extraordinary age in which we live.

—Wesley Frank Craven

In the inaugural Harmon Memorial Lecture of 1959, appropriately entitled "Why Military History?," Professor Wesley Frank Craven discussed the unprecedented interest in military history that had arisen in the United States during the two decades since the start of World War II. After noting that previous generations included "many reputable historians who argued that warfare represented no central theme in the story of the American people," he confidently asserted that "we have been inclined in recent years to restore warfare to its rightful place in our national history."[1] Craven suspected that the previous neglect of military history might have been the result of "a deterministic view of history, a view that encouraged us to see the outcome of any battle as something rather largely predetermined by the superior force belonging to the victor." In sum, "the battle might still be the payoff, but it was only the payoff."[2]

One of the great values of the Harmon Lectures included in this section—and in the other sections too—is that they force readers to consider the enormous complexities and uncertainties of warfare. Whether we are investigating the road to war, success and failure in waging war, or the wide-ranging impacts that war has on individuals, societies, nations, and humanity in general, we must remember Craven's warning that "the battle itself is no more than a part of the story." Craven insisted that "the central part is man's continuing dependence on force as an instrument of policy" and that we must therefore recognize "that every aspect of his social, economic, and political order which has bearing on the force he can command is pertinent to military history."[3] We should add that every aspect of the "social, economic, and political order" that is in turn affected by warfare also falls within the purview of the military historian as well as the military professional. The four lectures that follow discuss three different wars and suggest important lessons about the causes of war, the waging of war, and the impact of war.

Professor John Edward Wilz's 1992 lecture opens this section by discussing the long, winding, and ultimately unexpected road to war in Korea in 1950. His study of a century of American–Korean relations provides a reminder of the surprising ways that distant countries and even entire regions of the world can vault from apparent insignificance to the very center of the American

people's "collective consciousness." His discussion of the Korean War's causes, and of the critical importance of clarity both in national security policy and in the articulation of that policy, has continued resonance for national security professionals who believe that deterrence is one of their key missions. Wilz closed with an assertion that rings particularly prescient today. North Korean military activities, now involving nuclear warheads and ballistic missiles, suggest that, at least for the foreseeable future, Wilz was correct in asserting that "Korea will never again recede, or virtually recede, from the collective consciousness of Americans—or ever again be perceived by Americans as a primitive backwater of little or no importance in terms of the interests, mainly political and economic, of the United States."

In his 1998 Harmon Lecture, Professor Warren Kimball stressed the crucial role of alliances, or perhaps more appropriately "coalitions," in understanding ultimate victory and defeat when waging war. While few coalitions or alliances develop to the level of the "special relationship" between the United States and Great Britain, his assertions regarding the importance of military coalitions in successful war-making and of the importance of meeting the challenges that accompany the proper "care and feeding" of those coalitions have been demonstrated by a range of historical examples, from the Franco–American alliance that helped secure American independence to the coalitions "of the willing" that have recently waged war in Afghanistan and Iraq. It appears to be the case that the value of alliances and coalitions have only increased in the last 20 years, as they serve not only to share the burden of the endeavor but also to demonstrate the legitimacy of the venture at home and abroad.

In his 2015 lecture, Professor Gregory Urwin showcased the unpredictability of warfare. His discussion of the Revolutionary War displays the desperation of the Patriot cause in 1780–81 to such an extent that as one reads his account it almost becomes hard to remember that the American revolutionaries will somehow emerge victorious. And yet, dramatic changes unfolded in mid-1781—a combination of poor British decisions, bold and opportunistic American responses, and timely French naval support—allowing the Americans to snatch victory from the jaws of defeat. Urwin also points out the unfortunate and unexpected results of the military outcome for many black Americans, for whom a British victory might have led to freedom; the American victory instead meant a return to slavery. The Republic would have to fight and win a much larger and bloodier war, against itself, to free the descendants of the black Americans who had been re-enslaved by Washington's forces and to crush the entire institution of American slavery once and for all.

Professor Gerhard Weinberg's lecture, offered upon the fiftieth anniversary of the end of World War II, expands this theme of the ways that war changes

not just individual lives but also whole countries and, in the case of a global war, the entire world. He reminds his listeners that along with the horrific death toll and unprecedented destruction brought by the war came other important developments, including some positive ones. War has its losers but also its winners. Wars destroy some regimes and weaken others but also propel some to positions of remarkable power and prosperity. And when wars are fought over undeniably crucial moral issues, even some of the defeated should in the end be viewed as victors—most notably those Germans whose physical and moral lives were saved by defeat. Weinberg also notes that while this most destructive of wars led to a world divided, antagonistically, between the victorious powers, it also brought about the end of long-running animosities between some of the belligerents—such as the United States and Japan and, most especially, Germany and France. Wars really do change things, and sometimes—though at an admittedly terrible cost—for the better.

For many decades in the second half of the twentieth century, the field of military history wrestled with the distinction between traditional approaches to the subject—the histories of generals, wars, and battles—and what came to be known as "the new military history," which involved questions and methodologies more closely connected to the fields of social and cultural history. In his introduction to the "Military History" section in the first published volume of Harmon Lectures, Lt Col Harry Borowski defined these approaches this way: "The new military history was less concerned about specific details of weaponry or maneuvers—tactics and operations—and more interested in grand strategy, the impact of society on the conduct of war, and the influence of warfare on societies."[4] The four lectures in this section—and many of the lectures in the other sections—suggest that this distinction is no longer particularly helpful. As demonstrated in Craven's 1959 Harmon Lecture, the best military history has long recognized the connection between society and military power, and Wilz, Kimball, Urwin, and Weinberg each show a willingness and an ability to discuss the ways in which commonly understood nonmilitary factors affect war or the ways that warfare affects supposedly nonmilitary dimensions of the human experience.

Craven's inaugural lecture made a powerful case for the value of military history, especially for the military professional. He also included a warning against its misuse. He said,

> To study the history of a people is somewhat like reading their literature. One can gain from the reading knowledge and understanding that may make him wiser, but in history, as in literature, there is no blueprint to guide him. History has a way of not repeating itself. Each generation faces a new combination of circumstances governing its need and its opportunities. We can draw upon history as a source of courage and of wisdom. We can use history to lengthen the experience on which we base our judgment of contemporary problems, but the course ahead is our own to chart.

Whether one is studying the road to war, the factors leading to victory and defeat, or the ways that wars and warfare impact the lives of individuals, nations, and all of humanity, Craven's assertion is as valid today as it was in 1959.[5]

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Notes

1. W. Frank Craven, "Why Military History?," in *The Harmon Memorial Lectures in Military History, 1959–1987*, ed. Harry R. Borowski (Washington, DC: Office of Air Force History, 1988), 10, 12.
2. Craven, "Why Military History?," 10.
3. Craven, 12.
4. Harry R. Borowski, ed., *The Harmon Memorial Lectures in Military History, 1959–1987* (Washington, DC: Office of Air Force History, 1988), 5.
5. Craven, "Why Military History?," 16.

United States Policy vis-à-vis Korea, 1850–1950*

John Edward Wilz

Let me begin by observing that my distinguished colleague at Indiana University, Robert H. Ferrell, used to rattle doctoral candidates who were defending dissertations by asking, while flashing an impish grin, "What is the thesis of your dissertation—assuming it has a thesis?" Well, I shall announce what I suppose is the thesis, or unifying theme, of my remarks at the outset. Until June 25, 1950, Korea, the ancient "Land of the Morning Calm"—or, as "GIs" often referred to it in 1950–53, the "Land that God Forgot"—never loomed particularly large in the political or strategic calculations of the makers and shakers of United States foreign policy. Rather, those makers and shakers tended to view Korea, a ragged peninsula that traces its history as a nation to the year 2333 BC, as a Northeast Asian backwater, one that was populated by a largely ignorant and hapless people—a people whose development had been severely retarded over the centuries as a result of having fallen victim of conquerors and marauders from China, Mongolia, and Japan.[1]

At the dawn of the nineteenth century, Korea, a tributary state of the Qing dynasty of China, was decrepit and demoralized.† And in its tribulation, it had turned inward—had sought to isolate itself from the outer world, save for minimal contacts with its suzerain China and with Japan. By the middle of the century, indeed, foreign observers were wont to refer to Korea as the "Hermit Kingdom"—on the rare occasions when they referred to it at all. As for Americans, they knew next to nothing about Korea through the first half of the nineteenth century. In a volume entitled *An Epitome of Modern Geography*, published in Boston in 1820, the author dismissed the Hermit Kingdom in two sentences: "Corea is a small kingdom tributary to China, but is little known. King-kitao [Seoul] is the chief town."[2] However deficient his knowledge about the Hermit Kingdom, Zadock Pratt, an obscure congressman from New York, in 1845 proposed that the executive branch of the Washington government effect commercial arrangements with Japan and Korea. His proposal generated no apparent support.[3] And the historical record offers no hint that when Commodore Matthew C. Perry prevailed upon the Japanese to accept a commercial treaty with the United States in 1853, leaders in Wash-

*Harmon Memorial Lecture #35. Professor Wilz was unable to travel to Colorado, and in his stead, Professor Edward M. Coffman, professor of military history at the University of Wisconsin, presented the paper to the Cadet Wing on 14 October 1992.

†Professor Wilz used the Wade-Giles system for Romanizing Mandarin. The editors have taken the liberty of switching to the more commonly accepted Pinyin system. Thanks to Prof. John Jennings, the USAF Academy's senior scholar on East Asian history, for his extensive help in the editing of this chapter.

ington gave any thought to the possibility of ordering a comparable initiative aimed at Korea.

The Washington government's disinterest in Korea aside, American seamen were increasingly active in the waters off the shores of the peninsular kingdom. And in 1855, four crewmen of the whaler *Two Brothers*, weary of their abusive captain, jumped ship in a small boat and set a course for Japan. But gale winds washed them ashore on the east coast of Korea near Wonsan. The four seamen, so far as anybody knows, were the first Americans to set foot on Korean soil. Korean villagers treated them hospitably until, on orders from authorities in Seoul, the men were trundled overland to China, whence they secured passage back to the United States.[4] A decade later, in June of 1866, the American schooner *Surprise* foundered in the Yellow Sea off the northwest coast of Korea. Like the castaways of the *Two Brothers*, the shipwrecked crewmen of the *Surprise* were accorded hospitable treatment by local Koreans and dispatched, again on orders from Seoul, over the Yalu River to China.[5]

Alas, the outcome for the crewmen of the American schooner *General Sherman* was not so fortunate when their vessel moved into Korean waters at the same time the men of the *Surprise* were en route to China. Chartered by a British trading company, the *General Sherman* sailed across the Yellow Sea from China into the rain-swollen Daedong River in August of 1866, then moved upriver toward the city of Pyongyang, ostensibly for the purpose of exchanging trade goods with Koreans. Ruling out any trading activity, authorities in Seoul issued orders that the *General Sherman* was to depart Korea at once. Otherwise, the ship was to be destroyed and its crewmen, most of them Chinese and Malays, put to death. Unfortunately, an immediate departure from Korea by the *General Sherman* was not possible. The Daedong had fallen, and the American schooner was hopelessly stuck in the mud of the river's bed. Accordingly, frenzied Koreans attacked and burned the vessel and hacked to pieces crewmen who survived the attack and sought to surrender.[6] To an American naval commander who had sailed into Korean waters in the spring of 1868 to determine the fate of the *General Sherman*, authorities in Seoul explained that a local mob, under extreme provocation, had attacked the American schooner.* According to the Korean authorities, the ensuing battle ended when the heavily armed schooner caught fire and exploded.[7]

*This characterization of the *General Sherman* incident reflects the common American view of the event at the time. The details of the incident, however, are not as clear-cut as this characterization indicates. Some Korean accounts, for example, blame the crew of the *General Sherman* for provoking the attack by kidnapping a Korean official sent to investigate the ship and its crew. Other accounts dispute that the *General Sherman* arrived in Korea for trade and instead suggest that the purpose of the voyage was the loot the tombs of the Korean royal family located near Pyongyang.

Undaunted by the fate of the *General Sherman*, Secretary of State Hamilton Fish in 1869 instructed the United States minister to China, Frederick F. Low, to proceed to Korea for the purpose of negotiating a navigation and trade treaty with the Hermit Kingdom.[8] Low was ready to carry out Fish's instructions thirteen months later. Reflecting on his impending mission, he wrote the secretary of state, "I apprehend that all the cunning and sophistry which enter so largely into oriental character will be brought to bear to defeat the object of our visit."[9]

Undaunted by supposed "Oriental" cunning and sophistry, Low boarded the USS *Colorado* in May of 1871 and sailed to the waters adjacent to Chemulpo (present-day Inchon). Korean emissaries turned aside Low's request that the royal court in Seoul negotiate a treaty with the United States. Then, on June 1, 1871, Korean cannoneers fired their batteries (without effect) at American gunboats and steam launches* whose officers and crewmen were exploring the Yom-ha, the narrow passage that separates the Korean mainland from Ganghwa Island (a large island that lies to the north of Inchon).[10]

What was to be done? Low thought it would be a grievous mistake to order the squadron to weigh anchors and sail away. "In estimating the effect it may exert upon our power and prestige, which will affect the interests of our people in the East," he wrote Fish, "the situation must be viewed from the oriental stand-point, rather than the more advanced one of Christian civilization." Should the squadron now sail away, Low reckoned, both the Koreans and Chinese would be emboldened to give vent to anti-foreign impulses.[11] The upshot was a punitive operation against the Koreans that has been described as America's first Korean War.

And so it came to pass, on June 10, 1871, that a flotilla of gunboats and steam launches moved up the Yom-ha. In the boats were two companies of Marines and an improvised company of Sailors armed with rifles. Moving from one Korean fortification to another, the punitive expedition did what Low had directed it to do, namely, administer stiff punishment to the hopelessly outgunned Koreans. The usual procedure was for the gunboats to bombard fortifications, whereupon the Marines and Sailors, already ashore, would move forward, shooting and burning. Before returning to the anchorage on June 12, the expedition destroyed five forts and killed about 250 Koreans. Three Americans died in the action, three were wounded.[12]

The dimension of their defeat along the Yom-ha notwithstanding, the Koreans refused to enter negotiations with Low. Accordingly, on July 3, 1871, the American flotilla weighed anchors and sailed away; the so-called Low Mission to Korea ended as a failure.[13]

*A "steam launch" was an open boat powered by a steam engine that was small enough to be carried by a ship.

However much Koreans wished to stay clear of the outer world, the passing of Korea's splendid isolation was at hand. And so it happened, in 1876, that the Japanese, flexing naval muscles in Korean waters after the fashion of Commodore Perry in Japanese waters in the 1850s, prevailed on the royal court in Seoul to accept a trade treaty, the Treaty of Ganghwa.[14] Two years later, Senator Aaron A. Sargent of California proposed that the United States work out an accord with Korea. Such an accord would result in more than just economic advantages for both countries. In Sargent's view, "the blessings of modern civilization could be conferred on a brave and industrious people (the Koreans), now oppressed by political ideas inseparable from semi-barbarism; and Christianity might displace Buddhism (in the Hermit Kingdom)."[15]

Several months after Sargent proposed an accord with Korea, officials in Washington directed Commodore Robert W. Shufeldt of the United States Navy to negotiate a trade treaty with Korea. Which Shufeldt did—in Beijing, the capital of Korea's suzerain, with the Chinese viceroy, Li Hongzhang. At length, the American commodore departed the Chinese port of Chefoo aboard the USS *Swatara* and sailed across the Yellow Sea to Chemulpo. Next, on May 22, 1882, Shufeldt and assorted aides, accompanied by a marine guard, made their way to a tent that had been pitched on a hillside not far from the *Swatara*'s anchorage. They implanted the Stars and Stripes in front of the tent, and with minimal ceremony Shufeldt and Korean emissaries put their hands to a treaty of peace, amity, commerce, and navigation. This was the Treaty of Chemulpo, the first article of which provided that, "if other powers deal unjustly or oppressively with either Government, the other will exert their good offices, on being informed of the case, to bring about an amicable arrangement, thus showing their friendly feelings." Following a celebratory banquet, the commodore returned to his ship and sailed away.[16]

The first United States minister to Korea, Lucius M. Foote, took up residence in Seoul in 1883. At the request of the Korean king, Foote offered advice to the Seoul government on a variety of matters. He arranged for a delegation of Koreans to undertake an embassy to the United States. (Apparently the first Koreans to set foot in North America, the members of the delegation were received cordially and in Washington were granted an interview with President Chester A. Arthur.[17]) He prepared the way for two American trading companies to set up operations in Korea[18] and helped Thomas Alva Edison to secure an exclusive franchise to install electric light and telephone systems in the country.[19] His resident physician (who would subsequently become the United States minister to Korea), Horace N. Allen, established a hospital—and staffed it with medical missionaries. Ignoring laws that forbade Christians to proselytize Koreans, the missionaries labored with considerable success to convert Koreans to Protestant Christianity. They also sought to influence

the international competition for supremacy in Korea that dominated the political life of the onetime Hermit Kingdom during the quarter-century after the signing of the Treaty of Chemulpo.[20]

Question: Was United States policy vis-à-vis Korea during the years following ratification of the Treaty of Chemulpo driven by imperial impulses? North Korean and Soviet writers have argued that it was, and respected American scholars have been inclined to agree. Donald M. Bishop has argued otherwise: "My reading of the American documents found in the Navy's Asiatic Squadron Letters, the post records for Seoul of the Department of State, the files of the Department of War, and in the personal collections of dozens of ambassadors, diplomats, and army and navy officers . . . convinces me that Korea provides scant evidence to support the concept of American 'imperialism' or 'gunboat diplomacy.' "[21] My distinguished colleague at Indiana University, David M. Pletcher, who recently completed a book-length manuscript on the Washington government's diplomacy of trade and investment during the second half of the nineteenth century, agrees with Don Bishop.

Two countries whose imperial ambitions regarding Korea during the closing years of the nineteenth century are beyond dispute were Japan and Russia. Japan advanced its ambition when, after crushing China in the Sino–Japanese War of 1894–95 (a war in which the United States maintained strict neutrality[22]), it compelled the Chinese to abandon all claims to suzerainty over Korea. The Russians accelerated their activities in Korea in 1895–96, when they befriended the Korean monarch as he maneuvered to prevent the Japanese from achieving dominance in his country. At length, in 1904, the competition between Japan and Russia for supremacy in Korea, and also Manchuria, prompted the Japanese to launch a surprise sea attack on the Russian naval base at Port Arthur on Manchuria's Liaodong Peninsula—an attack similar in conception to that which they would launch against Pearl Harbor almost 38 years later. Thus began the Russo–Japanese War of 1904–5.

As for Korea, the Japanese had moved troops to Korea in advance of their attack on Port Arthur. Three weeks after the attack on the Russian naval base, they compelled the Korean monarch, who in 1897 had proclaimed himself an emperor, to accept a protocol that made Korea a virtual vassal of Japan.[23] President Theodore Roosevelt of the United States expressed no objection. Little wonder. Four years before the outbreak of the Russo–Japanese War, the inimitable TR had written a friend, "I should like to see Japan have Korea. She will be a check upon Russia, and she deserves it for what she has done."[24] Or as the historian Tyler Dennett, a staunch defender of Roosevelt, would write two decades later, "It appears to have been evident to the President that Korea, long a derelict state, a menace to navigation, must be towed into port and secured."[25] With such views, TR consented to a secret memorandum drawn up

in Tokyo, in July of 1905, between the United States secretary of war, William Howard Taft, and the Japanese prime minister, Count Taro Katsura. In the so-called Taft–Katsura memorandum, the secretary of war acquiesced to Katsura's outrageous assertion that Korea was to blame for the Russo–Japanese War and expressed the view that Korea should be prevented from making treaty arrangements without Japan's consent.[26] Roosevelt also approved an article in the Treaty of Portsmouth of September 1905, which terminated the Russo–Japanese War that accorded the Japanese carte blanche to take whatever measures they wished to secure their interests in Korea.[27] And when the Korean emperor, in the autumn of 1905, dispatched an emissary to Washington to appeal to TR, in the name of the "good offices" provision of the Treaty of Chemulpo, to act to thwart Japanese plans to establish a protectorate over Korea, the president refused to receive said emissary. (In truth, by the time the emissary arrived in Washington in November of 1905, the Japanese—at bayonet point—had already prevailed upon the Korean emperor to accept Japanese "protection.") Then, at the behest of Japan, the Washington government withdrew the American legation from Seoul, a move that prompted other governments to do the same. The American vice-consul in Seoul, Willard D. Straight, likened the resultant exodus of foreign diplomats from the Korean capital to a stampede of rats leaving a sinking ship.[28]

As for the Korean emperor, he would have entertained less hope that the American president might intercede on behalf of Korean independence had he known of a comment that TR made to the lecturer-writer George Kennan (an uncle of the more famous diplomat-historian) in October of 1905.

Covering the Russo–Japanese War for *The Outlook*, a periodical that commanded the interest of Roosevelt and other Americans of like mind, Kennan filed several essays on Korea in 1904–5. In one, he wrote, "So far as my limited observation qualifies me to judge, the average town Korean spends more than half his time in idleness, and instead of cleaning up the premises in his long intervals of leisure, he sits contentedly on his threshold and smokes, or lies on the ground and sleeps, with his nose over an open drain from which a turkey-buzzard would fly and a decent pig would turn away in disgust."[29] In an essay that appeared in *The Outlook* in the autumn of 1905, he compared "the cleanliness, good order, industry, and general prosperity" of Japan with "the filthiness, demoralization, laziness, and general rack and ruin" of Korea. And the Korean emperor? Kennan wrote, "He is unconscious as a child, stubborn as a Boer, ignorant as a Chinaman, and vain as a Hottentot."*[30] Of the latter article, Roosevelt wrote to Kennan, "I very much like your . . . article on Korea in *The Outlook*."[31]

*The now-outdated term "Hottentot" usually referred to a member of the Khoikhoi ethnic group in southern Africa.

Question: Did the United States betray Korea in 1904–5? Or, more delicately, did it fail to meet its legal and moral obligations to the Korean nation? Korean patriots have certainly believed that it did.[32] I agree with the Korean patriots. During 1904–5, the administration of Theodore Roosevelt condoned and even encouraged the destruction of a nation-state which the United States was bound by the Treaty of Chemulpo to assist, if only by exercising good offices when said nation-state requested that it do so. To condone and encourage the rape of a victim whom one is pledged to assist when the victim requests assistance, if only by proposing that the rapist terminate his attack, can scarcely be viewed as anything less than a betrayal of the victim. That the Japanese conquest of Korea was inevitable, it seems to me, is beside the point.

Well, the Japanese gradually tightened their grip on Korea and in 1910 formally annexed the onetime Hermit Kingdom to their empire. They accelerated their efforts to revitalize and strengthen the economic foundations of their new colony, and the results of their enterprise impressed assorted Americans and Europeans.[33] They also set about to complete the subjugation of Korea's people, subvert its national culture, and transform Koreans into loyal subjects of the Japanese emperor. Korean patriots, of course, chafed under Japanese rule, and in early 1919, inspired by the famous Fourteen Points of President Woodrow Wilson of the United States, which appeared to proclaim the right of self-determination for all nations, organized demonstrations in which they demanded self-determination for Korea. The demonstrations turned into riots that Koreans to the present day celebrate as the Mansei Revolution.* (The word *mansei* is the Korean equivalent of the Japanese word banzai.) From President Wilson came not a word of support for the Korean rebels, against whom the Japanese moved with efficiency and dispatch.[34]

During the 1920s and 1930s, Korea seldom crossed the minds of the men who fashioned United States foreign policy, save in 1934–35 when, on behalf of the Oriental Mining Company, one of the last American firms that continued to operate in Korea, the Washington government protested a gold-export tax imposed by the Japanese.[35] No documents pertaining to Korea may be found in the pages of *Foreign Relations of the United States* for the years 1923 through 1933 and 1936 through 1940.

Then, on December 7–8, 1941, the Japanese plunged themselves into war with the United States by attacking Pearl Harbor and the Philippines. Korean patriots were ecstatic, none of them more so than Syngman Rhee, a leader of a government in exile, the Korean Provisional Government (KPG), since the time of the Mansei Revolution. To Rhee's chagrin, the Washington government turned aside his appeal that it recognize the KPG as the legitimate gov-

* Koreans typically refer to this event as samil ("three/one"), which refers to the outbreak of pro-independence demonstrations on 1 March 1919.

ernment of Korea.[36] At length, during the Cairo Conference of autumn 1943, leaders of the United States, Great Britain, and China proclaimed that Korea should receive independence "in due course."[37] A short time later, during the Tehran Conference, the Soviet dictator, Josef Stalin, consented to the Cairo Declaration.[38] What the Allied leaders had in mind was that, after Japan's defeat, Korea would be under the governance of a trusteeship comprised of representatives of the victorious powers for several or even many years until such time as it was deemed prepared to assume the responsibility of governing itself.[39] And how did Korean patriots respond to the "due course" conception? They were at once dismayed and incensed.

The patriots wanted Korea to become independent the moment the Allies expelled the Japanese from Korean soil.[40]

In August of 1945, the war in the Pacific moved to a sudden and dramatic climax. Although the Soviets, who entered the Pacific War one week before the Japanese agreed to surrender, were in a position to sweep over and occupy all of Korea before United States forces could make their way from Okinawa to the Korean peninsula, Stalin consented to an American operational directive whereby the Soviets would accept the surrender of Japanese forces down to the thirty-eighth parallel, while the Americans would do likewise to the south of that line.[41] Why did the dictator in the Kremlin consent to an arrangement that would allow Americans to occupy the southern half of Korea? Probably because he hoped—in vain, it turned out—that his forthcoming response to the Washington government's proposal regarding Korea would prompt the Americans to allow the Soviets to share in the occupation of Japan.[42]

Question: Should the United States have occupied the southern half of Korea in 1945? Assorted historians in the United States and elsewhere have argued that the North American superpower should have stayed clear of the old Land of the Morning Calm at the end of the Pacific War. In the view of one prominent scholar, a preponderance of the people of Korea in 1945 yearned for a sweeping revolution of the sort that communists engineered in North Korea during the postwar years and communists and other leftists hoped to bring about in South Korea. But Americans, bent on making Korea a citadel of anticommunism and an outpost of capitalism, pursued policies that produced a repressive and reactionary regime in the southern half of the Korean peninsula.[43] Even if one rejects the foregoing scholar's idyllic view of North Korean communism, he or she must ponder that, if the Washington government had acquiesced to a Soviet occupation of all of Korea in 1945, a development that would have assured that all of Korea would have become a bastion of Marxism-Leninism, the Korean War of 1950–53 would not have come to pass—a war that claimed the lives of an estimated two million people, more than 50,000 of them Americans. Such a decision by the Washington govern-

ment in 1945 also would have precluded what for many Americans was the embarrassment of their government's complicity with what even the current president of the ROK concedes was several decades of authoritarian rule in South Korea.[44] One wonders, though, what percentage of the citizenry of the pulsating South Korean republic in the early 1990s, whatever that republic's shortcomings, believes the United States should have stood by and allowed the Soviets and their client Kim Il-sung to assert authority over all of the Korean peninsula at the end of the Pacific War.

The foregoing aside, the Washington government elected to resist what it believed was the Kremlin's determination to turn Korea into a bastion of Sovietism.[45] So it occupied the southern half of Korea and insisted that a provisional government to be established by an Allied joint commission—a provisional government that would prepare the way for a permanent government for the onetime Hermit Kingdom—must be made up of representatives of a wide spectrum of Korean political parties and social organizations. It expected that such a broadly based provisional government would establish a permanent government whose leaders would be chosen by the Korean people in free, multiparty elections. A freely elected government, Americans believed, would be noncommunist, probably anticommunist, for Americans of the early postwar era accepted as an article of faith the proposition that, in free multiparty elections, voters in any part of the world would reject communism. Such a government, of course, would be *ipso facto* sympathetic with the interests and ideals of the United States.

Whatever the view of various recent historians that at the end of the Pacific War most Koreans shared what one might describe as a Kim Il-sung vision of Korea's future, the Soviets were unwilling to trust the Korean people to opt for a Soviet-style regime. Hence they insisted that a Korean provisional government must be comprised only of representatives of parties and social organizations that had not denounced the plan of the victorious powers in the late war to place Korea under a temporary trusteeship. Korean leaders of the moderate and rightist persuasion, including the irascible Syngman Rhee, had, to borrow a present-day expression, gone ballistic when the Allied foreign ministers, meeting in Moscow in December of 1945, announced the intention of their governments to establish a trusteeship to preside over Korea's destinies during the next half-decade. On orders of the Kremlin, or so American leaders believed, communists and assorted leftist confederates of the communists had expressed no opposition to the trusteeship conception. A provisional government comprised almost exclusively of communists and other leftists would doubtless prepare the way for a Soviet-style permanent government.

Complicating matters from the perspective of the United States during 1946 and 1947 were intermittent demonstrations, riots, and strikes in South

Korea. Most of them, in the view of the American military government, were instigated and orchestrated by communists and other leftists. In response to what was obviously an anti-American campaign, the United States commander in South Korea, Lt Gen John R. Hodge, in September of 1947 ordered American military police to raid the offices of leftist newspapers, one of them the official organ of South Korea's Communist Party, and arrest their publishers and editors and many of their writers.[46]

By late summer of 1947, leaders of the United States, their attention increasingly fixed on the task of containing what they perceived to be the expansionist ambitions of a manifestly evil Soviet empire in Europe and the Middle East, had given up hope that the two halves of Korea might eventually be brought together under a freely elected government. And in early September of 1947, policy planners meeting in Washington reached an almost unanimous decision that the best course for the United States was to abandon South Korea to its fate.[47] A few weeks later, the American Joint Chiefs of Staff reported to the secretary of defense that "from the standpoint of military security, the United States has little interest in maintaining the present troops and bases in Korea."[48] Following a discussion that involved Secretary of State George C. Marshall, on September 29, 1947, George F. Kennan of the State Department's policy planning staff wrote in a memorandum that an aim of the United States was "to get the best bargain we can regarding Korea."[49]

The Washington government thereupon, in the autumn of 1947, passed to the United Nations a Soviet proposal for removing both Soviet and American troops from Korea, as well as an American recommendation that a freely elected government be established for all of Korea. As anticipated by leaders in Washington, the Soviets had no interest in free elections, hence they refused to allow UN election commissioners to enter North Korea. So the commissioners arranged elections in South Korea for representatives to a national assembly. Boycotted by the communists, the elections, which took place in May of 1948, resulted in an overwhelming victory for rightist parties. In subsequent weeks the National Assembly drew up a constitution for the Republic of Korea (ROK) and elected Syngman Rhee the ROK's first president. The new South Korean government was inaugurated on August 15, 1948. A few weeks later, in Pyongyang, communists established the Democratic People's Republic of Korea (DPRK) and designated Kim Il-sung the DPRK's first premier.

Meanwhile, in the spring of 1948, a paper prepared by the National Security Council in Washington, NSC 8, was approved by President Harry S. Truman and thus became the basic statement of United States policy vis-à-vis Korea. According to NSC 8, the United States should assist the South Koreans in building up their economy and their armed forces. But it categorically rejected the

option that the United States "guarantee the political independence and territorial integrity of South Korea, by force of arms . . . against external aggression."[50]

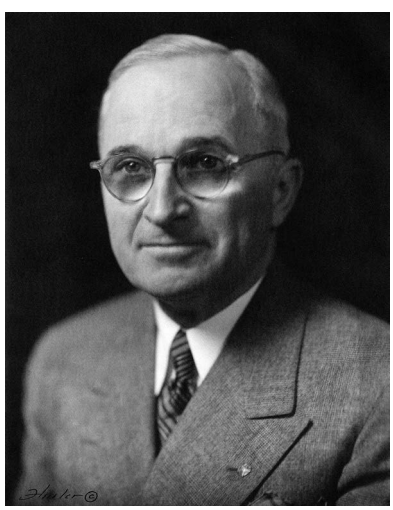
As for Soviet and American troops, they began to withdraw from Korea in August and September of 1948. But in the face of a new wave of civil disturbances, apparently communist inspired, officials in Washington directed Gen Douglas MacArthur, commander of United States forces in the Far East, to deploy a regimental combat team of 7,000 men in South Korea for an indefinite period.[51] A short time later, in January of 1949, MacArthur, in response to a query by superiors in Washington, made clear his view that the South Koreans could not turn back an invasion from the north and that the United States should commit no military forces to bolster the South Koreans in the event of an invasion. He went on to say that the Japanese must be conditioned to the prospect of Soviet domination of all of the East Asian mainland.[52]

Syngman Rhee (center foreground, shown in 1952) was elected the first president of the Republic of Korea in 1948. Courtesy of National Archives (no. 74248081).

Then, in March of 1949, President Truman approved NSC 8/2, an updated statement of American policy respecting Korea. Reiterating the view of American leaders that the aim of Soviet policy in Korea was an eventual takeover of the entire peninsula, NSC 8/2 nonetheless announced that the last American

troops, save for a small advisory group that would instruct the ROK army, would be withdrawn from South Korea by June 30, 1949. After departure of its combat soldiers, the Washington government would continue to provide economic, military, and technical assistance to the ROK. Otherwise, or so it appeared, the ROK would be on its own.[53]

Over the anguished protest of President Rhee, the remaining American combat troops moved out of South Korea in June of 1949.[54] And what should the United States do in the event the North Koreans crashed over the thirty-eighth parallel? In a paper that was transmitted to the State Department on June 27, 1949, officials in the Pentagon made clear their conviction that the United States ought to undertake no armed intervention to rescue South Korea from the clutches of Kim Il-sung.[55] Civilian leaders registered no objection to the views of the military chieftains. A few weeks later, in July of 1949, General MacArthur's Far East Command (FECOM) completed Plan Chow Chow, FECOM's operational plan in the event of a North Korean invasion of South Korea. As for the possibility of redeploying United States combat troops in Korea, Chow Chow contained no provision whatever. In the event of a North Korean invasion of South Korea, FECOM would evacuate to Japan all American civilian and military personnel as well as designated foreign nationals.[56]



President Harry S. Truman. Courtesy of National Archives (no. 7865563).

A few months later, in December of 1949, President Truman approved NSC 48/2, a document that spelled out the Washington government's policy in the Far East. To prevent the expansion of communist power into the Pacific, the document made clear, the United States intended to rely on its bastions in the Philippines, the Ryukyus, and Japan. As for South Korea, mentioned almost in passing, the United States should continue to provide economic, military, and technical assistance.[57] Then, on January 12, 1950, Secretary of State Dean G. Acheson delivered his famous speech to the National Press Club in which he sketched the American defensive perimeter in the Far East. The ROK was on the other side of the perimeter. Should an "area" lying beyond that perimeter prove incapable of turning back an aggressor, it would be up to "the entire civilized world under the Charter of the United Nations" to protect the area's independence.[58]

Acheson's speech touched off alarm bells in Seoul. The result was anguished appeals by the South Korean government that the United States extend its defensive line in the Far East to include South Korea.[59] Had they known the substance of testimony offered by Acheson the day following the National Press Club speech to the Senate Foreign Relations Committee, meeting in executive session, they would have felt even greater anguish. After telling the senators that South Korea could not turn back an invasion by North Korea that was powerfully supported by China or the Soviet Union, the secretary testified, "I do not think that we (the United States) would undertake to resist it (an invasion of South Korea by North Korea) by military force." He also conceded that the Soviets probably would veto any resolution introduced in the Security Council of the UN mandating a military response by UN members to an invasion of South Korea.[60] When in April of 1950 the chairman of the Senate Foreign Relations Committee, Tom Connally of Texas, rattled leaders in Seoul by telling a reporter that abandonment of the ROK by the United States was a distinct possibility,[61] Acheson issued a statement that the United States valued the independence of South Korea—but declined to offer the slightest hint that the United States might rally to the defense of the ROK in the event it fell victim to an invasion from the north.[62] Even the formulation by the National Security Council of its renowned paper NSC 68, a bellicose document that indicated a renewed determination by the United States to stand up to Soviet and Soviet-supported expansion across the entire world, brought no apparent change in the thinking of the Washington government about Korea.[63]

Then, on June 25, 1950, the North Korean army swept across the thirty-eighth parallel. And when it became clear that the South Koreans could not stay the North Korean tide, President Truman, in what in my judgment was a 180-degree turnabout of United States policy vis-à-vis Korea, ordered American armed forces into combat in support of the ROK. Shortly after the outbreak of the Korean War, it is worth noting, the Soviet diplomat Andrei Vyshinsky was quoted as remarking to an American businessman: "Well, we don't know what to think about you Americans. Look at Korea. You did everything you could to tell us you were not interested in Korea, and when the North Koreans went in there [in South Korea], you put your troops in."[64]

Question: Did the Truman administration, as critics subsequently charged, emit signals indicating that the United States would not make an armed intervention on behalf of South Korea in the event the North Koreans invaded the ROK, and in so doing inadvertently invite a North Korean invasion? Like Vyshinsky, I believe it did—when it withdrew American combat troops from South Korea, when Acheson excluded South Korea from the United States

defensive perimeter in the Far East, when Acheson responded as he did to publication of the Connally interview.

Question: Did leaders in Washington have any reason to suspect that the North Koreans might actually undertake an invasion of South Korea in the foreseeable future? I believe they did. The documentary record includes numerous references from 1949 to early 1950 by officials of the American foreign policy–military establishment to the possibility of a full-powered drive by the North Koreans over the thirty-eighth parallel, some of them doubtless inspired by the almost incessant border clashes that took place during 1949 and early 1950 between the forces of the DPRK and the ROK that were entrenched along the parallel. President Truman later recalled in his memoirs that "throughout the spring (of 1950) the Central Intelligence reports said that the North Koreans might at any time decide to change from isolated raids (against South Korea) to a full-scale attack."[65] General MacArthur's intelligence people surmised in March of 1950 that the North Koreans would be prepared to invade South Korea by the following autumn, perhaps in the spring, that is, during the next three months.[66]

Question: Did the Truman administration have reason to believe (or seriously hope) that the South Koreans might prove capable of turning back a North Korean invasion? I think it did not. You will recall that Acheson himself told the Senate Foreign Relations Committee on the day after his speech to the National Press Club that South Korea would fall before an invasion from the north that was supported by China or the Soviet Union. As also noted in the present paper, General MacArthur did not believe the South Koreans could turn back communist invaders. In March of 1950, Gen William L. Roberts, the commander of the United States military advisory group in South Korea, concluded that in the event of an invasion from the north the ROK "would be gobbled up to be added to the rest of Red Asia."[67] On June 1, 1950, the intelligence section of America's Far East Air Force concluded that "South Korea will fall before a North Korean invasion."[68] A fortnight later, 11 days before the actual invasion of South Korea, the United States ambassador in Seoul, John J. Muccio, struck a similar note.[69]

Question: Did the Washington government blunder in the matter of Korea in 1949–50? I am inclined to think it did. Now one might argue that the blunder took place following the North Korean invasion of the ROK, that is, when Truman ordered United States combat forces to rally to the defense of South Korea. After all, had the Washington government stood by and, in the language of General Roberts, allowed the communists to gobble up South Korea, perhaps a couple of million Asians and Occidentals who died in the old Land of the Morning Calm in 1950–53 would not have died. Korea would have

endured nothing like the devastation that it did endure in those years. Arguments of that sort, of course, may be made against a decision to rally against

1st Lt Donald Longer, 527th Aircraft Control and Warning Group, reviews a wall map of Korea in July 1950. Courtesy of the USAF Collection, AFHRA (K-GP-AW-527-HI, IRIS no. 440755).

endured nothing like the devastation that it did endure in those years. Arguments of that sort, of course, may be made against a decision to rally against an invader in any war. Without getting into specifics, I think the reasons for the armed intervention in Korea by the United States in the summer of 1950 were manifestly legitimate. And I find it inconceivable that anybody might fashion a persuasive argument that the people of South Korea would be better off in 1992 had South Korea fallen under the rule of Kim Il-sung in 1950.*

*It is worth extending this point to the present day, as the difference between the quality of life in South Korea and North Korea has only widened since 1992. In 2013, South Korea had the world's fifteenth-largest economy. South Korea's life expectancy at birth was more than 10 years longer than North Korea's (79.3 to 69.2 years), South Korea's infant mortality rate was 4.08 compared to 26.21 in the North, and the South's per capita GDP was $32,400 compared to the North's $1,800. South Korea was rated fiftieth in press freedom, while the North was ranked 178th. North Korea received $78.8 million in new official development assistance, while South Korea donated $69 million for foreign development. Source: "South v North Korea: How DO the Two Countries Compare? Visualised," Datablog (hosted by The Guardian, 8 April 2013, https://www.theguardian.com/world/datablog/2013/apr/08/south-korea-v-north-korea-compared.

As mentioned, I am inclined to the view that the Washington government blundered in the matter of Korea in 1949–50. Perhaps the word blunder is too harsh. After all, the men who fashioned United States foreign policy during those years were honorable and capable men. They were the men who inaugurated the policy of containment of Soviet power that brought victory to the United States and its allies and friends in the Cold War during the 1990s. They were men who were rightly and properly preoccupied in 1949 and early 1950 with the Berlin blockade, the formation of NATO, the Tito revolt against Soviet hegemony in Yugoslavia, expanding Soviet influence in the oil-rich Middle East, and the triumph of communism in China. Regarding Korea, those men felt compelled to avoid any action or statement that might prompt the prickly Syngman Rhee, on the assumption that the United States would rush to his support, to provoke full-dress hostilities with the DPRK in the hope that the South Koreans, with American support, might drive Kim Il-sung and his henchmen from power in North Korea.

Still, one conclusion seems inescapable. If leaders of the United States had made the same determination regarding Korea during the six or so months (or perhaps the year or two) before June 25, 1950, that they made in the days after that date—and if they had made their intentions clear to the Soviets and North Koreans and left a contingent of United States combat troops deployed along the thirty-eighth parallel, say, in the historic invasion corridor to the north of Seoul—they almost certainly would have headed off a horrendous tragedy (assuming, of course, that they could have succeeded in keeping Syngman Rhee on a tight leash). Inasmuch as the premises that informed their momentous determination of late June of 1950 (to wit, that the global interests of the United States and the rest of the noncommunist world required the containment of communist influence and power at the thirty-eighth parallel in Korea) had been no less valid during the months (or even years) before June 25, 1950, it is hard to escape the judgment that the failure of the leaders of the United States to make it abundantly clear before June 25, 1950, that the Washington government would do whatever was required to save the ROK from the grasp of Kim Il-sung and his mentor Stalin—also their failure to order the deployment and preparation of United States forces in the Far East in accord with the foregoing premise—constituted a blunder, or at least a mistake, of truly historic proportions.

As stated at the outset of the present paper, during the century or two before the events of late June of 1950, Korea never loomed particularly large in the diplomatic calculations of the United States. The reason why Korea claimed minimal attention by Americans down to the time of the Second World War is manifest. Korea was a small, poor, and backward country, one that lay a third of the way around the world from the United States, one that

was of little or no economic, strategic, or political importance in the perspective of Americans and their leaders.

Nor is it hard to discern why Korea did not rank high on the list of concerns and interests of Americans and their leaders during the pristine years of the Cold War. The onetime Hermit Kingdom was little more than a pawn on the chessboard of international politics in those years when nearly all Americans came to believe that the security of their continental republic, indeed their very way of life, was threatened by what they perceived to be the expansionist and rapacious impulses of the Soviet Union and its clients; the rooks and knights on the international chessboard were Germany and the democratic nation-states of Western Europe, Greece and Turkey, Iran and China, and Japan. Or so thought most Americans (on the fleeting occasions when images of Korea touched their consciousness), including those who commanded the levers of power in Washington, at least through the first days of the summer of 1950. Evidence in support of the foregoing assertion may be found in the aforementioned hearings in which the Senate Foreign Relations Committee, meeting in executive session on January 10 and 13, 1950, reviewed "the world situation." During two days of hearings, in which senators interrogated leaders of Washington government's diplomatic and defense establishments, including Secretary of State Acheson, Under Secretary of State Dean Rusk, Secretary of Defense Louis Johnson, and the chairman of the joint chiefs of staff, General Omar N. Bradley, Korea received only random mention, usually in passing references in which it was grouped with such Asian countries as Burma and Indonesia, Malaya, and Thailand. During the review, indeed, Indochina was obviously much more on the minds of the senators and witnesses than was Korea.[70]

There may be another probable reason why Korea was viewed during the years immediately following the Second World War as little more than a pawn in the grim struggle that the North American superpower was waging with the Soviet Union and what Americans came to refer to as the international communist conspiracy: a perception of Korea that was not much changed from the perceptions of Theodore Roosevelt and the journalist George Kennan during the first years of the twentieth century and the historian Tyler Dennett in the 1920s.[71]

In a word, Americans of the years 1949–50, to the extent that they knew anything at all about Korea, tended to view the onetime Hermit Kingdom as a primitive backwater—a largely pastoral country peopled by unsophisticated and parochial people and boasting of few physical resources of any consequence.[72] Such was the portrait of everyday life in Korea that usually emerged from articles that on rare occasions appeared in American periodicals during the period.[73] And any American military person who served in Korea before

and during the war of 1950–53 can testify to the contempt with which most ordinary GIs and officers alike viewed the "Gooks," as American service people routinely referred to Koreans. GIs often made a point of not saluting officers of the ROK army. They chuckled at the sight of a leathery-skinned and bent-over Korean man or woman transporting an outrageous cargo on an A-frame strapped to his or her back. They laughed uproariously at the sight of two Koreans digging a ditch with a two-man shovel (that is, one man pushing a spade into the earth with his foot and a second man thereupon jerking a rope tied to the shank of the spade's wooden handle, an action that would cause a small quantity of earth to scatter in all directions). They bemoaned the seemingly pervasive ineptitude of Koreans when confronted with the tasks of operating and maintaining the mechanical wonders of the American armed forces.[74] Certainly no American who served in Korea before or during the Korean War, it seems fair to say, envisioned in his or her wildest imagination that in less than 40 years the southern half of "the Land that God Forgot" would become an economic powerhouse—one that would export, of all things, automobiles and television receiving sets for sale in the United States.

To be sure, Americans and their leaders wished Koreans well during the years following the Second World War and clearly hoped for the survival of South Korea as a noncommunist entity. In the interest of the survival of South Korea as a noncommunist entity, the government in Washington provided South Korea with considerable economic and military assistance—$181.2 million in 1946–48, $498.1 million in 1949–52.[75] Still, in the perspective of America's leaders, South Korea was expendable—a pawn. America's leaders reckoned that, in the foreseeable future, South Korea was not apt to be anything more than what it appeared to be at the time, that is, a primitive backwater. Unlike Western Europe and Japan, it assuredly was not worth going to war over.

But then, in the last days of June of 1950, Americans suddenly decided that South Korea, after all, was not expendable. Rather, the credibility of America's commitment to contain the Soviet scourge, particularly in Western and Southeastern Europe, the Middle East, and the Western Pacific, required that the United States rally to the defense of the ROK. And as a result of the decision by President Truman to dispatch armed forces of the North American superpower to rescue the beleaguered South Korean republic from Kim Il-sung's onrushing legions, Korea suddenly catapulted to the center of the collective consciousness of the people of the United States. It would remain at or near the center of the collective consciousness of Americans for the next three years, a period during which approximately a million American military personnel, at one time or another, were deployed in the defense of South Korea,[76]

more than 33,000 of whom died as a direct result of combat, another 20,000 as a result of disease and accidents.[77]

Seldom, if ever, near the center of the popular consciousness, Korea has nonetheless remained fixed in the minds of Americans and their national leaders ever since that day at the end of July of 1953 when the guns fell silent along the battle line in the ancient Land of the Morning Calm. And it seems fair to say that so long as the North American republic survives, Korea will never again recede, or virtually recede, from the collective consciousness of Americans—or ever again be perceived by Americans as a primitive backwater of little or no importance in terms of the interests, mainly political and economic, of the United States.

John Edward Wilz was born in Fairfield, Illinois, and died in Bloomington, Indiana, in 1994. He was a soldier in the United States Army from 1951 to 1953 and served in Korea during the war. He was later commissioned in the United States Army Reserve, in which he served until 1962. He held his bachelor's, master's, and doctorate degrees from the University of Kentucky and taught history at Indiana University from 1958 until he retired from ill health in 1991, having been named professor emeritus. He also taught at the University of the West Indies, Jamaica; Hamburg Universitaet, Germany; and, Graz Universitaet, Austria. He was presented with the Fulbright–Hays award several times for his overseas teaching. In addition to numerous articles on US diplomatic and military history, Professor Wilz is the author of seven books, including *In Search of Peace* (Louisiana State University Press), *From Isolation to War* (Cromwell), *The Search for Identity* and *The Search for Meaning* (both with J. B. Lippincott), and *Democracy Challenged: The United States since World War II* (Harper and Row).

Notes

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9. Mr. Low to Mr. Fish, 13 May 1871, ibid., 115.

10. Mr. Low to Mr. Fish (with enclosures), 31 May 1871, FRUS, 116–21; and Mr. Low to Mr. Fish (with enclosures) 2 June 1871, ibid., 121–24.

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12. Mr. Low to Mr. Fish, 20 June 1871, ibid., 126–29; and Admiral Rodgers to Commander H. P. Blake, 9 June 1871, ibid., 135. See also William M. Leary Jr., "Our Other War in Korea," *United States Naval Institute Proceedings*, 94 (June 1968): 47–53; and Bernard C. Nalty and Truman Stobridge, "Our First Korean War," *American History Illustrated*, 2 (1967): 1019.

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drawn extensively from a paper entitled "The Making of Mr. Truman's War" that was delivered by the author during a conference in Seoul in June of 1990. Commemorating the fortieth anniversary of the outbreak of the Korean War, the conference was sponsored by the War Memorial Service–Korea. The paper was subsequently published in *The Historical illumination of the Korean War* (Seoul: Korean War Research Conference Committee [a division of the War Memorial Service–Korea], 1990). The War Memorial Service–Korea, headed by Lieutenant General Lee M. Young (retired), has granted permission to the author to incorporate the paper in the present essay.

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67. Roberts to C. L. Bolte, 8 March 1950, G-3 091, Korea, sec. I, case 3, Records of the Army Staff, Record Group 319, National Archives.

68. History FEAF, January–June 1950, I, 67, the Albert F. Simpson Historical Research Center, USAF, Maxwell Air Force Base, AL.

69. Ambassador in Korea (Muccio) to the Secretary of State, 14 June 1950, FRUS, 1950, VII, op. cit., 105.

70. US Congress, *Reviews of the World Situation*, op. cit., passim.

71. See Dennett, *Roosevelt and the Russo–Japanese War*.

72. Frank Bowling, "Korea: Will It Become a Power, Puppet or Pawn?," *Christian Science Monitor*, 31 January 1948, 8–9. Bowling wrote that "if you were to walk up to the first 10 . . . [Americans] you meet on the street and ask them to locate Korea on the map or tell you what language is spoken in Korea, you would in all likelihood draw a large number of blanks."

73. Ruth Armstrong, "Some Observations on Korea," *Arkansas Historical Quarterly* 8, no. 3 (Autumn 1949): 251–55; and "Roaming Korea South of the Iron Curtain," *National Geographic Magazine* 97, no. 6 (June 1950): 777–808. See also the photographs accompanying Helen L. Cutting, "Visiting Our Troops in Korea," *Travel* 91, no. 1 (May 1948): 18–21.

74. Recollections of the author, a combat engineer Soldier in Korea in 1952–53.

75. US Office of Planning and Budgeting, Bureau for Programs and Policy Coordination, Agency for International Development, "US Overseas Loans and Grants and Assistance from International Organizations, Obligations and Loan Authorizations," 1 July 1945–30 September 1990, 78.

76. Walter G. Hermes, *United States Army in the Korean War, Truce Tent and Fighting Front* (Washington, DC: Center of Military History, US Army, 1966), 513. The strength of US ground forces deployed in Korea on 30 June 1951 was 253,250; on 30 June 1952, 265,864; on 31 July 1953, 302,483. Large numbers of Army personnel who were deployed in Korea in 1950–53 rotated back to the ZI (Zone of the Interior, or United States) after 6–12 months, most of the remainder after no more than 16 months.

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"Fighting with Allies"

The Hand-Care and Feeding of the Anglo–American Special Relationship*

Warren F. Kimball

> *There is only one thing worse than fighting with allies, and that is fighting without them.*[1]
>
> —Winston S. Churchill

Allies of a Kind, *Allies at War*, *An Ocean Apart*, *Competitive Cooperation*, "A 'Special Relationship'?" "Special in Relationship to What?" "An Alliance of Convenience?" All carefully ambiguous book and essay titles that acknowledge that the Anglo–American alliance during the Second World War may well have been what one author from an earlier generation grandiosely called The Partnership that Saved the West. At the same time, those phrases raise doubts that the Anglo–American alliance was, or has been, anything "special." Even Winston Churchill, who was there at the alliance's apogee, ruefully observed that the "one thing worse than fighting with allies . . . is fighting without them."[2]

The United States and Great Britain have a special relationship by historical definition. The colonizer always imprints its culture, institutions, and thinking on the colonized to one degree or another; and vice versa. That imprint becomes overpowering when the colony is peopled primarily by migrants from the colonizer, which quickly became the case with the United States as the native American Indians essentially disappeared—either into the West or into the ground.†

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*Harmon Memorial Lecture #41, 1998.

†While the United Kingdom originally contributed the largest percentage of immigrants to the American colonies and the early United States, that percentage decreased significantly over time. As early as the 1820s, annual Irish immigration was more than double British immigration. And by the 1830s, immigration from Germany also was greater than from Britain, and these trends continued for the rest of the century. The census of 1850 showed that more than 2.24 million immigrants moved to the United States in the previous decade, and just 379,000 were from Great Britain, while over 961,000 were from Ireland and nearly 584,000 were from Germany. In the census of 1900, 10.34 million immigrants had arrived in the previous decade, and Great Britain contributed 1.167 million persons, while Ireland sent 1.615 million, and Germany over 2.66 million. The first decade of the twentieth century would see more than a million immigrants each from Scandinavia, Italy, and Russia. See "Table 4. Region and Country or Area of Birth of the Foreign-Born Population, With Geographic Detail Shown in Decennial Census Publications of 1930 or Earlier: 1850 to 1930 and 1960 to 1990," https://www.census.gov/population/www/documentation/twps0029/tab04.html. For annual statistics, see US Department of Commerce, *Historical Statistics of the United States Colonial Times to the 1970*, Part 1, accessed 27 December 2017, https://www.census.gov/history/pdf/histstats-colonial-1970.pdf.

Neither India nor England can ever be what they were before the Raj. Ireland and England cannot disentangle the tentacles of their common histories. The same is true for the peoples of the Soviet empire, as well with the United States' own colonial world in the Philippines and Puerto Rico. But that colony-by-conquest experience produced something different from what grew out of the colony-by-development process that created the English settlements in North America—Canada and the United States. No one ever referred routinely to Great Britain as India's "mother country," whatever the cultural and culinary exchange rate.[3] This is not a covert attempt to offer some sort of theory of colonialism; just a way to suggest that the Anglo–American relationship has been "special"—if special means both close and unique.

That is a truism, perhaps even trite. But narrow geopolitical assessments all too often dismiss or downplay "special" relationships. Why, for example, has Russia recently played what seems to be a dog-in-the-manger role in the former Yugoslavia except for a "special" relationship based largely on the history of the South Balkans?

Why would the United States choose to antagonize the oil-producing nations of the Middle East and, at the same time, open the door to Soviet "adventurism" (to use their term) were it not for a "special relationship" with Israel? What, pray tell, was so geopolitically important to Churchill and the British government about Greece in late 1944 that it distracted Britain from the matter at hand—defeating Hitler's Germany? Not the fear of Soviet expansion, for that had been negotiated away when Churchill and Stalin divided Eastern Europe into spheres of influence in their sordid "percentages" deal in October of that year.[*4] Whatever Churchill's fears of communism and concerns for British interests in the eastern Mediterranean, Greece held a "special" place in the British historical imagination. Classical antiquity and the mythology of democracy combined to create an image of a Byronesque "special relationship," even if the Greeks did not reciprocate.[†]

Of course the word "special" is conveniently, or annoyingly, vague. British diplomats find the phrase awkward and shy away from the implication that Britain does not treat every nation as "special." But that is a bit of a word game since, as one British ambassador, career diplomat Antony Acland, put it, the United States and United Kingdom have a "fatter, larger, stronger underwater

*This refers to agreements made at the Moscow Conference of 1944, often referred to as the Tolstoy Talks. Unlike meetings of the "Big Three" at Yalta and Tehran, FDR did not attend this meeting. The United States was represented only by the US Ambassador to the USSR, W. Averell Harriman, and by Gen. John Dean, the head of the military mission to the USSR, who attended as observers. For a collection of unedited documents from this conference, see J. V. Chamberlin, *Churchill–Stalin Moscow Conference 1944: Top Secret* (CreateSpace Independent Publishing, 2012).

†This is a reference to Lord Byron, George Gordon Byron, the 6th Baron Byron, who died in Greece in 1824 supporting the Greek war for independence from the Ottoman Empire.

cable" than that between Britain and other states. I'm not sure how FDR, Churchill, Reagan, and Thatcher would have taken to being labeled part of a "fatter, larger cable," but what Acland means is that institutions are more important than individuals. That is an understandable if frequently frustrated conviction held by career diplomats on both sides of the Atlantic. After all, if you had spent a lifetime in the diplomatic service, how would you like to see your recommendations rejected by a perfume manufacturer or party hack who had literally paid his or her dues and was the ambassador? As Acland drily put it, the relationship at the top is only the "very important icing on the cake." A former American ambassador in London, Raymond Seitz, insisted that "chemistry between the respective leaders should never be confused with what the Anglo–American relationship is all about."

At the same time, British and American diplomats have been comfortable with the concept that the Anglo–American relationship is something special. Another British foreign service officer, John Coles, pointed out that, whatever the practicalities of political and economic power, the United States and Britain have had (and have) a "privileged" relationship, unlike that between any other two countries in the world. Strong words, indeed, from a career diplomat, even an admitted believer in the "special relationship." Coles suggested that, however much the British Foreign Office avoided the word "special," they liked it when the Americans used it. Henry Kissinger turned that around a bit by cautiously inferring that it was the British who felt "a special friendship for us," while admitting that the relationship had become "a pattern of consultation so matter-of-factly intimate that it became psychologically impossible to ignore British views."

On the American side, Ronald Reagan's Secretary of Defense, Cap (Caspar) Weinberger, spoke of the "special relationship" consciously, routinely, and proudly; unlike Ray Seitz, who (perhaps facetiously?) claims to have taken a vow when he became the ambassador never to use the phrase.

Without delving into deconstruction, that all suggests that the word "special" in "special relationship" raises expectations for some of a positive, favorable, beneficial association. For others, the connotation is that of a unique relationship and close association; one where each country pursues its own interests—often noisily—but, when the chips are down, support to the other is usually seen as a matter of self-interest. Part of this may well be (again, in the phrase of Ambassador Seitz) that "the Americans and British find each other just strange enough to be exotic and just familiar enough to be comprehensible." "Exotic" is not usually joined with "British," but the point is clear.[5] Geopolitics is only part of the equation.

The Anglo–American relationship has shifted since 1776—slowly but steadily for the first 125 years as the United States grew in power, size, and

influence: then, since 1900, with greater speed. Two world wars, the decline of the British Empire, and the class structure of British capitalism (the political economy) all played key roles in slowing the rate of British growth, while the United States grew dramatically in all directions—trade, commerce, production, population, self-confidence—all translating into that imprecise but very real term: power.

But throughout that process, even during and shortly after the era of the American Revolution, when England fought two wars with the Americans in vain attempts to maintain some sort of colonial relationship, British economic and political models maintained their hold on the American imagination. Much of the "Republican" self-image that so many Americans held to was, in important ways, inherited from British experience and thought. Although US leaders perceived London more as threat than friend until 1900 and likewise such actions as the withdrawal of British naval forces from the Caribbean, the reality was that prime ministers and foreign secretaries in London had firmly resolved, even before the American Civil War, not to confront the United States.[6]

Make no mistake—this was no love-in. Specific issues more than occasionally generated distrust and anger. In 1902, for example, the defense of British interests in both East Asia and Europe prompted London to agree to a military alliance with Japan. A decade and one-half later, after the First World War, Washington found the alliance a vague threat to expanding American interests in the Pacific. That concern, added to the geopolitical weight of growing Japanese militancy, the costs of a naval arms race, and unease on both sides of the Atlantic that the Anglo–Japanese Alliance could put the United States and Britain in opposite camps, all combined to turn a bilateral military pact into a nonthreatening four-power agreement to talk.[7] The tendency to work together—the "special relationship"—was in place.

All the while, even a cursory glance at books, banking, at visas stamped in passports and travel statistics, and later at movies and television provides testimony to the array of parallel political, social, and cultural institutions of both countries. Any American (or British) university library has a shelf full of books on the Anglo–American "special relationship," a collection not matched by any other—not even the myth of the Chinese–American connection. The "special relationship" exists, whatever its shifting geopolitical nature. If politics were all there were to the "special relationship," it would have collapsed long before its "finest hour" during the Second World War.

That Anglo–American wartime alliance was more than just a product of time, space, and a common set of worldwide enemies. Ideology, values, and a two-centuries-old "special relationship" inclined the two nations toward each other. The German ambassador to the United States in the late 1930s, Hans

Dieckhoff, warned his superiors in Berlin that "the American Government, should it so desire, will encounter no insuperable difficulties in again pushing this country into the war . . . just as in the [first] World War."[8]

What of that World War II alliance? Historical memory—aided and abetted by Hollywood, television, novelists, and ambitious politicians—initially developed an over-romanticized image of the wartime "special relationship." During the past three decades, stimulated by the opening of British and American archives for the wartime years, that pastel image has developed sharper contrasts. Historians have found clear evidence of quarrels, selfishness, and competition for wartime glory and postwar advantage. Each government pursued its own agenda, from American insistence on liberalized trade (what some have argued is the "imperialism of free trade") to British efforts to maintain European empires—and hence their own. On numerous occasions, Churchill and Roosevelt bitterly disagreed on key issues, from the Normandy invasion to promises of independence for India. Roosevelt's usual reaction was to sweep the matter under the rug. Churchill's usual response was feisty. He would resign, he warned, before he would "yield an inch of the territory that was under the British flag."[9] But that resignation never came.

Foreground, from left, British Prime Minister Winston Churchill, US President Franklin D. Roosevelt, and Soviet Premier Josef Stalin meet at the Yalta Conference in 1945. Courtesy of Joint Chiefs of Staff.

The pendulum of historical interpretation routinely swings too far. The wartime "special relationship" is not an either/or, zero-sum game. The "Grand" Anglo–American alliance of World War II was not a case of my-way-or-the-highway for either Churchill, Roosevelt, or their governments. At no time was it a simple case of poor, pathetic, over-the-hill Britain, timid and frightened by memories of the bloody killing fields during the First World War, a power in decline—versus the United States, an aggressive, expansionist nation rising toward dominance.[10] Time and again, Churchill, Roosevelt, and their associates disagreed, argued, squabbled, pointed fingers, and said "hell, no!" Time and again they compromised, rationalized, and then realized they could work it out. The Americans bought into the British grand strategy of peripheral campaigns in North Africa and Italy. Then, the British bought into the American grand strategy of a massive cross-Channel invasion. Roosevelt bought into Churchill's geopolitical deals with Stalin. Churchill bought into Roosevelt's hope that the Grand Alliance (Coalition) could be the foundation of postwar "coexistence," to steal a Cold War phrase.

But what about the full wartime alliance: the Anglo–American–Soviet alliance of World War II? It was, more properly, a coalition—a geopolitical word meaning temporary combinations directed at common goals, usually a common enemy. Coalitions have often included nations that have a particularly close relationship, but that is not the essence of a coalition. To better appreciate the coalition aspect of World War II, imagine that conflict as three separate but interlinked wars.

The war in the Pacific was an American war, whatever the usefulness of its coalition partners. Britain and its empire held the line in the South Pacific and South Asia, while the relatively passive vastness of China occupied much of Japan's armies, energies, and supplies. The Soviet Union missed an opportunity to strengthen the coalition by remaining neutral long after mid-1944, when victory in Europe had become certain, but the threat of Soviet intervention forced Japan to keep large forces along the border between Manchuria and the USSR. Still, the Pacific War was fundamentally won by the United States (if you wish to believe the wartime Navy chief, Adm Ernest King, postwar Navy recruiting posters, and Hollywood, it was the United States Navy that won the war).

The war against Hitler's Germany actually created the massive Anglo–American–Soviet coalition. But as important as that coalition was, the fight against Hitler was Russia's war. The storied Anglo–American campaigns in North Africa, Italy, and Western Europe could not have been successful, in fact were hardly possible, without Russia's war against Germany and its allies. Soviet forces faced the overwhelming bulk of Hitler's military might from the USSR's entry into the war in June 1941 (six months before the Pearl Harbor

attack allowed the United States to enter), until Germany collapsed four years later.[11] So massive was the Soviet military role that one wonders not if Private Ryan should have been saved, but whether or not he should have been there at all.* Bluntly put: to what degree was the Normandy invasion a political as well as a military necessity? The point is that the contribution of each of the coalition members to the European war was, as with the Pacific War, unequal. The United States, through lend-lease, provided significant military aid. It may well be that the Red Army rolled on American tires and treads, although captured German equipment was equally important. But American and Russian historians have agreed that lend-lease supplied only between 7 and 10 percent of Soviet military supplies. The remainder came from the Soviet's own production and from captured enemy materiel. Although even ex-Soviet (now Russian) historians agree that Russian tactics were unnecessarily bloody,[12] it was the Red Army that beat the Germans, with the Anglo–Americans playing a supporting, often diversionary, role.

But before the Russians and the Americans could win their wars, the British had to win theirs. The first war within the war took place between September 1939 and spring 1941 as Britain struggled to defeat, not Hitler's Germany, but Germany's ability to invade England. What Churchill, a public relations genius, shrewdly labeled The Battle of Britain turned out to be what he later proclaimed his nation's "finest hour." The successful fight ensured Great Britain's survival. The Royal Air Force challenged the enemy but avoided pitched battles. The inability of the Luftwaffe to sweep the RAF from the skies made the German invasion of Britain, Operation Sealion, impossible. Never "was so much owed to so few by so many" was Churchill's accurate appraisal.[13] American aid, particularly lend-lease, made it politically possible for Britain to implement its simple strategy of survival, for it promised that the Americans were coming. But Britain survived on its own.

That defensive victory proved indispensable. Not only did it increasingly divert German attention and resources from Hitler's fight against Russia, but it provided both the psychological prop that kept the United States in the struggle against Germany, and then the physical platform for the invasion of German-held Europe. Churchill wrote of the first major British victory at arms, the battle of El Alamein in North Africa late in 1942: "Before Alamein we never had a victory. After Alamein we never had a defeat."[14] He was wrong about the victory. Had Britain not won the battle for survival in 1940, the

*This is undoubtedly a reference to the 1998 film, "Saving Private Ryan," directed by Stephen Spielberg, written by Robert Rodat, and starring Tom Hanks, Tom Sizemore, and Matt Damon, in which a group of US Army Rangers, then in northern France after the landings in Normandy, are ordered by the US Army high command to rescue and retrieve a young paratrooper, Private Ryan (Damon), whose brothers have all been killed in combat.

United States could not and would not have confronted Hitler unless and until he challenged American security in the Western Hemisphere—a challenge that would not have come until after Germany took care of the Soviet Union. And without the Anglo–Americans, Joseph Stalin would surely have sought another accommodation with Hitler. Three wars within the war (no ambiguity intended). Three victories by coalition partners of very different strengths: the Americans with a powerful navy and an extraordinary industrial capability; the Russians with a massive ground army that could, and did, overwhelm the enemy; the British with a remarkable demonstration that a shrewd plan and good fighter pilots flying off a safe landing field—in this case the island of Britain—could prevent a seaborne invasion by a much stronger military power.

But which nation won the Second World War? All of them—the Grand Coalition, to use the proper term for Churchill's "Grand Alliance." The lesson in this somewhat ahistorical tale is simple. Don't judge the value of coalition partners by "realist," geopolitical standards. Don't just count tanks, planes, ships, and soldiers. What matters is that your partner is there for you with what you need, when you need it. "Timing in life is everything."

But what about the "icing on the cake," the personal connection between, in the case of World War II, Franklin Roosevelt and Winston Churchill? Common sense tells us that the Churchill–Roosevelt relationship was important, however much it was limited by practicality, power, and politics. Time and again they intervened to insure that disagreements between their subordinates did not become disruptive. From the outset, both leaders insisted that their military chiefs resolve disagreements rather than asking the president and prime minister constantly to act as referees.[15]

Of course the two men had the leadership advantage of a crisis. Leadership when things are calm seems easy but is, in fact, more difficult. Gen George C. Marshall's success in World War II can be understood only in the context of his prewar efforts to survive and develop professionally in the peacetime army.[16] Great events can help make the person, but the person has to rise to the occasion. In the case of Roosevelt and Churchill, both men did just that. So did Stalin, in a brutal and destructive way. They were more than just present at the crisis.

The issue of personalities versus historical forces is a false, either/or question. Oscar Wilde proclaimed that "it is personalities, not principles, that move the age." But, those personalities had principles, ideas, and a frame of historical and intellectual reference that meant, in Hegel's perceptive phrase, that "the great figure of the age . . . actualizes that age."[17] The job of historians is to assess the relative influence of great forces as deflected and interpreted by individuals. What determined the nature of the World War II coalition? Com-

munism? Capitalism? Nationalism? Industrialism? Welfare State Socialism? Certainly those and other forces influenced the alliance. The ominous threat of Nazism and the happenchance of the simultaneous challenge of Japanese expansionism created the coalition and shaped its immediate goals. But without the grease and glue—the leadership—provided by Roosevelt and Churchill, the Anglo–American alliance could easily have descended into petty quarrels over selfish interests and personal jealousies. Yet what that lubricating grease and glue held together was a "special relationship"—one that was there waiting.

An example—one among hundreds. When Churchill proposed that Britain be the "senior partner" in the occupation of Sicily, the Americans insisted on equality. The prime minister could not push the matter further, but his frustration showed through when he sardonically told the president that "perfect equality" in Sicily would not "prejudice" American primacy in North Africa. I will continue "to be your Lieutenant there," Churchill added self-deprecatingly.[18] But such strains in the Anglo–American relationship were part of a long, peaceful commercial and political rivalry that did not threaten to degenerate into confrontation.

The Second World War experience does suggest that, while victory is a practical and necessary binding for a continued special relationship, winning together does not create the fundamental building blocks that turn a coalition into something more enduring. If a master politician like Franklin Roosevelt could not make that happen with the Soviet Union, who can?*

Perhaps, argue the skeptics, the Anglo–American special relationship was the real thing during the Second World War, and the Churchill–Roosevelt connection a crucial part of that alliance, but sentimental memories were all that survived. After all, the Cold War era found a Britain in decline, a near-bankrupt society that required extensive aid from the United States to survive. By the late 1940s, Britain could not even hold up its share of the anti-Communist crusade in tiny Greece and had to ask the United States to pick up the burden. The United Kingdom seemed to live up to Dean Acheson's oft-quoted contemptuous dismissal of it as a nation which had "lost an Empire but not yet found a role."[19] Of course Britain had the bomb, but that hardly translated into usable power. What had not been an equal relationship during World War II became embarrassingly unequal. President Dwight Eisenhower found Churchill, serving a final term as prime minister, uncomfortably old

*FDR passed away on 12 April 1945, nearly a month before Victory in Europe Day on 8 May 1945, and more than four months before Victory in Japan Day, 2 September 1945. The burden for turning the wartime coalition into "something more enduring" fell to FDR's successor, US president Harry Truman. Winston Churchill left office on 26 July 1945, which meant that among the original wartime leaders only Joseph Stalin was still in office when World War II ended.

and out of touch—all too eager to negotiate with Stalin. When Britain and France invaded at Suez, Ike angrily condemned British colonialism. President John Kennedy used the British to thwart French-led plans for European strategic autonomy, then embarrassed Prime Minister Harold Macmillan by canceling the promised Skybolt missile program. Churchill once told Charles de Gaulle that, if forced to choose between the United States and France, he would always choose the United States. Macmillan did that and lost out in the bargain.

Little wonder, then, that as many Britons began to look more toward Europe, as the European Community began to emerge as something more than just a vision in the mind of Jean Monet, many began to adopt de Gaulle's demand that Britain choose between the United States and Europe.

But American insensitivity toward Britain's postwar problems hid an awareness in Washington of the value of the "special relationship" during the Cold War. Britain's old empire, aesthetically distasteful as it was to Americans, soon took on strategic political and military importance. That quickly prompted the United States to support the transformation of the British Empire. Take down the Union Jack flying over Government House, but hold on to and upgrade the military bases and intelligence networks.[20] Britain proved a loyal ally during the Korean War, sending military forces to fight when others stood by and either cheered or jeered. Every indication is that Eisenhower's real anger at Suez was not so much directed at colonialism as at being "double-crossed" by the British failure to forewarn him of the invasion—an example of Britain failing to nurture the special relationship. Even during the Vietnam War, the British uneasily supported the United States, although it occasionally took some heavy arm-twisting by President Lyndon Johnson. When the United States concluded that Libya's Muʿammar Gadhafi supported terrorism and that a hopefully "surgical" air attack would teach him a lesson, the British provided air bases and support when most of Europe feared or refused to do so, even though the motive was simply support for an ally, "period!," according to the prime minister's senior foreign policy advisor.[21]

But the most obvious recent examples of the "special relationship" came during the Falklands Islands/Malvinas War and the US invasion of the tiny Caribbean island of Grenada. In each instance, either Prime Minister Margaret Thatcher or President Ronald Reagan put the Anglo–American relationship ahead of contrary international and domestic considerations. The full details of both episodes remain buried in classified files, but the outlines are clear.*

*Many records from these wars are now available.

In April 1982, only a few months after Reagan became president,* Argentine military forces tried to occupy the Falkland Islands, which they claimed as the Malvinas, located far out and far south in the South Atlantic—nearly a thousand miles from the Argentine capital of Buenos Aires. Alexander Haig, then US secretary of state, characterized the general American reaction to the conflict: "a Gilbert and Sullivan battle over a sheep pasture between a choleric old John Bull and a comic dictator in a gaudy uniform."[22] But Thatcher and her government took the matter seriously. What was the alternative to confronting the Argentines, she later asked? "That a common or garden variety dictator should rule over the Queen's subjects and prevail by fraud and violence? Not while I was Prime Minister"—words reminiscent of Churchill's insistence that he had not become the King's First Minister to preside over the liquidation of the British Empire.[23] Whatever her domestic motives, Thatcher's cry that aggression—even against less than 2,000 residents—had to be resisted resonated with her party and most Britons and eventually with many Americans as well.

The American ambassador to the United Nations, Jeane Kirkpatrick, worried about undermining the staunchly anti-communist Argentine government and argued for strict neutrality. She contemptuously referred to Haig's back-and-forth trips between Buenos Aires and London as a "Boys Club vision of gang loyalty." Yet those same attempts at mediation seemed to the British a portent of another Suez sellout, despite Haig's reassurances to the British ambassador, while Thatcher reportedly fell into an "apoplectic rage" at the initial American refusal to stand behind Britain.[24] But a short-term Cold War coalition with the brutal Argentinian military regime proved no match for the long-term special relationship with Britain.

As the British prepared to take military action, the Americans began to worry about the effect a lackluster military performance might have on the NATO alliance—though in hindsight, worries about Soviet military power were grossly exaggerated. More important, any balancing test between Anglo–American and Argentine–American relations invariably found Britain more important.

But the grease and glue that ensured American support for British actions came from the "icing on the top." Thatcher and Reagan had already developed a personal relationship, even though Reagan had been president for only 15 months. In the president's (or his ghostwriter's) words: "Not only did Margaret Thatcher and I become personal friends and share a similar philosophy about government; the alliance was strengthened by the long special relationship between our countries."[25]

*Reagan was inaugurated on 20 January 1981, some 15 months prior to the start of the Falklands War.

The United States maintained formal neutrality, though not the "genuine" neutrality that Reagan later claimed. Rather it was a neutrality that had echoes, however small and faint, of 1939–1941, when Britain fought Hitler alone; when FDR sent nearly everything but military forces to aid England. Anglo–American diplomats have repeatedly claimed that, during the Cold War, the special relationship was strongest in the arena of military and intelligence cooperation.[26] That was borne out with "Cap" Weinberger as the US Secretary of Defense during the Falklands War. The British magazine, *The Economist*, reported that "the Americans claim 98% of British intelligence of Argentine movements came from them." More than that, Weinberger, initially on his own, authorized British use of the American airbase on the island of Ascension, in the South Atlantic about halfway between Britain and the Falklands. The island was a British territory, and the lease agreement permitted Britain emergency use of the facility, but landing rights and some 60 million dollars' worth of supplies—particularly weapons systems and spare parts—plus Sidewinder missiles and fuel, were indispensable to the British military campaign. Even Thatcher, not given to gushy phrases, wrote that, in Weinberger, "America never had a wiser patriot, nor Britain a truer friend."[27]

Something less than 3,000 casualties overall in a battle neither country wanted, fought over islands with no value other than those of emotion and pride.[28] An unnecessary conflict? Probably so. Comic opera? Yes, in the grand scheme of world events; though not if you were on the Argentine cruiser *General Belgrano*, sunk by a British submarine's torpedoes, or aboard the British destroyer *Sheffield*, sunk by an Exocet missile fired from an Argentine aircraft. And not if you were Margaret Thatcher looking to "wag the dog" at home. And not if you were Ronald Reagan who, with Mrs. T[hatcher], "believed absolutely in the moral rightness of what she was doing" and did not want to see her market-economy style government collapse.[29] And not if you were interested in maintaining the "special relationship."

A new test of the relationship came quickly, and in the least probable place. Only a year and one-half later, the Reagan administration decided to intervene in the tiny Caribbean island of Grenada, ostensibly to rescue American medical students caught in political turmoil; in reality to eliminate a quasi-Marxist government and out of fears that Cuba or the Soviet Union would make a military base out of the existing airport.* The problem for the Thatcher government was that Grenada was part of the British Commonwealth. Even worse, the Americans did not take the British into their confidence. In London, Foreign Secretary Geoffrey Howe squirmed with embar-

*For a thorough account of this brief American operation, see Edgar F. Raines Jr., *The Rucksack War: U.S. Army Operational Logistics in Grenada, 1983* (Washington, DC: US Army Center of Military History, 2010).

rassment when the Americans launched their invasion after he had told Parliament, relying on US assurances, that no such attack was imminent. Four hours after Howe's remarks, word came that Reagan was considering military action, a decision that had been made two days earlier but not passed on to the British. "The truth is," wrote Howe, "that the government had been humiliated by having its views so plainly disregarded in Washington." Thatcher angrily warned the president that "this action will be seen as intervention by a western country in the internal affairs of a small independent nation, however unattractive its regime."

The Americans had expected fulsome British support and openly pouted when that was not forthcoming. Then Secretary of State George Shultz complained that Thatcher was embarrassed by a British colony "going bad" and by accusations in Parliament that she was "Reagan's poodle." Both he and Reagan believed "she was just plain wrong."[30]

For the British, the episode was deeply embarrassing. Officially, the Thatcher government was supportive, if unenthusiastic. Unofficially, she stridently warned over the BBC that "if you're going to pronounce a new law that wherever communism reigns against the will of the people, even though it's happened internally, there the USA shall enter, we're going to have really terrible wars in the world." Her sense of national sovereignty, heightened by the Falklands War, made her uneasy about American intervention in Grenada, so much so that she asked some foreign office officials to write papers about historical cases where violations of borders were legitimate.[31] But Thatcher was not consistent. The Falkland Islands crisis was not a time "for a lecture from friends," she had earlier complained, yet that is precisely what she laid on the Americans over Grenada.[32]

But the American "rescue" seemed successful, and success was always one of Margaret Thatcher's tests.[33] Other issues, from the Strategic Defense Initiative to nuclear arms reductions to relations with the Soviet Union and its new and different leader, Mikhail Gorbachev, came to dominate Anglo–American relations. The nasty words and hurt feelings generated by both the Falklands and the Grenada crises quickly faded. For British Foreign Secretary Howe, this all confirmed and strengthened his (and other Britons') already pronounced views on Britain in Europe. Quoting a newspaper commentary, Howe wrote in his memoirs that "British governments have been living in a fool's paradise in looking to Washington first, and Europe second. In future, it should be the other way around."[34]

But the reality was that the "special relationship," the tendency to work together, carried the day. However rude, insensitive, and arrogant the Americans had been; however angry, petulant, and insulted the British had been; and vice versa, working together remained more sensible and more comfort-

able than basing a divorce on a silly intervention in the Caribbean or a curiously unrealist, even unrealistic, military operation on barren South Atlantic islands.

Shortly after the Grenada episode, Thatcher received an American diplomat who had come to London to talk about strategic trade. Four times he raised the subject of his mission. Four times she reminded him of the US failure to inform her about the Grenada invasion. Then, after watching the emissary squirm, she went ahead and let him talk about what he came for, then quickly agreed that something could be worked out. There was an "unofficial scoreboard," and the time had come to "bank" the debt.[35] Again, the moral of the story is straightforward. Alliances and coalitions require the partners to back-scratch each other. The difference is that with an alliance, with a "special relationship," you enjoy scratching the other person's back; with a coalition, you scratch it because you decide you have to.

And never ever underestimate the need for friends, for allies, for partners—as the Gulf War quickly demonstrated a few years after the Grenada episode. Remember, it is far more comfortable, more fulfilling, more compatible with one's own ideals, and more lasting, to have as a partner a friend than it is an antagonist.

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Notes

1. Viscount Alanbrook diary, 1 April 1945, as quoted in Arthur Bryant, *Triumph in the West, 1943–1946* (London: Grafton Books, 1986), 445. The aphorism was, apparently, one of Churchill's favorites. Clementine Churchill commented earlier in a letter to Winston that "I often think of your saying, that the only worse thing than Allies is not having Allies!" Clementine to Winston, 23 November 1943 (Baroness Spencer Churchill Papers, Churchill Archive, Cambridge), CSCT 1/27—with thanks to Allen Packwood of the Churchill Archive. Churchill popularized the term "Anglo–American special relationship," using it before Parliament in November 1945; then, with more impact, in his "Iron Curtain" speech at Fulton, Missouri, 5 March 1946; Louise Richardson, *When Allies Differ: Anglo–American Relations during the Suez and Falklands Crises* (New York: St. Martin's, 1996), 223n5.

2. Emphasis added. For various speculations on the "special relationship" *see* Christopher Thorne, *Allies of a Kind* (New York: Oxford University Press, 1978); David Reynolds, *The Creation of the Anglo–American Alliance, 1937–1941: A Study in Competitive Co-operation* (Chapel Hill: University of North Carolina Press, 1982); David Reynolds, "A 'Special Relationship'? America, Britain and the International Order since the Second World War" *International Affairs* 62, no. 1 (Winter 1985-86): 1–20; Alan P. Dobson, "Special in Relationship to What? Anglo–American Relations in the Second World War," in *Britain and the Threat to the Stability in Europe, 1918–1945*, edited by Peter Catterall and C. J. Morris (London: Leicester University Press, 1993); and Richardson, *When Allies Differ*. Peter Boyle summarizes the literature in "The Special Relationship: An Alliance of Convenience?," *Journal of American Studies*, 22 (December 1988): 457–65. Joseph P. Lash, *Roosevelt and Churchill, 1939–1941: The Partnership that Saved the West* (New York: Norton, 1976). For additional discussion of these issues, *see* Warren F. Kimball, "The Incredible Shrinking War: The Second World War, Not (Just) the Origins of the Cold War" (presentation, Callum MacDonald Commemorative Conference, "Global Horizons: U.S. Foreign Policy after World War II," University of Warwick, 23 May 1998). A good summary of the relationship since 1945 is Robert Hathaway, *Great Britain and the United States: Special Relations since World War II* (Boston: Twayne, 1990).

3. Very occasionally, some East Indians, usually members of the educated elite, became so culturally Anglicized that they viewed England as their "mother country."

4. Warren F. Kimball, *Forged in War* (New York: William Morrow, 1997), 282–88, 295–97.

5. Antony Acland, interview by the author, Eton College, Slough, UK, 20 May 1998. Acland held the top career foreign service position, permanent undersecretary in the Foreign Office, before becoming ambassador to the United States. Raymond Seitz, *Over Here* (London: Weidenfeld & Nicolson, 1998), 324, 325, x. Sir John Coles, interview by the author, London, UK, 6 May 1998. Coles was seconded from the Foreign Office as a personal private secretary to Prime Minister Thatcher. Henry Kissinger, *White House Years* (Boston: Little Brown, 1979), 91, 90.

6. The title of Bradford Perkins's trilogy on Anglo–American international relations in the nineteenth century illustrates his, and my, theme: *The First Rapprochement: England and the United States, 1795–1805* (Philadelphia: University of Pennsylvania Press, 1955); *Prologue to War: England and the United States, 1805–1812* (Berkeley: University of California Press, 1961); and *The Great Rapprochement: England and the United States, 1895–1914* (New York: Atheneum, 1968). For American political thinking in the Revolutionary era, *see* Bernard Bailyn, *The Ideological Origins of the American Revolution* (Cambridge, MA: Belknap Press of Harvard University Press, 1967). See also the seminal work of Louis B. Hartz, *The Liberal Tradition in America* (New York: Harcourt Brace, 1955).

7. The Anglo–Japanese Alliance called for Britain to assist Japan if a third power (France) intervened if Japan went to war (with Russia) to defend its interests in Manchuria and China.

8. The Dieckhoff quotes are from reports to the German Foreign Office in Germany, *Documents on German Foreign Policy: 1918–1945*, series D, vol. I (Washington: USGPO, 1949), #440, 689–90 and #391, 605.

9. Churchill used those words when, talking to the American ambassador to China in March 1945, the prime minister defended British control over Hong Kong; William Roger Louis, *Imperialism at Bay* (New York: Oxford University Press, 1978), 548.

10. In 1942, Secretary of War Henry Stimson observed that "the shadows of Passchendale and Dunkerque still hang too heavily over the imagination of his [Churchill's] government." Mark Stoler, *The Politics of the Second Front* (Westport, CT: Greenwood, 1977), 110. Passchendale was one of the bloodiest and most futile British campaigns of the First World War; when France collapsed in 1940, the British evacuated their forces through the French port at Dunkirk, on the English Channel.

11. For statistics on military forces on the Eastern Fronts, see David Glantz and Jonathan M. House, *When Titans Clashed: How the Red Army Stopped Hitler* (Lawrence: University Press of Kansas, 1995).

12. There are no definitive figures for Soviet military killed during the war. A long-accepted estimate was 13.6 million, based primarily on German records, but there is persuasive evidence that those records tended to exaggerate the number of Soviet soldiers faced by the Wehrmacht, while Soviet figures minimized the Red Army casualty rate. One reasonable Russian estimate for units at the front is 7.4 million killed and missing, but research continues as Soviet-era records sporadically become available. Estimates for German military losses range from 3 to 5 million killed. Whatever the precise truth, the total was staggering for both the Soviet Union and Germany (and its Romanian ally); Oleg Rzheshevsky, "The Soviet Union: The Direct Strategy," in *Allies at War*, edited by David Reynolds, et al (New York: St. Martin's 1994), 52; I. C. B. Dear, gen. ed., *Oxford Companion to the Second World War* (New York: Oxford University Press, 1995), 434; and Glantz and House, *When Titans Clashed*.

13. ULTRA intelligence and detection of German radio beams used to guide air attacks gave the British some warning of raids. But it took only six minutes for German bombers to cross from France to England, so such advance warnings left little time to prepare. *See* F. W. Hinsley, et al., *British Intelligence in the Second World War* (London: HMSO, 1979), I, ch. 10 and appendix 9. Churchill quotes himself in *The Second World War*, 6 vols. (Boston: Houghton Mifflin, 1948-53), II, 340.

14. Churchill, *The Second World War*, IV, 603.

15. The instructions were given at the Atlantic Conference, held on ships anchored off Newfoundland, Canada, even before US entry into the war; Theodore A. Wilson, *The First Summit*, rev. ed. (Lawrence: University Press of Kansas, 1991).

16. *See* Forrest C. Pogue, *George C. Marshall: Education of a General* (New York: Viking, 1963).

17. Georg Wilhelm Friedrich Hegel as quoted in E. H. Carr, *What Is History?* 2nd ed. (London: Macmillan, 1986), 48.

18. Milovan Djilas quoting Stalin as cited in Georg Schild, *Bretton Woods and Dumbarton Oaks* (New York: St. Martin's, 1995), 175; Dmitri Volkogonov, *Stalin: Triumph and Tragedy* (New York: Grove Weidenfeld, 1991), 489; and Churchill as quoted in Raymond Callahan, *Churchill: Retreat from Empire* (Wilmington, DE: Scholarly Resources, 1984), 185. Churchill wrote similarly to Eden in January 1942; Churchill, *The Second World War*, III, 696. On Sicily *see* Kimball, *Churchill & Roosevelt: The Complete Correspondence*, 3 vols. (Princeton, NJ: Princeton University Press, 1984), II, C-282, R-271.

19. The statement was made in 1962 at a student conference at the United States Military Academy. Acheson went on to state that the special Anglo–American relationship did not re-

quire Britain to reject a closer association with Europe; Douglas Brinkley, *Dean Acheson: The Cold War Years, 1953–71* (New Haven, CT: Yale University Press, 1992), 176–82.

20. *See* William Roger Louis and Ronald Robinson, "The Imperialism of Decolonization," *Journal of Imperial and Commonwealth History* 22, no. 3 (September 1994): 462–511.

21. Charles Powell, interview by the author, London, UK, 18 May 1998. Powell was seconded from the Foreign Office to serve on Thatcher's staff. For Eisenhower's feeling of betrayal, *see* Richardson, *When Allies Differ*, 81–82.

22. As quoted in Hathaway, *The United States and Britain*, 125–26.

23. Margaret Thatcher, *The Downing Street Years, 1979–1990* (New York: Harper Perennial, 1995), 181. Churchill is quoted in Martin Gilbert, *Road to Victory* (Boston: Houghton Mifflin, 1986), 254.

24. Nicholas Henderson as quoted in Lawrence Freedman and Virginia Gamba-Stonehouse, *Signals of War: The Falklands Conflict of 1982* (Princeton, NJ: Princeton University Press, 1991), 169–70. Richardson, *When Allies Differ*, 211, 212, 159, gives the Kirkpatrick quote as well as the "apoplectic rage" comment by Simon Jenkins and throughout the book discusses the effect of the Suez analogy on the Falklands episode. Richardson emphasizes the anger and resentment in the Thatcher government over the US failure to support immediately and unconditionally the British decision to confront Argentina. But that bitter reaction quickly faded as the US swung to "benevolent neutrality."

25. Ronald Reagan, *An American Life* (New York: Simon and Schuster, 1990), 357.

26. This is the unanimous testimony of leading British officials in the Prime Minister's and the Foreign Office; *see* Percy Craddock, *In Pursuit of British Interests: Reflections on Foreign Policy under Margaret Thatcher and John Major* (London: John Murray, 1997; interviews by the author with John Coles, London, UK, 6 May 1998; Charles Powell, London, UK, 18 May 1998; Antony Acland, Eton, UK, 20 May 1998; and Nicholas Henderson, London, UK, 3 June 1998. American memoirs reflect the same conclusion.

27. The Latin American nations, in a resolution calling for a halt to the fighting, asked that the United States "immediately lift all coercive measures applied against Argentina and abstain from providing military assistance to the United Kingdom." Military aid and intelligence sharing during the Falklands War is discussed in Friedman and Gamba-Stonehouse, *Signals of War*, especially 131–32, 189–90, and 344. Thatcher's statement is in her memoir, *The Downing Street Years*, 188. Reagan's claim to neutrality is in his *An American Life*, 369.

28. Argentine losses were 746 dead and 1,105 wounded. The British suffered 255 killed and 777 wounded; Richardson, *When Allies Differ*, 21. Speculation about petroleum beneath the sea off the Falklands remains just that—speculation.

29. The quote is from Reagan, *An American Life*, 360. Whatever the state of Reagan's health when he wrote this, there is no question that he believed in what he saw as Thatcher's principled stand.

30. Geoffrey Howe, *Conflict of Loyalty* (London: Pan Books/Macmillan, 1995), 331; and George P. Shultz, *Turmoil and Triumph* (New York: Charles Scribner's Sons, 1993), 329–30, 340–41. As Reagan later put it: "We didn't ask anybody, we just did it." *An American Life*, 451.

31. Shultz, *Turmoil and Triumph*, 341; Coles interview, 6 May 1998; and Craddock, *In Pursuit of British Interests*, 59.

32. Lady Janet Young, interview by the author, House of Lords, London, UK, 3 June 1998.

33. Acland interview, 20 May 1998.

34. Howe, *Conflict of Loyalty*, 337.

35. Julian Bullard, interview by the author, Oxford, UK, 15 May 1998.

"Abandoned to the Arts & Arms of the Enemy"

Placing the 1781 Virginia Campaign in Its Racial and Political Context*

Gregory J. W. Urwin

On October 25, 1781—just six days after Gen George Washington attained the apex of his military career by forcing the surrender of a British army at Yorktown, Virginia—he issued an order to his troops that has been scrupulously ignored by historians of the American Revolution. Washington directed his officers and "persons of every denomination concerned" to apprehend the "many Negroes and Mulattoes" found in and around Yorktown and consign them to guard posts on either side of the York River. There free blacks would be separated from runaway slaves who had sought freedom with the British and steps taken to return the latter to their masters. In other words, Washington chose the moment he achieved the victory that guaranteed American independence to convert his faithful Continentals into an army of slavecatchers.[1]

This is not the way Americans like to remember Yorktown. We prefer the vision President Ronald Reagan expressed during the festivities marking the bicentennial of that celebrated turning point 33 years ago. Reagan described Yorktown to a crowd of 60,000 as "a victory for the right of self-determination. It was and is the affirmation that freedom will eventually triumph over tyranny." While white patriots of Washington's day would have embraced Reagan's message, most African Americans—who comprised one-fifth of the young republic's population in 1781—would have seen Yorktown's true legacy as the preservation of slavery. And we know that slavery would become the cancer that nearly destroyed the experiment in federated self-government created by Washington and the other Founders.[2]

Most Americans consume their history in the form of feel-good myths calculated to reinforce pride in their country and, if they wear a uniform, in their respective military branch. While there is nothing wrong with patriotism and *esprit de corps*, history's true purpose is to help us understand the world as it is, complete with uncomfortable truths, and not justify cherished assumptions. As future leaders of the most powerful component in the world's mightiest military, it is essential that you view the past and the present with eyes unclouded by ideological bias. Our political leadership will rely on you for

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realistic strategic assessments, and the Airmen you lead will look to you for orders that are appropriate to the tactical situations and cultural environments that exist wherever they are deployed.[3]

Feel-good history is especially rife among accounts of the American Revolution because it functions as our country's founding myth. As far as the Yorktown campaign goes, American scholars focus so much on lauding Washington's brilliant generalship that they miss how close the British came to subduing Virginia.[4] They also ignore the dark side to Washington's triumph, which crushed the hopes for freedom entertained by so many Virginia blacks.

John Trumball painted this portrait of George Washington in 1780, also depicting Washington's enslaved personal servant, Billy Lee. Courtesy of the Metropolitan Museum of Art.

One reason why the British lost the Revolutionary War is that they took too long to fathom the nature of that conflict. George III and his advisers initially regarded the rebellion as a plot hatched by unprincipled demagogues who deluded the riffraff of the Thirteen Colonies into overthrowing lawful government. The British sincerely believed that most decent Americans remained loyal to their king. A stern show of force would discredit rebel leaders and frighten their fickle followers into submitting to royal rule.[5] Mindful that unrestrained barbarism could cost the crown potential supporters, British commanders tried to restrain the levels of violence that they unleashed on their American cousins.[6]

The British set the basic pattern of the War of Independence during the 1776 campaign in New York and New Jersey. Gen William Howe decided to draw George Washington's nascent Continental Army into battle by seizing New York City, a major port. Howe deftly defeated Washington, occupied New York, established a network of outlying outposts—and then waited for the rebel cause to fall apart. He waited in vain. Washington's beaten forces simply retired beyond easy reach, rebuilt their ranks, and then took positions that threatened the enemy's smaller and more isolated outposts with sudden capture. At the same time, inflamed local militia harassed British garrisons and foraging parties, giving the occupiers no rest. Forced to concentrate to avoid defeat in detail, the British ended up living under virtual siege in a few major towns.[7]

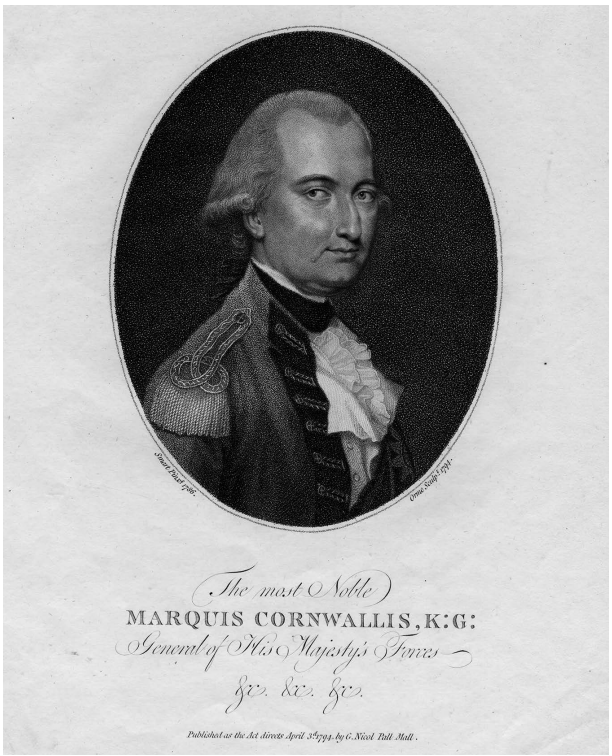
With the rebels controlling most of the countryside, loyalists could not rise in decisive numbers. Any Tory who openly declared for the king risked losing his property, imprisonment, and possibly death. Rather than brave such perils, many loyalists adopted a wait-and-see attitude. If the king's regulars were victorious, loyal subjects would lose nothing by their silence while the issue hung in the balance. Without American help, however, the British did not have enough boots on the ground to occupy much territory. It was a no-win situation.[8]

To break the stalemate that came to characterize the American War, royal commanders seized more cities, which only gained them additional worthless real estate. When a British army tried to divide the colonies by marching down the Hudson in 1777, it met with defeat and surrender at Saratoga. That stunning reverse brought France into the war on the side of the United States, and Spain and the Netherlands soon followed suit. Britain now faced a world war, forcing it to redeploy its limited resources as it struggled to hold a far-flung empire.[9]

Assured that vast numbers of loyalists inhabited the South, the British shifted their operations to Georgia and the Carolinas. In May 1780, Gen Sir Henry Clinton, the commander-in-chief of His Majesty's Forces in North

America, captured Charleston, South Carolina, and more than 6,000 Patriot troops cornered in the doomed port.[10]

Clinton soon returned to his main base at New York City, leaving Lt Gen Charles, Second Earl Cornwallis, and 8,000 regulars to establish British rule in the Carolinas. Cornwallis was a robust 41 years of age when he assumed this important command. He carried himself with an easy self-assurance that sprang from an aristocratic background and 23 years of military experience. The earl had been fighting the American rebels since 1776, and he enjoyed a reputation as one of the king's ablest and most aggressive generals.[11]



Portrait of Lt Gen Charles, Second Earl Cornwallis. Courtesy of Anne S.K. Brown Military Collection, Brown University Library.

At first, Cornwallis's mission in the Carolinas seemed easy. The elimination of an entire Continental army at Charleston left local Patriots demoralized and vulnerable. As the British advanced inland, the rebels either fled or switched their allegiance to the crown. Magnanimous in victory, Cornwallis permitted them to take an oath of loyalty and join his loyalist militia.[12]

Then in the summer of 1780, the Continental Congress sent a new rebel army to reclaim South Carolina. Though badly outnumbered, Cornwallis

crushed this threat at the Battle of Camden, August 16, 1780, but this triumph left a bittersweet taste. At the approach of the Continental troops, South Carolina's supposedly repentant rebels turned on the British. Whole units of "loyal" militia took the arms and equipment drawn from royal magazines and defected to the guerrilla bands massing in the swamps outside Charleston.[13]

Later in the year, Cornwallis confronted a second American army under Maj Gen Nathanael Greene, Washington's favorite lieutenant. Keeping just beyond reach, the wily Greene goaded Cornwallis into conducting a ruinous mid-winter pursuit across barren North Carolina.[14] Greene led the earl on a grueling chase for nearly two months, finally turning to fight at Guilford Court House on March 15, 1781. Greene's forces outnumbered the British two-to-one, but Cornwallis put his trust in the prowess of the British regular, and he prevailed once more. Nevertheless, he failed to destroy Greene's army while coming uncomfortably close to destroying his own. More than a quarter of the 1,900 redcoats, hessians, and loyalists that entered the fray fell killed or wounded. The strains of the campaign sickened another 436 of Cornwallis's troops, leaving them unfit for duty.[15]

Before Cornwallis's ailing army could recover, Greene marched on South Carolina. This time, however, Cornwallis did not oblige Greene with another game of cat and mouse. Years of hard campaigning in America had finally exposed the flaws in Britain's fundamental strategy. For the rest of that spring and well into the summer—before Cornwallis received orders to entrench at Yorktown—he would experiment with a new approach for subduing the Rebels.[16]

Cornwallis's most significant realization was that most Southern loyalists could not be trusted. "Our experience has shown that their numbers are not so great as has been represented," he wrote from North Carolina, "and that their friendship was only passive."[17] The crown's American supporters made big promises, but they usually deserted the royal cause at the first sign of trouble.[18] When Cornwallis considered the few Southern Tories who joined his reduced force, he described them as "so timid and so stupid that I can get no intelligence."[19]

As for the troublesome Greene, the earl had decided that there were less expensive ways to deal with rebel armies than attacking them directly. Cornwallis would attempt to counter the threat to the Carolinas by striking at Virginia, the American general's logistical base.[20]

Virginia was the largest, most populous, and richest of the rebellious colonies, its tobacco essential to the survival of America's staggering economy. With Charleston in British hands, Virginia became the mainstay of the rebel war effort in the South. It provided the men and materiel Greene needed to keep his army in the field. If Virginia could be knocked out of the war, per-

haps the whole rebel confederation might collapse.[21] These considerations prompted Cornwallis to write on April 18, 1781:

> If therefore it should appear to be the interest of Great Britain to maintain what she already possesses, and to push the war in the Southern provinces, I take the liberty of giving it as my opinion, that a serious attempt upon Virginia would be the most solid plan, because successful operations might not only be attended with important consequences there, but would tend to the security of South Carolina, and ultimately to the submission of North Carolina.[22]

Virginia seemed to invite invasion in 1781. Six years of war had left its people weary and sick of sacrifice. Almost all their Continental regiments had been captured at Charleston, which left only a few half-trained regulars to defend the state. In addition, large drafts of the Virginia militia had trekked far from home to fight under Greene. Those who survived the arduous campaigns in the Carolinas harbored no desire to face Cornwallis's redcoats again.[23]

Nature alone favored the earl's designs. Chesapeake Bay, with its network of great tidal rivers and other navigable streams, provided the watery highway responsible for Virginia's prosperity. The Chesapeake also offered the British a ready-made invasion route, with a twisting, 8,000-mile shoreline impossible to defend. As long as the Royal Navy ruled the waves, there was hardly anything of importance in Virginia east of the Blue Ridge Mountains that could not be flattened by British broadsides or menaced by landing parties.[24] As Cornwallis astutely observed: "The rivers in Virginia are advantageous to an invading army."[25]

With these facts in mind, Lord Cornwallis marched north for the Old Dominion on April 25, 1781. By May 20, he had reached Petersburg, near the center of Virginia, where he rendezvoused with a small British army commanded by Brig Gen Benedict Arnold. Arnold, the notorious American traitor, had opened operations in Virginia by raiding up the James River in January 1781, and his quick capture of Richmond demonstrated the Old Dominion's vulnerability to amphibious operations. Maj Gen William Phillips joined Arnold a few months later with 2,000 reinforcements and assumed command of the combined force, only to die of typhoid fever at Petersburg a week before Cornwallis's arrival. After Cornwallis absorbed Arnold's expedition, he had 8,000 seasoned regulars at his disposal, and he proceeded to subject Virginia to the ravages of war.[26] Two weeks after this junction, Virginian George Mason, a gentleman lawyer and a leading Virginia rebel, voiced his despair:

> Our Affairs have been, for some time, growing from bad to worse. The Enemy's Fleet commands our Rivers, & puts it in their Powr to remove their Troops from place to place, when and where they please without Opposition; so that we no sooner collect a Force sufficient to counteract them in one Part of the Country, but they shift to another,

> ravaging, plundering, and destroying everything before them. . . . The Enemy's capital Object, at this time, seems to be Virginia.[27]

For the next four months, Cornwallis terrorized Virginia Patriots with a new brand of war. He replaced the mistaken assumptions that had hobbled the king's forces for the past six years with a simple but brutal strategy that shook Virginia's political foundations. Less than a month after Cornwallis entered the Old Dominion, Richard Henry Lee, who had helped lead Americans to espouse independence in 1776, sounded like a defeatist: "We shall receive all the injury before aid is sent to us—What will become of these . . . parts heaven knows—We are in the power of the enemy." To that gloomy assessment, Lee added: "Cornwallis is the Scourge—& a severe one he is—The doings of more than a year in the South are undoing very fast, whilst they rush to throw ruin into the other parts."[28]

Cornwallis broke most dramatically with the past by ceasing to bank on loyalist aid. He no longer wasted his time courting unreliable allies. All he asked of white Virginians claiming fidelity to George III was that they keep out of his way.[29]

Unlike other British commanders, Cornwallis kept his army on the move almost constantly. He did not just take cities and sit in them. "From the experience I have had," the earl reflected, "and the dangers I have undergone, one maxim appears to me to be absolutely necessary for the safe and honourable conduct of this war, which is—that we should have as few posts as possible, and that wherever the King's troops are, they should be in respectable force."[30] Cornwallis kept the rebels off balance, with swift, frequent marches—bewildering his foes by moving at night and making them feel they possessed few safe places to rally or stockpile arms.[31]

Cornwallis also ensured Virginia's civilians paid for their rebellious sympathies by exposing them to the horrors of war. If Virginians wanted to defy royal authority, they would not go unpunished. Cornwallis set his far-ranging army to destroying anything useful to the Patriot war effort—including private property. The following order, which the earl issued to his cavalry, typified this strategy:

> All public stores of corn and provisions are to be burnt, and if there should be a quantity of provisions or corn collected at a private house, I would have you destroy it. . . . As there is the greatest reason to apprehend that such provisions will be ultimately appropriated by the enemy to the use of General Greene's army, which, . . . must depend on this province for its supplies.[32]

Lt Col Banastre Tarleton, the commander of Cornwallis's cavalry, believed that "to strike terror into the inhabitants" of rebel districts was a "point of duty." He boasted that he would "carry the sword and fire through the Land." Everywhere Cornwallis's soldiers went, they promised to retaliate against the

homes and persons of any Virginians in arms against the king. The property of those who figured prominently in the rebellion suffered thorough destruction.[33] This was how Thomas Jefferson, then Virginia's governor, described what Cornwallis did to his estate at Elkhill:

> He destroyed all my growing crops of corn and tobacco, he burned all my barns containing the same articles of the last year, having first taken what corn he wanted, he used . . . all my stocks of cattle, sheep and hogs for the sustenance of his army, and carried off all the horses capable of service: of those too young for service he cut the throats, and he burnt all the fences on the plantation so as to leave it an absolute waste.[34]

While threatening Virginia rebels with instant impoverishment, Cornwallis insulated his troops from the worst effects of guerrilla warfare by increasing their mobility. The earl's command was well suited for a war of swift maneuver. According to Sir Henry Clinton, "the chief part" of the royal troops in Virginia comprised "the elite of my army." Most of Cornwallis's British regiments had been campaigning in North America since 1775 and 1776. Unremitting drill and extensive combat experience left these regulars equally adept at the formal European tactics of the day and the open-order woodland skirmishing favored by rebel irregulars. Among the most valuable units serving with Cornwallis were two green-coated loyalist corps, the British Legion and the Queen's Rangers. The Legion's light dragoons followed a ruthless young Englishman named Banastre Tarleton, arguably the most talented cavalryman of the war. As for the Queen's Rangers, 40 percent of its personnel were horse soldiers—hussars and light dragoons—while the rest were superbly conditioned light infantry. The Queen's Rangers served under another energetic young English officer, Lt Col John Graves Simcoe. An avid practitioner of partisan warfare, Simcoe excelled at ambushing his adversaries.[35]

By combining the cavalry from the British Legion and the Queen's Rangers, Cornwallis could count on the services of roughly 500 hussars and light dragoons—the largest number of horsemen ever assembled by the British during the war in the South. The size of the earl's cavalry had a particularly intimidating effect on the Virginia militia.[36] As the Marquis de Lafayette, the young French general commanding the Continental forces charged with Virginia's defense, complained to George Washington:

> Was I to fight a battle I'll be cut to pieces, the militia dispersed, and the arms lost. Was I to decline fighting the country would think herself given up. I am therefore determined to scarmish, but not to engage too far, and particularly to take care against their immense and excellent body of horse whom the militia fears like they would so many beasts.[37]

Even as Lafayette wrote those words, however, Cornwallis took steps that prevented the rebels from impeding the progress of British forces in Virginia. Since the late seventeenth century, the favorite hobbies of Virginia's gentry

were breeding and racing fine horses. Nearly every plantation contained a stable full of thoroughbreds. When Cornwallis invaded Virginia, he seized these spirited chargers for his own use. With this inexhaustible supply of remounts, the earl's 500 light dragoons and hussars could travel 30–70 miles a day, which greatly increased the range and unsettling impact of their raids. Cornwallis also put 700 to 800 of his infantrymen on horseback, more than doubling his mounted strength.[38] On June 4, 1781, a worried Richard Henry Lee told his brother, "The fine horses on the James river have furnished them with a numerous and powerful Cavalry."[39]

In this way, Cornwallis created a British army that could outrun its rebel opponents for the first time in the American Revolution. Lafayette possessed only 4,500 frightened troops, many of them untrained, to counter Cornwallis's movements. That figure included no more than 300 cavalry. To avoid encirclement or surprise by the earl's larger and faster army, Lafayette kept at least 20–30 miles away from the British. At that distance, he could neither oppose nor harass the redcoats.[40] "The British have so many Dragoons," Lafayette informed Governor Jefferson, "that it becomes impossible to stop or reconnoitre their movements."[41]

All through the spring and summer of 1781, Cornwallis found himself free to go where he wanted. He could ravage the Old Dominion unchecked by Lafayette. "The fact is," Richard Henry Lee related, "the enemy by a quick collection of their force, & by rapid movements, are now in the center of Virginia, with an army of regular infantry greater than that of the compounded regulars and militia commanded by the Marquis [de Lafayette] & with 5 or 600 excellent cavalry. . . . This Country is, in the moment of its greatest danger . . . abandoned to the Arts & Arms of the Enemy."[42]

Although Cornwallis sought to subdue Virginia by shaking its civilian population, he did not allow his army to degenerate into a mob of freebooters. His war on private property proceeded under strict supervision. From Cole's Plantation, the earl admonished his army on June 5, 1781: "All private foraging is again For bid, and the out posts are not to Suffer any foraging party to pass without a Commissioned Officer." Six days earlier, the commander of the 43rd Regiment of Foot announced, "Any Soldier absent from Camp without leave in writing from the Officer Commanding his Company will be punished as a Maroader."[43]

Those soldiers defying the earl's efforts to maintain discipline risked prompt and merciless punishment. On June 2, Lieutenant Colonel Simcoe informed Cornwallis that two light dragoon privates from the Queen's Rangers had raped and robbed a woman named Jane Dickinson. An inquiry confirmed the two loyalists' guilt, and the earl had them executed the following day. Four days later, Cornwallis required a field officer and a captain from

each of his brigades, along with a junior officer and 20 men from each regiment, to witness the evening execution of a deserter from the Royal Welch Fusiliers and two others from the 76th Highland Regiment.[44]

Despite these gestures, Cornwallis unnerved white Virginians by liberating their black slaves. Virginia's 200,000 bondmen made up 40 percent of the state's population. Had Cornwallis been permitted to follow his own instincts, these exploited masses might have tipped the balance in favor of his attempted conquest of the Old Dominion.[45]

Today's US history textbooks take care to mention those African Americans who supported the Patriot cause. As Ellen Gibson Wilson has pointed out, however, "There has been some reluctance to face the implications of the fact that the overwhelming majority of blacks who acted from choice were pro-British." Historian David Waldstreicher put it more objectively when he said, "One of the less-well-known facts about the Revolutionary War is that African Americans fought on both sides, primarily with their own freedom in mind."[46] Many African Americans harbored no loyalty to a movement that promised life, liberty, and the pursuit of happiness solely to white adult males. Of the 500,000 blacks who inhabited the Thirteen Colonies during the War of Independence, as many as 80,000 to 100,000 flocked to the King's forces.[47] Rev. Henry Muhlenburg, a Lutheran minister who worked near Philadelphia, confided to his diary that blacks "secretly wished that the British army might win, for then all Negro slaves will gain their freedom."*[48]

The British did offer freedom of sorts to slaves who reached royal lines—provided the fugitives' owners were Rebels. That caveat was forgotten, however, as the news worked its way through the slave grapevine. Most blacks came to equate the sight of a soldier in a red coat with liberty.[49] This became most evident to the British when they invaded the South, where the overwhelming number of slaves resided.[50] Colonel Tarleton reported "that all the negroes, men, women, and children, upon the approach of any detachment of the King's troops, thought themselves absolved from all respect to their American masters, and entirely released from servitude: Influenced by this idea, they quitted the plantations, and followed the army."[51]

As long as the British sought to win the allegiance of white Americans, they discouraged this black exodus. The redcoats even returned runaways to masters who were reputedly loyal or neutral. By the time Cornwallis entered Vir-

*This was not necessarily going to be the case. Although the British government outlawed the slave trade in 1807, it did not begin the process of ending slavery throughout most colonies in the British Empire until Parliament passed the Slavery Abolition Act in 1833, which eventually brought freedom to the hundreds of thousands of persons then enslaved in Caribbean, South Africa, and even a few in Canada. Slavery continued in other parts of the British Empire, most notably in India and Sri Lanka. The National Archives (UK), "Slavery," n.d., http://www.nationalarchives.gov.uk/education/resources/slavery/.

ginia, however, he no longer worried about the feelings of colonial slave owners, and he permitted black runaways to tag along with his soldiers.[52]

The response of Virginia's blacks astounded both the Patriots and the British. "The damage sustained by individuals on this occasion is inconceivable," testified Dr. Robert Honyman, a physician in Hanover County, "especially in Negroes; the infatuation of these poor creatures was amazing: they flocked to the Enemy from all quarters, even from very remote parts. . . . Many Gentlemen lost 30, 40, 50, 60 or 70 Negroes beside their stocks of Cattle, Sheep & Horses. Some plantations were entirely cleared, & not a single Negro remained. Several endeavoured to bring their Negroes up the Country & some succeeded; but from others the slaves went off by the way & went to the Enemy."[53] "Your neighbors Col. Taliaferro & Col. Travis lost every slave they had in the world," Richard Henry Lee informed his brother William, "and Mr. Paradise has lost all his but one—This has been the genrl case of all those who were near the enemy."[54] Other prominent Virginians told similar stories.[55]

Cornwallis's soldiers actively encouraged Virginia slaves to follow them. Dr. Honyman, who refused to flee his home at the earl's approach, observed the enemy's recruitment practices. "Where ever they had an opportunity," Honyman confided to his journal, "the soldiers & inferior officers . . . enticed & flattered the Negroes, & prevailed on vast numbers to go along with them, but did not compel any." Capt Johann Ewald, the commander of a crack hessian *jäger* detachment with Cornwallis, explained his comrades' sudden passion for liberating slaves: "These people were given their freedom by the army because it was actually thought this would punish the rich, rebellious-minded inhabitants of . . . Virginia." Richard Henry Lee charged that "force, fraud, intrigue, theft, have all in turn been employed to delude these unhappy people [the slaves], and defraud their masters!" Despite such anguished assertions, there is abundant evidence that those slaves who joined the British did so freely.[56]

By the middle of June 1781, thousands of runaway slaves were with Cornwallis's army.[57] How all this appeared to the British can be glimpsed from Captain Ewald's diary:

> Every officer had four to six horses and three or four Negroes, as well as one or two Negresses for cook and maid. Every soldier's woman was mounted and also had a Negro and Negress on horseback for her servants. Each squad had one or two horses and Negroes, and every non-commissioned officer had two horses and one Negro.
>
> Yes, indeed, I can testify that every soldier had his Negro, who carried his provisions and bundles. This multitude always hunted at a gallop, and behind the baggage followed well over four thousand Negroes of both sexes and all ages. Any place this horde approached was eaten clean, like an acre invaded by a swarm of locusts.[58]

Virginia's fugitive slaves did more than serve the earl's soldiers as porters and body servants. The blacks also contributed substantially to Cornwallis's new style of warfare.

By encouraging slaves to leave their masters, Cornwallis threatened Virginia with economic ruin. Slaves represented the currency whereby the Tidewater planters calculated their wealth. Slaves also provided the cheap labor undergirding the Old Dominion's agrarian prosperity. Thus, Cornwallis robbed Virginia of the very means of production required to replace the vital resources his troops destroyed.[59]

The addition of thousands of African Americans to the British forces vastly augmented Cornwallis's ability to ravage the countryside. Dr. Honyman of Hanover County composed this vivid picture of one of Cornwallis's abandoned campsites:

> The day after the Enemy left Mrs. Nicholas's [plantation] I went over to her house, where I saw the devastation caused by the Enemy's encamping there. . . . The fences [were] pulled down & much of them burnt; Many cattle, hogs, sheep & poultry of all sorts killed; 150 barrels of corn eat up or wasted; & the offal of the cattle &c. with dead horses and pieces of flesh all in a putrefying state scattered over the plantation.[60]

Virginia's fugitive slaves also advanced Cornwallis's campaign in other ways. Runaways sometimes acted as spies and guides for the British. The blacks frequently showed their new friends where fleeing masters had hidden their valuables and livestock.[61] In fact, the African Americans delivered so many horses to Cornwallis that Lafayette exclaimed, "Nothing but a treaty of alliance with the negroes can find out dragoon horses, and it is by those means the enemy have got a formidable cavalry."[62] At other times, the blacks provided manual labor for the British army. As one Virginian put it, the fugitives "ease the soldiery of the labourer's work." A corps of "Negro Pioneers" or military laborers, originally formed by General Phillips, buried the offal from butchered cattle after Cornwallis's troops received issues of fresh meat, thus eliminating a nauseating stench and also a health hazard. The black pioneers and officers' servants pulled double duty as stevedores whenever Cornwallis used ships to transport soldiers, equipment, and supplies. The extensive earthworks the British erected first at Portsmouth and then at Yorktown were built largely by black muscle. Maj Alexander Ross, Cornwallis's aide-de-camp, testified to the value of this labor force when he explained that "our rule . . . on that subject" is "to give up those [blacks] that are willing to return & not be conveniently spared from the Publick Service." Finally, the defection of so many slaves spread the fear of servile revolt—the white South's most dreaded nightmare—throughout Virginia.[63]

Although Cornwallis benefited from the specter of black rebellion, he did not intend to unleash a racial reign of terror. The earl posted numerous regulations aimed at ensuring orderly conduct among slaves seeking his protection. To restore his army's proper military appearance and free his columns of unnecessary encumbrances, Cornwallis restricted the number of horses and

blacks employed by his officers.[64] To distinguish African Americans authorized to accompany the army's different units from those who were not, Cornwallis decreed on May 21, 1781: "The number or names of Corps to be marked in a Conspicuous manner on the Jacket of each negro." A week later, the earl announced, "All Negros who are not marked agreeable to the Orders repeated at Petersburg will be taken up and sent away from the Army."[65]

Cornwallis's headquarters frequently reminded unit commanders to purge their ranks of surplus horses and blacks.[66] Some of Cornwallis's officers, sharing his sense of military decorum, conscientiously enforced their commander's orders. On June 4, Maj George Hewett, the commander of the 43rd Regiment of Foot, warned his noncommissioned officers and privates: "Any Man found Guilty of sending the Negroes of the Regiment plundering or Marodding the smallest Article from the Houses of the Inhabitants will be severely punished."[67] Cornwallis kept his black camp followers under control and prevented their eroding his troops' discipline and the army's ability to respond to threats.[68]

Although military expedience governed the earl's treatment of Virginia's slaves, he did betray a glimmer of sympathy for the runaways. In late July 1781, Thomas Nelson, Virginia's newly installed governor, sent Cornwallis a curious letter. "The frequent Applications that are made to me by the Citizens of this Commonwealth," Nelson wrote, "to grant Flags for the Recovery of their Negroes & other Property, taken by the Troops under your Command, induce me to address your Lordship for Information, whether Restitution will be made at all, what Species of Property will be restored, & who may expect to be the Object of such an Indulgence."[69]

The earl replied with a de facto emancipation proclamation:

> No Negroes have been taken by the British Troops by my orders nor to my knowledge, but great numbers have come to us from different parts of the Country. Being desirous to grant any indulgence to individuals that I think consistent with my public duty, Any proprietor not in Arms against us, or holding an Office of trust under the Authority of Congress and willing to give his parole that he will not in future act against His Majesty's interest, will be indulged with permission to search the Camp for his Negroes & take them if they are willing to go with him.[70]

By the summer of 1781, Lord Cornwallis's new strategy of conquest bore a strong resemblance to the hard war policies that another invading army would adopt to pacify the American South eight decades later. Cornwallis essentially taught the Old Dominion the same lessons that Major Generals William Tecumseh Sherman and Philip Henry Sheridan would administer to the Confederacy during the Civil War.[71]

Cornwallis's version of hard war was steadily forcing Virginia to its knees. The startling mobility of the earl's army denied local Continental forces the opportunity to engage in either conventional or guerrilla warfare. Cornwal-

lis's policy of property despoliation also neutralized Virginia's last remaining line of defense, the militia. The strength and speed of British forces terrified Virginia's citizen soldiers. Militiamen grew reluctant to take up arms lest they provoke the redcoats into destroying their homes.[72] They also hesitated to leave their families alone with their slaves. As Edmund Randolph, a Virginia congressman, explained, "The helpless wives and children were at the mercy not only of the males among the slaves but of the very women, who could handle deadly weapons; and those could not have been left in safety in the absence of all authority of the masters and union among the neighbors."[73]

At this critical juncture, the swiftness of Cornwallis's movements made it impossible for Virginia's state government to function. On June 3, 1781, British cavalry and mounted infantry raided the Virginia Assembly at Charlottesville, capturing seven legislators and forcing Governor Jefferson and the rest of the assemblymen to scatter for safety. In addition to Jefferson, many other well-known Virginians, such as Richard Henry Lee, Edmund Pendleton, and George Mason, fled before the redcoats, depriving the Patriot cause of some of its best political leadership.[74]

Denied relief by an impotent state government, the Continental Congress, or America's French allies, Virginians began to consider making a separate peace with Great Britain. The inhabitants of Norfolk, Princess Anne, and Nancemond counties placed themselves under British protection. The men of Montgomery, Bedford, and Prince Edward counties ignored summonses for militia duty. When state officials tried to raise the militia in Accomack, Northampton, and Lancaster counties, they encountered opposition from armed mobs. Farmers living around the British base at Portsmouth started trading with the enemy, sometimes bringing the redcoats military intelligence.[75] Defeatist sentiment reached such dangerous levels that Richard Henry Lee recommended that General Washington return to Virginia with his troops and assume dictatorial powers until the crisis passed.[76]

Fortunately for the Rebels, British efforts to interdict General Greene's Virginia lifeline were short-lived. Interference from above brought a premature close to Cornwallis's campaign to knock the state out of the war. Cornwallis had entered Virginia without prior permission from his immediate superior, Sir Henry Clinton, who damned that move as "a measure . . . determined upon without my approbation, and very contrary to my wishes and intentions." Clinton faulted Cornwallis for exposing the Carolinas and Georgia to recapture by Greene. The British commander-in-chief also still clung to his faith in the loyalists. He toyed with recalling a large number of British troops from the Chesapeake and using them instead to inspire an uprising in Maryland, Delaware, or southeastern Pennsylvania. Fear of a possible Franco-American siege of New York also made Clinton contemplate concentrating his forces there. At

the same time, personal insecurity affected Clinton's strategic thinking. Despite the heavy losses the earl suffered at Guilford Court House, his aggressive efforts to crush the rebellion contrasted sharply with Clinton's relative inactivity at New York. Fearful that the earl's success might precipitate his own removal, Clinton brought an end to Virginia's agony. In the middle of the summer, he ordered Cornwallis to retire to the coast, set up a naval base, and send 2,000 troops back to New York. An exasperated Cornwallis began entrenching at Yorktown on August 2, 1781.[77]

Now fate turned against the British. At the end of August, a French fleet appeared off Chesapeake Bay, denying Cornwallis access to the sea. Seizing this opportunity, Washington pulled out of his lines around New York and slipped down to Virginia with a strong Franco-American army. By September 28, 1781, Cornwallis and his 6,000 weary regulars found themselves besieged by nearly 17,000 Americans and Frenchmen.[78]

Cornwallis knew he was in a tight spot. Although he sympathized with the black runaways under his protection, he was the king's servant first. Hoping to stretch his army's provisions until Clinton arrived with a relief expedition, the earl ordered all but 2,000 of the slaves sheltering at Yorktown expelled from British lines. Besides being terrified at the thought of returning to their vengeful masters, many of the cast-off blacks were seriously ill. They had contracted smallpox in the earl's camps.* Dogged by despair and weakened by disease, hundreds of runaways simply lay down in the no-man's-land between the opposing trenches, where they died of exposure, illness, and starvation. The remainder took shelter in the woods around Yorktown. Many did not live long enough to witness Cornwallis's surrender on October 19, 1781. Of those who survived, some were recaptured, and others returned voluntarily to their old homes, where they communicated smallpox to slaves who had lacked the desire or courage to run away.[79] The full extent of the damage that this smallpox epidemic did to Virginia's black population has yet to be calculated.[80]

For African Americans, the British invasions of Virginia in 1781 set off a surge of hope that ended in tragedy. The Old Dominion had undergone the most notable slave uprising to occur in the United States prior to the Civil War.[81] At the Yorktown bicentennial observances in 1981, the visiting French president, François Mitterrand, paid those desperate fugitives an unintended tribute when he said, "Everywhere one finds the same desire for independence, the same need for dignity."[82] The African Americans who flocked to Cornwallis registered their hatred for chattel slavery and their desire for liberty—a desire so great they willingly braved the dangers of war to realize it.

*For more information of the role of disease during the Revolutionary War, see Elizabeth A. Fenn, *Pox Americana: The Great Smallpox Epidemic of 1775–82* (New York: Hill and Wang, 2001).

For an all too brief moment, they found freedom under the shelter of a major power whose interests coincided with their own. When the war turned against the British, however, they ended up abandoning their black allies. It could be argued that the United States did something similar in Iraq by withdrawing its forces from that country before the system of free government it had promised could be perfected.*

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*Here Urwin is referencing Pres. Barack Obama's decision to withdraw nearly all US combat troops from Iraq in 2011. While few historians have thoroughly examined this question, policy makers and journalists have written quite a bit about it. See, for example, Josh Rogin, "How the Obama Administration Bungled the Iraq Withdrawal Negotiations," *Foreign Policy*, 21 October 2011, http://foreignpolicy.com/2011/10/21/how-the-obama-administration-bungled-the-iraq-withdrawal-negotiations/. For a different view, see "Fact Check: Did Obama Withdraw from Iraq Too Soon, Allowing Isis to Grow?," NPR, 19 December 2015, https://www.npr.org/2015/12/19/459850716/fact-check-did-obama-withdraw-from-iraq-too-soon-allowing-isis-to-grow.

Notes

1. George Washington, "After Orders," 25 October 1781, Letterbook 6, 67–69, Varick Transcripts, George Washington Papers, Series 3g, Library of Congress, Washington, DC. See also George Fleming, "Orderly Book, Second Regiment of Continental Artillery, 1 October 1781–26 April 1782," 25 October 1781, MS 2003.12, Special Collections, John D. Rockefeller, Jr., Research Library, Colonial Williamsburg Foundation, Williamsburg, Virginia.

2. "Excerpts from President's Remarks," *New York Times*, 20 October 1981, A6; and Kurt Andersen, "A Last Bicentennial Bash," *Time*, 2 November 1981, 31.

3. The Right Reverend and Right Honorable Richard Chartres, the Lord Bishop of London, expressed these sentiments quite well in the sermon he delivered marking the seventieth anniversary of the destruction of the Guards' Chapel at Wellington Barracks, London, by a German V1 flying bomb on June 18, 1944: "We cannot change the past, but we are responsible for how we remember it. Memory is more than lifting down a file from a shelf to recall a past event. Memory is a creative and responsible art which involves highlighting certain aspects of the past and identifying significant resonances. Memory informs our attitudes in the present and opens up or closes down possibilities for the future." Right Reverend and Right Honorable Richard Chartres, Lord Bishop of London, "Guards Chapel. 22-vi-2014," 1–2 (copy in author's possession). The author thanks Bishop Chartres and the latter's personal secretary and assistant, Janet Laws, for sending him a copy of this sermon.

4. Among the many triumphalist histories of the Yorktown campaign are Henry P. Johnston, *The Yorktown Campaign and the Surrender of Cornwallis 1781* (New York: Harper & Brothers, 1881); Thomas J. Fleming, *Beat the Last Drum: The Siege of Yorktown, 1781* (New York: St. Martin's Press, 1963); Burke Davis, *The Campaign that Won America: The Story of Yorktown* (New York: Dial Press, 1970); Joseph P. Cullen, *Victory at Yorktown* (Washington, DC: US Department of the Interior, 1976); William H. Hallahan, *The Day the Revolution Ended: 19 October 1781* (New York: Wiley, 2004); Benton Rain Patterson, *Washington and Cornwallis: The Battle for America, 1775–1783* (Lanham, MD: Taylor Trade Publishing, 2004); and Richard M. Ketchum, *Victory at Yorktown: The Campaign That Won the Revolution* (New York: Henry Holt and Co., 2004). A relatively recent drum-and-bugle account of the campaign with more of a British perspective is Brendan Morrissey, *Yorktown 1781: The World Turned Upside Down* (London: Osprey, 1997). The latest and most scholarly treatment of this subject is Jerome A. Greene, *The Guns of Independence: The Siege of Yorktown* (New York: Savas Beatie, 2005). Unfortunately, Greene is unable to fully free himself of the triumphalist tendencies that influenced the work of his predecessors.

5. Piers Macksey, *The War for America 1775–1783* (Cambridge, MA: Harvard University Press, 1964), 12–61; Ira D. Gruber, *The Howe Brothers and the American Revolution* (New York: Atheneum, 1972), 3–88; Paul H. Smith, *Loyalists and Redcoats: A Study in British Revolutionary Policy* (Chapel Hill: University of North Carolina Press, 1964), 10–42; Troyer Steele Anderson, *The Command of the Howe Brothers during the American Revolution* (New York: Oxford University Press, 1936), 10–42; John Richard Alden, *General Gage in America* (Baton Rouge: Louisiana State University Press, 1948), 151–91, 205–50, 287–98; and Marshall Smelser, *The Winning of Independence* (Chicago: Quadrangle Books, 1972), 58–117.

6. John Richard Alden, *A History of the American Revolution* (New York: Alfred A. Knopf, 1969), 141–225; Frederick Mackenzie, *Diary of Frederick Mackenzie*, 2 vols. (Cambridge, MA: Harvard University Press, 1930; reprint ed., New York: New York Times & Arno Press, 1969), 2:525–26; John Shy, *A People Numerous & Armed: Reflections on the Military Struggle for American Independence* (New York: Oxford University Press, 1976), 202–22; and *Collections of the*

New-York Historical Society, Vols. 16–17: *The Stephen Kemble Papers, 1773–1789* (New York: New-York Historical Society, 1883-84), 16:97–99, 263–64, 269–70, 287.

7. David Hackett Fischer, *Washington's Crossing* (New York: Oxford University Press, 2004), 66–360; John W. Jackson, *With the British Army in Philadelphia 1777–1778* (San Rafael, CA: Presidio Press, 1979), 1–52. 81–106; Alden, *American Revolution*, 262–327; Gruber, *Howe Brothers*, 389–93, 397–400; and Mackenzie, *Diary*, 2:525. See also Wayne Bodle, *The Valley Forge Winter: Civilians and Soldiers in War* (University Park: Pennsylvania State University Press, 2002).

8. Shy, *People Numerous & Armed*, 211–22; and Smith, *Loyalists and Redcoats*, 36–37, 60–77, 79–85, 115–21, 168–74.

9. Sir Henry Clinton, *The American Rebellion*, ed. William B. Wilcox (New Haven, CT: Yale University Press, 1954), 86; and Alden, *American Revolution*, 284–327, 370–88.

10. James Simpson to Lord George Germain, 28 August 1779, in Alan S. Brown, ed., "James Simpson's Reports on the Carolina Loyalists, 1779–1780," *Journal of Southern History* 21, no. 4 (1955): 517; Charles Stedman, *The History of the Origin, Progress, and Termination of the American War*, 2 vols. (London: Printed for the Author, 1794; reprint ed., New York: New York Times & Arno Press, 1969), 2:189; Banastre Tarleton, *A History of the Campaigns of 1780 and 1781, in the Southern Provinces of North America* (London: T. Cadell, 1787; reprint ed., New York: New York Times & Arno Press, 1968), 13–23; Clinton, *American Rebellion*, 150–74; Alden, *American Revolution*, 408–9, 412–16; Smith, *Loyalists and Redcoats*, 121–28; and Mackenzie, *Diary*, 2:447, 525. A reliable biography of the Continental general who lost Charleston is David B. Mattern, *Benjamin Lincoln and the American Revolution* (Columbia: University of South Carolina Press, 1995). The most detailed scholarly account of that campaign is Carl P. Borick, *A Gallant Defense: The Siege of Charleston, 1780* (Columbia: University of South Carolina Press, 2003). Perhaps the most astute evaluation of the ill-founded assumptions that lured the British into the South is David K. Wilson, *The Southern Strategy: Britain's Conquest of South Carolina and Georgia, 1775–1780* (Columbia: University of South Carolina Press, 2005), xi, xv, 59–62, 265–66.

11. Franklin and Mary Wickwire, *Cornwallis: The American Adventure* (Boston: Houghton Mifflin Company, 1970), 8–137; Stedman, *American War*, 2:190–95; and Clinton, *American Rebellion*, 174–76, 186.

12. Stedman, *American War*, 2:190–95; Tarleton, *Campaigns*, 23–32, 71–76, 85–89; Smith, *Loyalists and Redcoats*, 128–36; and Wilson, *Southern Strategy*, 264.

13. Earl Cornwallis to Sir Henry Clinton, 6 August 1780, in Charles Ross, ed., *Correspondence of Charles, First Marquis Cornwallis*, 3 vols. (London: John Murray, 1858), 1:53; Roger Lamb, *An Original and Authentic Journal of Occurrences during the Late American War, From Its Commencement to the Year 1783* (Dublin: Wilkinson & Courtney, 1809; reprint ed., New York: New York Times & Arno Press, 1968), 302, 343, 381; Stedman, *American War*, 2:198–209; Tarleton, *Campaigns*, 90–96; and Wilson, *Southern Strategy*, 263–65. A recent description of Cornwallis's victory is John R. Maass, *Horatio Gates and the Battle of Camden—"That Unhappy Affair," August 16, 1780* (Camden, SC: Kershaw County Historical Society, 2001); and Wilson, *Southern Strategy*, 264–65.

14. A. R. Newsome, ed., "A British Orderly Book, 1780–1781," *North Carolina Historical Review* 9, no. 1 (1932): 273–98, 366–79; Burke Davis, *The Cowpens-Guilford Courthouse Campaign* (Philadelphia: J. B. Lippincott & Co., 1962), 49–145; Christopher Ward, *The War of the Revolution*, 2 vols., ed. John Richard Alden (New York: Macmillan Company, 1952), 2:763–83; Tarleton, *Campaigns*, 207–18; and Clinton, *American Rebellion*, 229. For a detailed examination of that campaign, see John Buchanan, *The Road to Guilford Courthouse: The American Revolution in the South* (New York: John Wiley & Sons, Inc., 1997).

15. Henry Lee, *Memoirs of the War in the Southern Department of the United States*, ed. Robert E. Lee (New York: University Publishing Company, 1870), 276–83; Earl Cornwallis to Lord Rawdon, 17 March 1781; Earl Cornwallis to Major General William Phillips, 10 April 1781; Earl Cornwallis to Lord George Germain, 18 April 1781, all in Ross, *Cornwallis Correspondence*, 1:87, 88, 92; Stedman, *American War*, 2:333–46; Tarleton, *Campaigns*, 271–76; and Newsome, "British Orderly Book," 388–92. See also Thomas E. Baker, *Another Such Victory: The Story of the American Defeat at Guilford Courthouse That Helped Win the War for Independence* (Conshohocken, PA: Eastern National, 1997).

16. Stedman, *American War*, 2:353; and Clinton, *American Rebellion*, 284.

17. During the struggle for the South in 1780 and 1781, the most formidable and steadfast Loyalist units proved to be those that the British imported from the North and not locally raised commands. Wilson, *Southern Strategy*, 89–90, 117, 176, 238, 243, 262–63; and Earl Cornwallis to Lord George Germain, 18 April 1781, in Ross, *Cornwallis Correspondence*, 1:90.

18. Earl Cornwallis to William Phillips, 10 April 1781, P.R.O.30/11/85, Charles Cornwallis, First Marquis and Second Earl, Papers, National Archives of the United Kingdom, Kew, England (hereafter cited as Cornwallis Papers); Earl Cornwallis to Sir Henry Clinton, 29 August 1780; Lord Rawdon to Sir Henry Clinton, 29 October 1780; Earl Cornwallis to Lord George German, 18 April 1781, all in Ross, *Cornwallis Correspondence*, 1:58, 62–63, 90–91; Newsome, "British Orderly Book," 372; and Tarleton, *Campaigns*, 229–30, 256–57, 312–13.

19. Earl Cornwallis to Banastre Tarleton, 18 December 1780, in Ross, *Cornwallis Correspondence*, 1:74.

20. Earl Cornwallis to Lord George Germain, 18 April 1781; Earl Cornwallis to Lord George Germain, 23 April 1781, both in Ross, *Cornwallis Correspondence*, 1:90–91, 94–95; Stedman, *American War*, 2:347, 353–54; and Lamb, *Original and Authentic Journal*, 357.

21. Edmund Randolph, *History of Virginia*, ed. Arthur H. Shaffer (Charlottesville: University Press of Virginia, 1970), 3, 177–78; Richard Henry Lee to Thomas McKean, 25 August 1781, in James Curtis Ballagh, ed., *The Letters of Richard Henry Lee*, 2 vols. (New York: Macmillan Company, 1911; reprint ed., New York: Da Capo Press, 1970): 2:247; Thomas Jefferson to Baron Friedrich von Steuben, 13 January 1781, in Julian P. Boyd, ed., *The Papers of Thomas Jefferson*, 27 vols. (Princeton: Princeton University Press, 1950-90), 4:352; and Lee, *Memoirs*, 310.

22. Earl Cornwallis to Lord George Germain, 18 April 1781, in Ross, *Cornwallis Correspondence*, 1:90–91. See also Earl Cornwallis to Lord George Germain, 23 April 1781, P.R.O.30/11/5, Cornwallis Papers.

23. Thomas Jefferson to Marquis de Lafayette, 23 April 1781, in Gilbert Chinard, ed., *The Letters of Lafayette and Jefferson* (Baltimore: Johns Hopkins Press, 1928), 38; Fred Anderson Berg, *Encyclopedia of Continental Army Units* (Harrisburg, PA: Stackpole Books, 1972), 124–32; Col. William Preston to Thomas Jefferson, 10 April 1781, in William P. Palmer, ed., *Calendar of Virginia State Papers and Other Manuscripts*, 11 vols. (Richmond, VA: Sherwin McRae, 1880-93; reprint ed., New York: Kraus Reprint Corporation, 1968), 2:25; Richard Henry Lee to Arthur Lee, 4 June 1781, in Ballagh, *Letters of R. H. Lee*, 2:230; Lee, *Memoirs*, 299–301; Ward, *War of the Revolution*, 2:717–30, 782, 868–69; Sir Henry Clinton to Earl Cornwallis, 11 June 1781, P.R.O.30/11/68, Cornwallis Papers; and Rhys Isaac, *The Transformation of Virginia, 1740–1790* (Chapel Hill: University of North Carolina Press, 1982), 275–76.

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25. Earl Cornwallis to Sir Henry Clinton, 10 April 1781, in Ross, *Cornwallis Correspondence*, 1:88.

26. Gregory J. W. Urwin, " 'I Have Wanted to Go See You for a Long Time': Notes on the Friendship of Johann Ewald and John Graves Simcoe," *Hessians: Journal of the Johannes Schwalm Historical Association*, 17 (2014): 1–14; Audrey Wallace, *Benedict Arnold: Misunderstood Hero?* (Shippensburg, PA: Burd Street Press, 2003), 75–80; Johann Ewald, *Diary of the American War: A Hessian Journal*, trans. and ed. Joseph P. Tustin (New Haven, CT: Yale University Press, 1979), 255–58, 266–75, 302; John Graves Simcoe, *Simcoe's Military Journal: A Military History of the Operations of a Partisan Corps, Called the Queen's Rangers* (New York: Bartlett & Welford, 1844; reprint ed., New York: New York Times & Arno Press, 1968), 158–72, 193–202; Rayford W. Logan, ed., "Memoirs of a Monticello Slave: As Dictated to Charles Campbell in the 1840s by Isaac, One of Thomas Jefferson's Slaves," *William and Mary Quarterly*, 3rd Ser., 18 (1951): 569–71; Harry M. Ward, *Duty, Honor or Country: General George Weedon and the American Revolution* (Philadelphia: American Philosophical Society, 1979), 162–68; Earl Cornwallis to Sir Henry Clinton, 20 May 1781, in Ross, *Cornwallis Correspondence*, 1:100; Lee, *Memoirs*, 413; Benedict Arnold to Sir Henry Clinton, 12 May 1781, Sir Henry Clinton Papers 155:40, William L. Clements Library, University of Michigan, Ann Arbor, Michigan; Tarleton, *Campaigns*, 334–40; and Stedman, *American War*, 2:354–55.

27. George Mason to George Mason, Jr., 3 June 1781, in Rutland, *George Mason Papers*, 2:693.

28. Richard Henry Lee to Arthur Lee, 4 June 1781, in Ballagh, *Letters of R. H. Lee*, 2:230–31.

29. St. George Tucker to Fanny Tucker, 11 July 1781, in Charles Washington Coleman Jr., ed., "The Southern Campaign 1781 from Guilford Court House to the Siege of York Narrated in the Letters from Judge St. George Tucker to His Wife," *Magazine of American History* 7 (1881): 207; Thomas Nelson to George Washington, 27 July 1781, in Palmer, *Virginia State Papers*, 2:259; Tarleton, *Campaigns*, 296; and Earl Cornwallis, "Notification," 9 August 1781, P.R.O.30/11/101, Cornwallis Papers.

30. Earl Cornwallis to Sir Henry Clinton, 26 May 1781, in Ross, *Cornwallis Correspondence*, 1:101–2.

31. Earl Cornwallis to Banastre Tarleton, 11 June 1781, P.R.O.30/1/87, Cornwallis Papers; and Harry Calvert, "Diary," 5, 16–18, 28–30 May, 12 June 1781(9/102/1) Claydon House Trust, Middle Claydon, Buckingham, UK.

32. Earl Cornwallis to Banastre Tarleton, 8 July 1781. Quoted in Tarleton, *Campaigns*, 402–3.

33. Edmund Pendleton to James Madison, 30 April 1781, in *The Letters and Papers of Edmund Pendleton, 1734–1803*, 2 vols., ed. David John Mays (Charlottesville: University of Virginia Press, 1967), 1:354; Richard K. McMaster, ed., "News of the Yorktown Campaign: The Journal of Dr. Robert Honyman, April 17–November 25, 1781," *Virginia Magazine of History and Biography* 79 (October 1971): 400–1, 404, 411; Richard Henry Lee to Arthur Lee, 4 June 1781, in Ballagh, *Letters of R. H. Lee*, 2:229–30; Tarleton, *Campaigns*, 294–301; Simcoe, *Military Journal*, 213–23; and David Garland to Thomas Nelson, 23 July 1781, in Palmer, *Virginia State Papers*, 2:240–41.

34. Thomas Jefferson to William Gordon, 16 July 1788, in Boyd, *Jefferson Papers*, 13:363.

35. Gregory J. W. Urwin, "The British Guards in the Revolution," *Campaigns*, July/August 1981, 48–51; Robert D. Bass, *The Green Dragoon* (Columbia, SC: Sandlapper Press, 1973), 44–58, 72–126, 139–73; Philip R. N. Katcher, *Encyclopedia of British, Loyalist, and German Army Units, 1775–1783* (Harrisburg, PA: Stackpole Books, 1973), 1–148; Philip Katcher, *The American Provincial Corps* (Reading, PA: Osprey Publishing Ltd., 1974), 3–32; Isaac Samuel Harrell,

Loyalism in Virginia (Durham, NC: Duke University, 1926), 49; Tarleton, *Campaigns*, 101, 270–76; Stedman, *American War*, 2:183; Lamb, *Original and Authentic Journal*, 381; Clinton, *American Rebellion*, 304; Simcoe, *Military Journal*, 150–58, 165–67, 212; *Royal Gazette* (New York), 19 May, 14, 18, 25 July 1781; Ewald, *Diary*, 140–50, 267–76, 278–80, 294, 296, 302; Lee, *Memoirs*, 413; and John Graves Simcoe to Earl Cornwallis, 2 June 1781, P.R.O.30/11/6, Cornwallis Papers. For discussions of the British Army's adoption of open-order tactics during the War of Independence, see Lawrence E. Babits, *A Devil of a Whipping: The Battle of Cowpens* (Chapel Hill: University of North Carolina Press, 1998), 17–18; J. A. Houlding, *Fit for Service: The Training of the British Army, 1715–1795* (Oxford: Clarendon Press, 1981), 237-38, 336-37; and especially Matthew H. Spring, *With Zeal and with Bayonets Only: The British Army on Campaign in North America, 1775–1783* (Norman: University of Oklahoma Press, 2008). Banastre Tarleton's controversial American career is reassessed in Anthony J. Scotti Jr., *Brutal Virtue: The Myth and Reality of Banastre Tarleton* (Bowie, MD: Heritage Books, Inc., 2002).

36. McMaster, "Honyman Journal," 398, 403, 406; Lee, *Memoirs*, 415; Marquis de Lafayette to Thomas Jefferson, 26 May 1781, in Boyd, *Jefferson Papers*, 6:18; Richard Henry Lee to George Washington, 12 June 1781, in Ballagh, *Letters of R. H. Lee*, 2:235; H. Young to William Davies, 26 May 1781, in Palmer, *Virginia State Papers*, 2:120; and "State of the Troops that Marched with the Army under the Command of Lieut. Genl. Earl Cornwallis," 1 May 1781, P.R.O.30/11/103, Cornwallis Papers; Scotti, *Brutal Virtue*, 41.

37. Marquis de Lafayette to George Washington, 24 May 1781, in *The Letters of Lafayette to Washington, 1777–1799*, ed. Louis Gottschalk (Philadelphia: American Philosophical Society, 1976), 198.

38. During the height of the Virginia campaign, the Queen's Rangers counted an enlisted strength of 632 men. Two-hundred-forty-eight of this number belonged to the regiment's four troops of hussars and light dragoons. The remaining 375 were divided among 11 infantry companies and an additional detachment armed with rifles and swords. While in Virginia, the rifle detachment usually operated as mounted infantry. In an engagement at Spencer's Ordinary on 26 June 1781, however, the versatile mounted riflemen joined the regiment's cavalry in delivering a horseback charge. Evelyn M. Acomb, trans. and ed., *The Revolutionary Journal of Baron Ludwig von Closen 1780–1783* (Chapel Hill: University of North Carolina Press, 1958), 176–77; Howard C. Rice Jr. and Anne S. K. Brown, trans. and eds., *The American Campaigns of Rochambeau's Army 1780, 1781, 1782, 1783*, 2 vols. (Princeton, NJ: Princeton University Press, 1972), 1:68; T. H. Breen, "Horses and Gentlemen: The Cultural Significance of Gambling among the Gentry of Virginia," *William and Mary Quarterly* 3, no. 3 (April 1977): 239–57; Isaac, *Transformation of Virginia*, 98–10; McMaster, "Honyman Journal," 395, 399; Marquis de Lafayette to Thomas Jefferson, 28 May 1781, in Boyd, *Jefferson Papers*, 6:26; Lee, *Memoirs*, 303, 415; Tarleton, *Campaigns*, 286, 288, 299; Lamb, *Original and Authentic Journal*, 371; *Royal Gazette* (New York), 7 July 1781; "State of the Queen's Rangers 25th Aug. 1781, With Casualties from 25th June to 24 Aug. 1781" and "State of the Queen's Rangers 25th December 1781 with broken periods from 25 Oct. to 24 Dec. 1781," both in Ward-Chipman Papers: Muster Master General's Papers and Regimental Papers, 1776–1785, Canadian National Archives, Ottawa, Canada, microfilm at the David Library of the American Revolution, Washington Crossing, Pennsylvania; Simcoe, *Military Journal*, 107–8, 230, 233; and De Witt Bailey, *British Military Flintlock Rifles, 1740–1840* (Lincoln, RI: Andrew Mowbray Publishers, 2002), 72–74.

39. Richard Henry Lee to Arthur Lee, 4 June 1781, in Ballagh, *Letters of R. H. Lee*, 2:231.

40. William Feltman, *The Journal of Lieut. William Feltman, of the First Pennsylvania Regiment, 1781–82. Including the March into Virginia and the Siege of Yorktown* (Philadelphia: Historical Society of Pennsylvania, 1853; reprint ed., New York: New York Times & Arno Press, 1969), 2–6; George Mason to George Mason Jr., 3 June 1781, in Rutland, *George Mason Papers*,

2:693; Lee, *Memoirs*, 414–15; Ward, *War of the Revolution*, 2:874–75; and Marquis de Lafayette to Thomas Jefferson, 26 May 1781, in Boyd, *Jefferson Papers*, 6:18; *Royal Gazette* (New York), 13, 20 June 1781.

41. Marquis de Lafayette to Thomas Jefferson, 28 May 1781, in Boyd, *Jefferson Papers*, 6:26.

42. Richard Henry Lee to James Lovell, 12 June 1781, in Ballagh, *Letters of R. H. Lee*, 2:237.

43. Brigade Orders, 31 May 1781, General Orders, 5 June 1781, Regimental Orders, 31 May 1781, all in Orderly Book: H. B. M. 43rd Regiment of Foot General Orders: From 23 May to 25 August 1781, Manuscript 42,449, British Museum, London, England. These orders not only reflected Cornwallis's personal inclinations but also well-established British policy. Mindful that excessive plundering under Gen Sir William Howe had cost the king's cause American hearts and minds, Gen Sir Henry Clinton, Howe's successor as commander-in-chief, decided to institute a change in course. In 1779, he tasked two of his ill-fated subordinates, Maj Patrick Ferguson and Maj John André, to write detailed papers explaining how British armies operating in the interior could live off the countryside without alienating the populace. Clinton had copies of André's memorandum made for both Benedict Arnold and Lord Cornwallis, and the two generals attempted to implement the new policy in their orders during the Virginia campaign. *See* Patrick Ferguson, "Attempt to Correct Ye Army," November 1779, Sir Henry Clinton Papers, 78:18; and John André, "On Plundering with Proposed Regulations," 1779 [?], Sir Henry Clinton Papers, 82:23. Evidence testifying to at least the occasional effectiveness of Cornwallis's efforts cropped up among the hundreds of affidavits that Virginia planters filed with their state government in 1782 tabulating the property they lost to the British in the previous year. "Certificate of Chas. Steadman Commissary British Army as to Cattle Taken from Mrs. Jane Reddick," 19 July 1781, Norfolk County, St. Bride's Parish, Citizens Claims of Property Lost to British Army, 1782, Library of Virginia, Richmond, Virginia. On the initial rapaciousness exhibited by the king's troops, see Fischer, *Washington's Crossing*, 177–81; Stephen Conway, "To Subdue America: British Army Officers and the Conduct of the Revolutionary War," *William and Mary Quarterly* 3., no 34 (July 1986): 381–407; and Stephen Conway, " 'The Great Mischief Complain'd of': Reflections on the Misconduct of British Soldiers in the Revolutionary War," *William and Mary Quarterly* 3, no., 47 (July 1990): 370–90.

44. John Graves Simcoe to Earl Cornwallis, 2 June 1781, P.R.O.30/11/6, Cornwallis Papers; Simcoe, *Military Journal*, 212; and Orders, 7 June 1781, 43rd Foot Orderly Book, 23 May-25 August 1781.

45. Ellen Gibson Wilson, *The Loyal Blacks* (New York: Capricorn Books, 1976), 25.

46. Wilson, *Loyal Blacks*, 21; and David Waldstreicher, *Runaway America: Benjamin Franklin, Slavery, and the American Revolution* (New York: Hill and Wang, 2004), 210.

47. Benjamin Quarles, *The Negro in the American Revolution* (Chapel Hill: University of North Carolina Press, 1961), 40, 51, 71–72, 116, 119; Richard B. Morris, *The American Revolution Reconsidered* (New York: Harper Torchbooks, 1967), 76; Benjamin Quarles, "The Negro Response: Evacuation with the British," in *Black History, a Reappraisal*, ed. Melvin Drimmer (Garden City, NY: Doubleday & Company Inc., 1968), 133; and Wilson, *Loyal Blacks*, 21–22.

48. Quote cited from Theodore G. Tappert and John W. Doberstein, trans. and eds., *The Journals of Henry Melchior Muhlenburg*, 3 vols. (Philadelphia: Muhlenburg Press, 1942–58), 3:78.

49. *Rivington's Royal Gazette* (New York), 25 September 1779; Sylvia R. Frey, "The British and the Black: A New Perspective," *Historian* 38 (February 1976): 225–29; Charles Francis Adams, ed., *The Works of John Adams*, 10 vols. (Boston: Little, Brown, 1850), 2:428; and Wilson, *Loyal Blacks*, 29. Judith L. Van Buskirk offers a vivid discussion of the African Americans who fled to British-occupied New York in *Generous Enemies: Patriots and Loyalists in Revolutionary New York* (Philadelphia: University of Pennsylvania Press, 2002), 129–54.

50. David Ramsay, *The History of the Revolution of South Carolina, from a British Province to an Independent State*, 2 vols. (Trenton, NJ: Isaac Collins, 1785), 2: 31–32; and Wilson, *Southern Strategy*, 118. The most comprehensive discussion of this issue is Sylvia R. Frey, *Water from the Rock: Black Resistance in a Revolutionary Age* (Princeton, NJ: Princeton University Press, 1993).

51. Tarleton, *Campaigns*, 89–90.

52. Frey, "British and the Black," 228–29; Stedman, *American War*, 2:193, 217; Tarleton, *Campaigns*, 89–90; Wilson, *Loyal Blacks*, 32–36; Wilson, *Southern Strategy*, 176, 234; Sir Henry Clinton to Earl Cornwallis, 20 May, 1780, and Nesbitt Balfour to Earl Cornwallis, 24 June 1780, both in P.R.O.30/11/2, Cornwallis Papers.

53. McMaster, "Honyman Journal," 394.

54. Richard Henry Lee to William Lee, 15 July 1781, in Ballagh, *Letters of R. H. Lee*, 2:242.

55. George Mason to George Mason Jr., 3 June 1781, in Rutland, *George Mason Papers*, 2:690; Edmund Pendleton to James Madison, 30 April 1781, in Mays, *Pendleton Papers*, 1:354; and George Mason to Nathanael Greene, 27 July 1781. Quoted in Ward, *General George Weedon*, 205; Thomas Jefferson to William Jones, 5 January 1787, in Boyd, *Jefferson Papers*, 11:16; St. George Tucker to Fanny Tucker, 11 July 1781, in Coleman, "Tucker Letters," 207; and Acomb, *Von Closen Journal*, 180.

56. McMaster, "Honyman Journal," 400; Ewald, *Diary*, 305; Logan, "Memoirs of a Slave," 562–72; Edmund Pendleton to James Madison, 29 July 1782, in Mays, *Pendleton Papers*, 2:402; "State of the losses of Thomas Jefferson in the county of Cumberland by the British in the year 1781," 27 January 1783, in Boyd, *Jefferson Papers*, 6:224–25; Marquis de Lafayette to George Washington, 23 April 1781, in Gottschalk, *Lafayette-Washington Letters*, 187; and *Royal Gazette* (New York), 29 August 1781.

57. Thomas Jefferson to William Gordon, 16 July 1788, in Boyd, *Jefferson Papers*, 13:364; and Ewald, *Diary*, 305.

58. Ewald, *Diary*, 305.

59. William Duane and Thomas Blach, trans. and eds., *The Journal of Claude Blanchard* (Albany, NY: J. Munsell, 1876; reprint ed., New York: New York Times & Arno Press, 1969), 162; Rice and Brown, *Rochambeau's Army*, 1:67; Acomb, *Von Closen Journal*, 187; and Isaac, *Transformation of Virginia*, 136.

60. McMaster, "Honyman Journal," 401–2; Ewald, *Diary*, 305; Acomb, *Von Closen Journal*, 174; and St. George Tucker to Fanny Tucker, 11 July 1781, in Coleman, "Tucker Letters," 207–8.

61. Acomb, *Von Closen Journal*, 166; McMaster, "Honyman Journal," 399; Marquis de Lafayette to Thomas Jefferson, 28 May 1781, in Boyd, *Jefferson Papers*, 6:26; Rice and Brown, *Rochambeau's Army*, 1:154; Tarleton, *Campaigns*, 353; and Simcoe, *Military Journal*, 165.

62. Marquis de Lafayette to George Washington, 20 July 1781, in Gottschalk, *Lafayette-Washington Letters*, 209.

63. *Royal Gazette* (New York), 29 August 1781; Joseph G. Rosengarten, trans. and ed., "Popp's Journal, 1777–1783," *Pennsylvania Magazine of History and Biography* 26 (1902): 38; William Phillips to Sir Henry Clinton, 3 April 1781, P.R.O.30/11/96, and Alexander Ross to Lieutenant Paterson, 20 June 1781, PRO 30/11/87/15-16, both in Cornwallis Papers; Regimental Orders, 28 July 1781, After Orders, 4 August 1781, Morning Regimental Orders, 25 August 1781, all in 43rd Foot Orderly Book, 23 May–25 August 1781; Earl Cornwallis to Charles O'Hara, 4 August 1781, in Ross, *Cornwallis Correspondence*, 1:113; Edmund Pendleton to James Madison, 10 September 1781, in Mays, *Pendleton Papers*, 1:371; and Robert J. Tilden, trans., "The Doehla Journal," *William and Mary College Quarterly History Magazine* 2, no. 22 (1942): 243.

64. General Orders, 21 May 1781, 43rd Foot Orderly Book, 23 May–25 August 1781.

65. General Orders, 21 May 1781; Orders 28 May 1871, both in 43rd Orderly Book.

66. General Orders, 5 June 1781, 43rd Orderly Book. See also Regimental Orders, 5 June 1781; Brigade Orders, 18 June 1781; and General Orders, 25 June 1781, all in 43rd Orderly Book.

67. Regimental Orders, 4 June 1781, 43rd Foot Orderly Book, 23 May–25 August 1781; and Ewald, *Diary*, 305–6.

68. Orders, 28 May 1781; Brigade Orders, 8 June 1781; General Orders, 11 August 1781; General Orders, 20 August 1781; and General Orders, 25 August 1781, all in 43rd Foot Orderly Book, 23 May–25 August 1781.

69. Thomas Nelson to Earl Cornwallis, 23 July 1781, P.R.O.30/11/90, Cornwallis Papers.

70. Earl Cornwallis to Thomas Nelson, 6 August 1781, Cornwallis Papers.

71. Philip H. Sheridan, *Personal Memoirs of P. H. Sheridan*, 2 vols. (New York: Charles L. Webster & Company, 1888), 1:487–88.

72. Marquis de Lafayette to Thomas Nelson, 26 August 1781, in Gilbert Chinard, ed., *Lafayette in Virginia: Unpublished Letters* (Baltimore: Johns Hopkins Press, 1928), 54; St. George Tucker to Fanny Tucker, 14 September 1781, in Coleman, "Tucker Letters," 206, 211; Richard Henry Lee to George Washington, 12 June 1781, in Ballagh, *Letters of R. H. Lee*, 2:233; Marquis de Lafayette to Thomas Jefferson, 28 May 1781, in Boyd, *Jefferson Papers*, 6:26; McMaster, "Honyman Journal," 393, 394, 416; and Ward, *General George Weedon*, 203, 216.

73. Randolph, *History of Virginia*, 285. This fear was an American military weakness throughout the Revolution. As historian David K. Wilson observed, "The threat of a slave insurrection (and/or Indian attacks in the case of frontier counties) usually kept half of a southern county's militia at home." Wilson, *Southern Strategy*, 3.

74. Emory G. Evans, *Thomas Nelson of Yorktown: Revolutionary Virginian* (Charlottesville: University Press of Virginia, 1975), 100–1; Edmund Pendleton to James Madison, 4 May 1781, Edmund Pendleton to James Madison, 6 July 1781, both in Mays, *Pendleton Papers*, 1:356, 365; Lee, *Memoirs*, 438; Stedman, *American War*, 2:387–88; Tarleton, *Campaigns*, 295–97; *Royal Gazette* (New York), 4 July 1781; Earl Cornwallis to Sir Henry Clinton, 30 June 1781, P.R.O.30/11/74, Cornwallis Papers; Richard Henry Lee to Arthur Lee, 13 May 1781, in Ballagh, *Letters of R. H. Lee*, 2:233; George Mason to Pearson Chapman, 31 May 1781, in Rutland, *George Mason Papers*, 2:688; and McMaster, "Honyman Journal," 401.

75. Richard Henry Lee to Arthur Lee, 4 June 1781, in Ballagh, *Letters of R. H. Lee*, 2:230; George Mason to George Mason Jr., 3 June 1781, in Rutland, *George Mason Papers*, 2:693–94; Tarleton, *Campaigns*, 297–98; George Corbin to Thomas Jefferson, 31 May 1781, in Boyd, *Jefferson Papers*, 6:44-46; James Arbuckle, Charles Bagwell, and D. Bowman to Thomas Jefferson, 15 May 1781, J. Parker to the Speaker of the Virginia Assembly, 9 June 1781, J. Parker to Thomas Nelson, 29 June 1781, William Preston to William Davies, 28 July 1781, William Preston to Thomas Nelson, 28 July 1781, and James Innes to Thomas Nelson, 29 July 1781, all in Palmer, *Virginia State Papers*, 2:97–100, 151, 189, 246–67; Harrell, *Loyalism in Virginia*, 59–62; Tilden, "Doehla Journal," 240; and Isaac, *Transformation of Virginia*, 276.

76. Richard Henry Lee to George Washington, 12 June 1781; and Richard Henry Lee to James Lovell, 12 June 1781, both in Ballagh, *Letters of R. H. Lee*, 2:233–37.

77. Sir Henry Clinton, *The Narrative of Lieutenant-General Sir Henry Clinton, K.B., relative to His Conduct during Part of His Command of the King's Troops in North America* (London: J. Debrett, 1783), 7–8; Sir Henry Clinton, *Observations on Some Parts of the Answer of Earl Cornwallis to Sir Henry Clinton's Narrative* (London: J. Debrett, 1783), 11–12, 16; Sir Henry Clinton to Earl Cornwallis, 8 June 1781, Sir Henry Clinton to Earl Cornwallis, 11 June 1781, Sir Henry Clinton to Earl Cornwallis, 15 June 1781, Sir Henry Clinton to Earl Cornwallis, 19 June 1781, and Sir Henry Clinton to Earl Cornwallis, 8 July 1781, all in Benjamin Franklin Stevens, ed.,

The Campaign in Virginia 1781: An Exact Reprint of Six Rare Pamphlets on the Clinton-Cornwallis Controversy with Very Numerous Important Unpublished Manuscript Notes by Sir Henry Clinton, K.B., and the Omitted and Hitherto Unpublished Portions of the Letters in Their Appendices Added from the Original Manuscripts, 2 vols. (London: Privately Printed, 1888): 2:14–17, 18–23, 24–25, 26–28, 29–30, 49–56, 62–65; Earl Cornwallis to Sir Henry Clinton, 30 June 1781, Earl Cornwallis to Sir Henry Clinton, 24 July 1781, and Earl Cornwallis to Sir Henry Clinton, 22 August 1781, all in Ross, *Cornwallis Correspondence*, 1:103–6, 107–10, 112, 113–16, 117; Sir Henry Clinton to Earl Cornwallis, 11 June 1781, P.R.O. 30/11/68, Cornwallis Papers; James Robertson to William Knox, 12 July 1781, James Robertson to Lord Amherst, 8 December 1781, and James Robertson to Lord Amherst, 27 December 1781, all in Milton M. Klein and Ronald W. Howard, eds., *The Twilight of British Rule in Revolutionary America: The New York Letter Book of General James Robertson, 1780–1783* (Cooperstown, NY: New York State Historical Association, 1983), 209, 231, 234; John Ross to Lord Ankerville, 2 March 1781, RH15/44/103, National Archives of Scotland, Edinburgh, Scotland; Ira D. Gruber, ed., *John Peebles' American War: The Diary of a Scottish Grenadier, 1776–1782* (Mechanicsburg, PA: Stackpole Books, 1998), 464; Don Higginbotham, *The War of American Independence: Military Attitudes, Policies, and Practice, 1763–1789* (New York: Macmillan Company, 1971), 376–79; Clinton, *American Rebellion*, 284, 289–90, 301–2; Macksey, *War for America*, 409; Wickwire, *Cornwallis*, 352–53; and William Smith, *Historical Memoirs*, ed. William H. W. Sabine (New York: New York Times & Arno Press, 1971), 406, 407, 418.

78. Tarleton, *Campaigns*, 368–69; Ward, *War of the Revolution*, 2:879–87; Stedman, *American War*, 2:414; Tappert and Doberstein, *Muhlenburg Journals*, 3:443; Donald Jackson, ed., *The Diaries of George Washington*, 6 vols. (Charlottesville: University of Virginia Press, 1976), 3:409–10.

79. John C. Dann, ed., *The Revolution Remembered: Eyewitness Accounts of the War for Independence* (Chicago: University of Chicago Press, 1980), 244; Joseph Plumb Martin, *Private Yankee Doodle: Being a Narrative of Some of the Adventures, Dangers, and Sufferings of a Revolutionary Soldier*, ed. George F. Scheer (Boston: Little, Brown and Company, 1962), 241–42; Fleming, *Beat the Last Drum*, 175–76, 256; Ewald, *Diary*, 314, 318, 328, 335–36; Edward M. Riley, ed., "St George Tucker's Journal of the Siege of Yorktown, 1781," *William and Mary Quarterly* 3, no. 5 (1948): 387; McMaster, "Honyman Journal," 420; Logan, "Memoirs of a Slave," 572; Feltman, *Journal*, 6; Frey, "British and the Black," 232–33; Earl Cornwallis to Sir Henry Clinton, 22 August 1781, Earl Cornwallis to Sir Henry Clinton, 16 September 1781, and Earl Cornwallis, 20 October 1781, all in Ross, *Cornwallis Correspondence*, 1:117, 120, 127–28; Wilson, *Loyal Blacks*, 42; Tilden, "Doehla Journal," 238, 241–46, 251; Rosengarten, "Popp's Journal," 41; and Annette Gordon-Reed, *The Hemingses of Monticello: An American Family* (New York: W. W. Norton & Company, 2008), 140. Fenn, *Pox Americana* provides a gripping overview of the smallpox epidemic that swept North America at the time of the Revolution. A medical history of Cornwallis's Virginia campaign that credits another origin for the smallpox plague that swept the blacks who followed the British is Philip Ranlet, "The British, Slaves, and Smallpox in Revolutionary Virginia," *Journal of Negro History* 84 (Summer 1999): 217–26.

80. *See* Cassandra Pybus, "Jefferson's Faulty Math: The Question of Slave Defections in the American Revolution," *William and Mary Quarterly* 3, no. 62 (April 2005): 243–64. The author has located hundreds of depositions filed in 1782 by Virginia planters the year before regarding property taken or destroyed by the British the previous year. While not every county affected by the invaders is represented, this data will facilitate a more exact reckoning of the number of slaves who ran away, the number who returned, and the number killed by contagion.

81. The subject of slave resistance during the era of the American Revolution has received increased attention from historians, but thus far, they have failed to properly link this phenom-

enon with the course of military operations. *See* Sylvia R. Frey, *Water from the Rock: Black Resistance in a Revolutionary Age* (Princeton, NJ: Princeton University Press, 1991); Robert Olwell, *Masters, Slaves, and Subjects: The Culture of Power in the South Carolina Low Country, 1740–1790* (Ithaca, NY: Cornell University Press, 1998); Simon Schama, *Rough Crossings: Britain, the Slaves and the American Revolution* (New York: HarperCollins Publishers, 2006); Cassandra Pybus, *Epic Journeys of Freedom: Runaway Slaves of the American Revolution and Their Global Quest for Liberty* (Boston: Beacon Press, 2006); Alan Gilbert, *Black Patriots and Loyalists: Fighting for Emancipation in the War for Independence* (Chicago: University of Chicago Press, 2012); and Gerald Horne, *The Counter-Revolution of 1776: Slave Resistance and the Origins of the United States of America* (New York: New York University Press, 2014).

82. Edds, "Reagan Likens Own Fight."

The Place of World War II in History*

Gerhard L. Weinberg

When we look back today on the world of 50 years ago,† two facets immediately come into view. In the first place, there are the almost unbelievable human losses and physical destruction. Exactly how many lost their lives in the war will never be known, but the most reliable estimates suggest a figure of over 60 million. And please note, this figure does not include the wounded. Added to this staggering loss of life is the vast destruction. Among the capitals of the world, Warsaw and Manila were hit worst, but they are mentioned here merely to represent the hundreds of cities and towns on all continents from Dutch Harbor in Alaska to Darwin in Australia, which were more or less damaged by bombing, shelling, or the deliberate burning down of communities.[1]

The destructive wake of World War II campaigns is depicted in this aerial view of Rotterdam, circa May 1940. Courtesy of National Archives (no. 535916).

The second facet we see is the division of the world into victors and defeated: the Allies on one side, and the powers of the Tripartite Pact on the other. At the end of almost six years of fighting in Europe, the Middle East,

*Harmon Memorial Lecture #38, 1995.

†This talk was given in 1995, the fiftieth anniversary of the end of World War II in 1945.

and Africa, and after 14 years of upheaval and fighting in Asia and the Pacific, one side had forced the other to capitulate. And in the final months of fighting as well as immediately afterwards, population movements, either caused or contributed to by the war, continued on a vast scale. The end of the shooting by no means brought an end to the suffering.

What did all this mean for the participants, at that time practically all nations on earth? For the defeated, this meant complete occupation for all except Finland. But occupation was only the obvious sign of a lost war. For the Germans, defeat meant the end of an effort to become the dominant power on Earth. The intended demographic revolution, initiated inside Germany in 1933 with the compulsory sterilization of those with allegedly hereditary defects, and accelerated inside and outside the country with the invasion of Poland, which started World War II in 1939, was halted; it could not be extended to the rest of the globe.

For millions of Germans, this meant that they would neither be settled somewhere in the Ukraine or North Caucasus nor be assigned to guard or garrison duty somewhere in Africa, Asia, or the Western Hemisphere. I rather doubt that many Germans were greatly disappointed. If the Nazi government had called for individuals in Germany's cities to register for settlement in the new defense villages in the East, they would probably not have gotten millions to sign up; but people would, of course, not have been asked. There would have been prepared lists published in the newspapers, and people could have looked for their names and begun life anew. Only the high-ranking leaders of the armed forces and the black-shirted SS, who had already been given or promised stolen estates, may at times in the postwar years have thought longingly of the vast acres they had lost.

On the other hand, defeat saved the lives of many Germans. Liberation from National Socialism meant that the vast numbers of severely wounded German veterans would not be murdered by their own government as "lives unworthy of life." Their lives would hardly be easy, but they could live them out with their surviving relatives. The same thing would be true of others scheduled for so-called euthanasia if Germany won. And the program under which 400,000 Germans had been forcibly sterilized by 1945 could not gather additional victims.

In the religious, as in the cultural life, defeat freed the Germans from great dangers. All religions were supposed to disappear from the country; it is no coincidence that all plans for future German cities and residential areas were drafted without space for churches.[2] And in art and music, literature and architecture, there was to be only what might be described as National Socialist realism. Even those who might at times prefer to close their eyes or ears to

what they can see or hear now will need to recall that their freedom to enjoy the music and art that they like requires the freedom of others to create theirs.

For millions of Germans defeat meant the loss of their homes. We can see here one of the tragic results of the attacks on and destruction of the peace settlement at the end of the First World War. At Versailles an attempt had been made to adjust the borders of Europe to the population. Though not invariably implemented carefully and justly, this was a significant progressive concept which was never appreciated, especially in Germany. The Third Reich put forward the opposite principle: the boundaries should be drawn up first, and then the population shoved in whatever direction the new borders called for. This procedure was applied to the Germans themselves at the end of World War II by the victors. The alleged defects of Versailles on Germany's eastern border were corrected, but at a very high price.

One should note in this context that the majority of the Germans who fled or were expelled from the former eastern territories and other portions of Europe settled in the Western zones of occupation in Germany. In the difficult and slow but steady development of a democratic parliamentary republic with its very substantial economic growth, they would be able to see, perhaps later than many but see all the same, the truth of the assertion of that great theologian and opponent of Hitler's, Dietrich Bonhoeffer*, that for the Germans, like all others, defeat would be better than victory.[3]

Italy had paid for Mussolini's thoughtless entrance into the war with the loss of its colonial empire and endless destruction. Participation had effectively ended the independence Italy had attained in the nineteenth century, as it had to be rescued by its German ally in 1941. Only the victory of the Allies could restore the independence of the country, a process that was already under way in 1945. Here, too, defeat rather than victory at the side of an overbearing Germany was a blessing for the people. The colonies had always been a financial burden for a basically poor country, and it was only in the postwar era that Italy made dramatic economic progress, especially in the industrial field, becoming one of the leading national economies in the world. In the

*Bonhoeffer was a Lutheran pastor and a leader of the orthodox Confessing Church that resisted Nazi encroachment into theological, ecclesiastical, and moral matters. After leading an underground church movement, he eventually cooperated with the anti-Hitler forces to the point of supporting at least one assassination attempt. The Gestapo arrested him in April 1943 and executed him on 9 April 1945 at Flossenberg concentration camp. Bonhoeffer once wrote to his American friend, Reinhold Niebuhr, explaining his decision to return to Germany and fight against the Nazis from within his home country, "Christians in Germany will face the terrible alternative of either willing the defeat of their nation in order that Christian civilization may survive, or willing the victory of their nation and thereby destroying our civilization. I know which of these alternatives I must choose; but I cannot make that choice in security." Later, he stated, "I pray for the defeat of my country, for I think that is the only possibility of paying for all the suffering that my country has caused in the world." *See* Richard Pierard, "Radical Resistance: Bonhoeffer Took an Early and Active Stand against the Nazis," *Christianity Today* 32 (1991), http://www.christianitytoday.com/history/issues/issue-32/radical-resistance.html.

years of the nineteenth and twentieth centuries, when Italy had attempted to play the role of a great power, the economic basis for that role had always been lacking; it was only after defeat that Italy's economy rose to high rank. It may serve as an indication of this rank that the basis for the European Common Market was laid in the Treaty of Rome.*

Japan, like Italy, lost its prewar conquests. Here too destruction marked the land, but on nothing like the scale which would have been produced by a climactic final campaign in the home islands. Under the impact of the atomic bombs and the Soviet declaration of war, the Japanese government had abandoned the idea of fighting on to the bitter end and instead capitulated. In many ways, Japan's situation in the Pacific War in 1945 resembled that of Germany in 1918 rather than that in 1945. A large part of Japan's military apparatus, some seven million men in the army and over a million in the navy, was still in service, stationed not only in the home islands but in very substantial areas Japan had conquered in prior years and which were still under Japanese control. But because Japan was obliged to surrender and accept occupation, there has been since 1945 nothing like a stab-in-the-back legend in Japan, and nobody, or practically nobody, in the country has followed the example of so many Germans who after World War I argued that Germany should have continued fighting in 1918. It was precisely such notions which the Allies in World War II wanted to keep from coming up again, and in this they were entirely successful with both the Germans and the Japanese. A few Germans did think about a third world war, Field Marshal Ritter von Leeb for one;[4] and there might have been some equally hopelessly blind individuals in Japan;† but for the overwhelming majority of Japanese once—as for most Germans twice—was enough.

The Japanese dream of a huge empire was gone. In this case also one can raise the question whether there were really that many Japanese who wanted to leave their homes and settle in such conquered places as Guadalcanal or the jungles of New Guinea—to say nothing of the Aleutian Islands now being used as places of exile for misbehaving teenagers.‡ There is also the question

*The Treaty of Rome, originally known as the Treaty Establishing the European Economic Community, was signed in 1957 by by Belgium, France, the Federal Republic of Germany (West Germany), Italy, Luxembourg, and the Netherlands.

†In fact, there were some "hopelessly blind" individuals in Japan, who wants to sabotage the peace process in August 1945 and keep fighting, to the point of attemping to prevent the emperor from announcing his decision.

‡The editorial staff is unsure of what Professor Weinberg is referring to in this comment about teenagers in the Aleutians. He might be making a reference to a 1994 incident when two young Alaskan men were "banished" to uninhabited islands in the Gulf of Alaska, as part of an "experiment in cross-cultural jurisprudence" after being convicted of armed robbery and battery. John Balzar, "Two Alaska Indian Youths Banished to Islands for Robbery," *Los Angeles Times*, 15 July 1994, http://articles.latimes.com/1994-07-15/news/mn-15840_1_alaska-indians.

whether an enlarged Japanese empire, with a colonial system, which to judge by the Korean model would have been far worse than any other, could have lasted for any length of time without involving Japan in endless guerrilla warfare against nationalist uprisings of all sorts.

Before the advocates of a militarily aggressive foreign policy had shot their way into power in Japan, there had been elements in the country which had pushed for a democratic system at home and a conciliatory policy abroad. The foreign policy of Shidehara Kijuro, like that of Gustav Stresemann in Germany, was continually under attack at home, but it pointed in sound directions and would have served the country far better than the policies adopted by the critics of both. After the defeat of Japan, the elements shunted aside earlier had a new opportunity to rebuild on the ruins left behind by the military adventurers, and the reformist plans of the Americans—with their insistence on land reform, the development of independent trade unions, and the political emancipation of women—provided Japanese leaders with excellent support for their efforts.

For the victorious powers, victory provided a long-hoped-for relief from terrible dangers. Exhausted and exhilarated simultaneously, they now hoped for a period of peace. Even though their cooperation had been marked by differences and troubles, they had held together. The British and the Americans hoped that this could continue after the war, but all indications suggest that Stalin never entertained this sentiment. In any case, relations between the Allies deteriorated rather rapidly after the war. Aside from the differences between their systems of government and outlook, two problems were of outstanding significance in creating difficulties. The first was the question of the future of the smaller states of East and Southeast Europe; the other was that of the future of Germany.

While in the countries liberated by the Western Powers communist parties were (and still are) legal and at times partners in the government, it quickly became evident that in the areas of East and Southeast Europe, whether they had fought on the Allied or the Axis side, Soviet pressure moved in the direction of one-party communist dictatorships. The free elections which according to the Yalta agreements were supposed to be held in Poland already before the end of the war in Europe were put off for over 40 years.* After the events of the summer of 1944, when the Soviets made it possible for the Germans to crush the Polish uprising in Warsaw, the Polish question had become symbolic for the whole relationship between the eastern and western Allies. Over this issue, their relationship deteriorated increasingly rapidly from 1945 on, now that the threat from Germany no longer cemented them together.

*The first truly free elections in Poland after World War II occurred in 1989.

The differences over the German question were also becoming obvious in 1945. In the last days of fighting in Europe, the Soviets flew in a group of communists, led by Walter Ulbricht, who were to establish a new regime under Moscow's auspices in the Soviet zone of occupation and hopefully all of Germany. The Soviet leadership began building the new structure with a roof and would try in subsequent decades to erect underneath this roof a structure that could hold it up. This proved to be as impossible in politics as in architecture. The Western Powers, from the beginning, followed an entirely different procedure. They decided to start at the bottom, and slowly at that. They would entrust responsibilities to Germans first at the local level, try to get Germans accustomed to democratic customs and procedures, and then step-by-step establish German authorities at higher levels. As this process went forward, political parties, newspapers, and magazines would be licensed to create a controlled but still vigorous area of public debate. A roof was put on this developing structure only in 1949, and with very obvious and substantial German participation even if under Allied influence. From the political as from the architectural point of view, this would prove to be on the whole a far more sensible procedure. I do not want to suggest that all had been planned carefully beforehand or was implemented without friction or mistakes; but now that the Germans are themselves getting a chance to try their hands at rebuilding on the ruins of a dictatorial regime,* both they and observers from outside may become a bit more charitable in assessing the performance of the western Allies after 1945.

The breakup of the wartime alliance over the issues of the independence of the East European countries and the German question together with some other issues would mark the postwar era. In this connection, it is essential that we note a most significant difference between the way the two world wars ended. At the conclusion of World War I, all the major powers of Central and Eastern Europe had been defeated: first the Central Powers had defeated Russia and then the Western Powers had defeated Germany, Austria-Hungary, and the Ottoman Empire. The extraordinary situation of 1918–1919 is thrown into relief if we compare it with the situation at the end of prior wars in that region. In the many wars which the Habsburg, Romanov, and Ottoman empires had fought against each other in preceding centuries, one or the other had emerged as winner. The winner had then taken territory or spheres of influence from the loser. At the end of World War I, the smaller peoples of this part of Europe were able to arrange—or try to arrange—their own affairs as

*This is a reference to the process of reunification that the German people, and their government, were then undergoing after "the fall" of the Berlin Wall in October and November 1989, the collapse of the East German government in 1990, and the political and social reunification of the eastern and western regions of Germany in the ensuing years.

they saw fit for the first time in centuries. Even the victors in the war could not enforce their concepts in this region because they neither occupied it militarily, nor could they possibly persuade their peoples to maintain and employ the military forces necessary to enforce their views.

The Second World War initiated by Germany put an end to the experiments at independence by the peoples of Eastern Europe. At the end of this war one could hardly expect the extraordinary situation at the end of World War I to recur. Either Germany would win, and then the independence of the smaller countries would be terminated, or the Soviet Union would win—and then their independence would also be terminated. Only Yugoslavia, Albania, and Finland were able to evade this fate because of special circumstances in each case. For 40 years the countries from Estonia to Bulgaria disappeared as truly independent actors from the international scene. It would turn out that it was all not as simple for the Soviet superpower as Stalin may have imagined, but for decades, Moscow made all the critical decisions. I would remind you of the international conference at which the Soviet representative Andrei Gromyko got up during a plenary session and left the hall, much to the astonishment of the representatives of the satellites who had not been tipped off. One by one they stood up and followed him. It turned out that Gromyko had wanted to go to the toilet; one by one the others returned to their seats, slightly embarrassed.

Surely one of the most important results of World War II has been that the countries between Germany and Russia have been forced to start over after an interval of half a century. They were led into a dead-end alley as further victims of the great conflict. Under exceedingly difficult circumstances, they must now attempt to work out a new and better future for themselves. It has been the great good fortune of the Germans that because of the insistence of President Roosevelt and his military and civilian advisors on an invasion of Northwest Europe, the majority of Germany's population was spared this ordeal. Had the western Allies pursued the further operations in the Mediterranean, which the British had urged, they might well have reached Bulgaria and Albania, and perhaps also parts of Yugoslavia and other bits of Southeast Europe; but the Iron Curtain would have run East-West instead of North-South with all of Germany north of it and hence under Soviet control. Those Germans who today complain about the costs and difficulties of reunification ought to give some thought to the farsightedness of American leadership in World War II, which spared Germany three-quarters of the problem and provided that three-quarters with the framework for coping with the new challenge.

The countries of Northern and Western Europe regained the freedom they had lost in 1940 due to the strategy of the western Allies during the last year of the war. Northwestern Europeans had suffered greatly, but with some

American help, they were not only able to reconstruct their democratic systems but also to begin moving them in new directions. Here the victory of the Allies brought with it a movement pointing to Europe's future. I want to illustrate this with one striking example. When Europe was reorganized in 1814–1815 at the end of the Napoleonic Wars, the three areas of the Netherlands, what had been the Austrian Netherlands, and Luxembourg were joined into one state under the Dutch crown. In the first nationalist tidal wave of the nineteenth century, first Belgium and then Luxembourg broke away from the Netherlands. The independence of these states was originally directed, not surprisingly, against Holland. One major result of World War II was the formation of Benelux: the furnace of war melted old ways of thinking and produced new initiatives.* Here, as in the case of Italy, there are geographic symbols: the European authorities in Brussels and the Treaty of Maastricht.

This development brings up what will surely be regarded as one of the most significant changes by which the place of World War II in history will be assessed: the end of the Franco–German antagonism. One might very well have anticipated just the opposite: on one hand, the terror regime of the Germans in France, accompanied by a degree of economic exploitation which makes the post–World War I reparations demands look like small change, and on the other hand, as a result of this experience, a French policy in post–World War II Europe designed to preclude any German unity of whatever variety. But in spite of all this, the war brought other perceptions to the fore in both countries; a process most easily recognizable in the agreement of the French government to the reunion of the Saar territory with the Federal Republic of Germany. I should mention that it was in connection with his Saar policy that Konrad Adenauer was called "the Chancellor of the Allies" in a parliamentary debate!†

In regard to the change in German–French relations, it can be argued that the symbols have been personal, not geographic. No one could accuse Adenauer of opportunism when he advocated close German–French relations; he had argued for such a policy in the Germany of the 1920s when that was about the least popular line for anyone to take in the country. And no one could accuse Charles de Gaulle of being subservient to or a collaborator with Germany. He was, as all knew, the man who had personified defiance of and resistance to Germany. It is certainly sad that a second world war was needed

*The Benelux Union is a politico-economic union of Belgium, Netherlands, and Luxembourg, first used to name the 1944 customs agreement that initiated the union. The term is now used more generally to refer to the geographic, economic, and cultural grouping of the three countries.

†Konrad Adenauer (1876–1967) was the first chancellor of the new, postwar Federal Republic of Germany (i.e., West Germany) and served in that capacity 1949–63.

to bring about this great change, but surely in this case late is far better than never.

For Great Britain the war meant that her role as a world power was ended, even though not all inside or outside the country recognized it right away. In wars against the Dutch colonial empire and against French and Spanish efforts to obtain a dominant role in Europe, England had secured its own position as a world power. The two wars against Germany's attempts to dominate the globe destroyed England's position. How did it come to be that the same process which had once created now debilitated the status of England? Simply put, it was just too great an effort; the strain was beyond bearing. This reversal is most visible in two aspects of the rise and fall of Britain's position.

One way of looking at this question is to consider the colonial issue. While Britain had in prior wars almost invariably increased her colonial possessions, primarily at the expense of her European rivals, this situation was reversed by the two world wars because of their great difficulty. Instead of utilizing its military power to defend its colonies and perhaps add to them, in both world wars Britain had to call upon her empire to assist in the defeat of Germany in Europe. The colonial accessions resulting from World War I in no way invalidate this point: in the first place, most of them were allocated to the Dominions, not Britain herself; and secondly, they were all supposed to be headed for independence. And this process had by 1939 already moved forward substantially in the case of Iraq, for example. The members of the Commonwealth correctly looked back on their participation in the war as their point of coming out into independence: on the hill in Ottawa in front of the parliament building stands the monument to the Canadian soldiers who fought at Vimy Ridge, and every April the Australians on ANZAC Day recall the landing of their soldiers at Gallipoli.

I shall return to the colonial question in general shortly, but it must first be noted that the participation of forces from the Commonwealth and Empire was even more important for England in World War II than in World War I. Of the many signs of this, only three will be mentioned as illustrations: units from the world-wide empire constituted a large proportion of the British forces fighting in North Africa; the Canadians took over a major segment of the Battle of the Atlantic; and India provided over two million soldiers for the largest volunteer army of the war. The postwar situation was far different for Britain in 1919 than in 1815, and this was even more the case after 1945.

A second characteristic of the changed status of Britain was a complete reversal of the country's financial role in the war. In prior wars, England had almost invariably assisted its allies with subsidies or loans. In addition to covering its own war costs, it had helped its allies cover theirs. In World War I it had still been possible for England to do this. It is true that England obtained

credits from the United States, but these were in part taken out to cover the expenses of allies of London whose credit was weak, and the rest was more than offset by direct credits which England provided its allies. This was entirely different in World War II. As could be—and was—anticipated, Britain's financial situation, not yet recovered from the damage it had suffered in the last war, was simply not up to the costs of another great conflict. Only some financial assistance from the Commonwealth and extensive aid from the United States enabled Great Britain to fight on after late 1940. Victory was simply too expensive for the state's financial resources.

In August 1939 a German diplomat warned a member of the Foreign Office that only Russia and America would emerge as victors from a new war. He asked, "How would England like to be an American Dominion?" The British diplomat replied "that she would infinitely prefer to be an American Dominion than a German Gau.*"[5] There was never any suggestion in this country (i.e., the United States) that England be made into a dominion.[6] The danger of the island kingdom becoming a German *Gau* was, however, real; the Imperial War Museum in London has recently reprinted both the German military government handbook for Great Britain and the voluminous arrest list. There is, further, an interesting but rarely noted facet of the notorious Wannsee Protocol, the record of the German conference of January 1942 in which the apparatus of the German government as a whole was harnessed to the program for the murder of Europe's Jews. Included in the listing of those destined to be killed were the Jews of England, estimated at 330,000.[7] A number of questions were discussed at the conference, but this point was so taken for granted that no discussion of it was thought necessary. After all, England, alongside Ireland, was to become a German *Gau*.

The demands of a war, which surpassed the capacity of Great Britain, left it in search of a new role in the world in spite of its being one of the Big Three victors. This was and remains a difficult process. It would, in my judgment, be a serious mistake to pass it by with a slight smile. What the future holds in this regard is far more difficult to predict than many assume. Just one illuminating example: in the international civil aviation conference held in Chicago during the war to work out rules for the postwar era, there was a serious clash between the British and the American delegations. The details are not of importance now, but the basis for the controversy is worth noting. The British were afraid that if they were not allowed rules which in effect would allow them special preferences, they would be hopelessly outmatched in postwar competition, while the Americans insisted on a more open market. With great—and greatly resented—pressure, the Americans pushed through most of their de-

*_Gau_ is the German word for a province or territory within a given country.

mands. Nevertheless, today British Airways is the largest and most successful civilian airline in the world and dominates civil aviation's most profitable route, that across the North Atlantic.*

Mention of the civil aviation conference raises a further aspect of World War II which will mark its place in modern history. With the United States playing a leading role, and President Franklin Roosevelt and Secretary of State Cordell Hull very much personally engaged, preparatory steps were taken during the war for the establishment of the United Nations Organization and a whole host of other structures like UNESCO and the Food and Agriculture Organization of the UN.

If one asks, why all this organizational activity and such extensive American participation, one must, of course, first recognize that all hoped that the second world war in the century would be followed by a more successful attempt at an international system to protect the peace that had been established in 1919. As for the United States's role in it, we must recall the way in which the American leadership of the time saw their own experiences at the end and after World War I. Practically all of them had been very much involved in the events of that period. They had seen first how the granting of an armistice to Germany at a time when their Republican opponents were calling for unconditional surrender had contributed heavily to their loss of the midterm Congressional election of 1918. Thereafter, they had struggled in vain for the ratification of the peace treaties and American entrance into the League of Nations. President Woodrow Wilson had predicted that if the United States turned its back on the world, there would be another war in 20 years;† now his prophecy had been realized in the most awful way conceivable.

Roosevelt, perhaps more than anyone, was determined that this time it would be different. Not everyone recalls that as candidate for vice president in 1920 he had suffered his only electoral defeat; I can assure you that he remembered. He made sure that this time high-ranking members of the Republican Party would be involved in the process of establishing the UN, that the American public came to recognize the importance of such an organization for them, and that the preliminary and organizing conferences for it as well as its headquarters would all be located in the United States as a means of engaging

*As of 2019, British Airways is no longer the world's largest airline, whether measured by revenue, passengers carried, or fleet size. In each category, American Airlines ranks first, followed closely by Delta Airlines.

†In arguing for the League of Nations, Wilson once stated, "For, I tell you, my fellow citizens, I can predict with absolute certainty that within another generation there will be another world war if the nations of the world do not concert the method by which to prevent it." Many other statesmen, including soldiers such as France's Marshal Ferdinand Foch and the American general Tasker Bliss, said similar things, though not necessarily in reference to the League. For Wilson's quote, see "Appeal for Support of the League of Nations," in *The Public Papers of Woodrow Wilson*, authorized edition, vol. 1, ed. Ray S. Baker and William E. Dodd (New York: Harper, 1924), 30–44, https://www.mtholyoke.edu/acad/intrel/ww40.htm.

the American public. He himself was dead by the time of the San Francisco Conference, but he had set the path. This time around, the people of the United States should see themselves as playing an active role in world affairs—to secure their own interests if for no other purposes—and in this endeavor he was to be entirely successful. More and more Americans came to see the past in this regard the way he did, and they were willing to do things differently this time in the hope that such an attitude and the policies designed to implement it would preclude a third world war. Joining the UN was approved in the Senate by a vote of 89 to 2.

In a moment I shall return to some further aspects of the United Nations Organization, but first a word must be said about the way in which the war changed the United States beyond its altered role in international affairs. The economy of this country had not only grown massively, but it had changed geographically. In addition to expansion in the traditional areas of industrial strength, new centers had been developed, especially in the West and Northwest. Furthermore, the need for a rapid build-up of American forces had led the government to look for training bases and flying facilities in regions of the country where the weather could be expected to facilitate year-round operations; hence, the tremendous growth of what is now known as the Sunbelt. It is too often forgotten today that the demographic, economic, and political shift within this country toward a larger role for the South, Southwest, and West is the product of decisions made in Washington during World War II.

These shifts carried with them further changes, or at least the beginnings of them. Although there has been some argument about this in recent scholarship, I would assert that the war opened up a whole variety of avenues for change in both the field of race relations and in the area of opportunities for women. The more dramatic alterations would come later, but much of the foundation for them was laid during the war. In addition, the passage of the GI Bill of Rights, especially its educational provisions, opened up America to social mobility in a way nothing else in this century had accomplished.

A word should be said about the fate averted by victory. As early as the summer of 1928, Hitler had assumed that Germany would fight the United States. While the German government had been working on weapons systems for that war, it had not gotten around to preparing either an occupation handbook or an arrest list as it had for England. But German occupation policy elsewhere provides clear indications of the terrible future awaiting the American people. Let me mention just one feature of German policy which was ruthlessly applied everywhere their power could reach: the killing of those in mental institutions, in old folks' homes, and with what they considered physical defects. The young woman who is this year's Miss America would have

been murdered for being deaf;* surely, here is a point worth contemplating among the fiftieth anniversaries of battles that have recently filled our media.

Returning to the UN, I want to comment on two further aspects of that organization: the role of China and the increasing number of newly independent states. The British and Soviet governments were most reluctant to agree to Roosevelt's insistence on China being treated as a great power during the war; in fact, they thought he was crazy to push this issue and China's being allotted a permanent seat in the Security Council. But the president saw a future world without colonies and one in which a reconstructed China would play a major role in Asia and, as a friend of the United States, restrain any other power in Asia—something that could only mean the Soviet Union—from attaining a dominant role. It is hardly surprising that such concepts did not garner applause in London or Moscow. Developments inside China went in a different direction from what Roosevelt had hoped for. The long war with Japan destroyed the Nationalist regime; Japan's campaign in China brought the Communists to power there. But regardless of who controlled the country, it would play a new and major role in world affairs. The Germans had lost their special treaty rights in China as a result of World War I; the western Allies gave up theirs during World War II; the rights and territories extorted by the Russian Empire would poison postwar Soviet–Chinese relations even as their governments were supposed to be allied. As for internal modernization, a comparison between today's Taiwan and the People's Republic of China suggests that a Nationalist regime might have done at least as well as those waving Mao's Red Book, but that is something the Chinese people will have to work out themselves.

The other aspect of the UN in the decades after World War II was the dramatic increase in membership. This is the internationally visible manifestation of the process of decolonization. As Roosevelt had hoped and foreseen, the history of colonialism, already affected by World War I, was, with the possible exception of Eastern Europe, effectively ended by World War II. The United States had decided before the war that we would leave the Philippines; in this case, the war actually delayed the process. Similarly, in India, the war originally meant postponement rather than acceleration, but that was only the initial impact. With the continuation of military operations, everything changed: at the bottom, an Indian army made up primarily of Indian soldiers led by Indian officers could not be employed against the population; at the top it was the Allied commander of the last years of the war, Lord Louis Mountbatten, who arranged the transfer of power.

*Heather Leigh Whitestone (now Heather Leigh Whitestone McCallum) was crowned Miss America in 1997, the first deaf woman to achieve that title.

The example of India, the most populous of the colonies, may serve as representative for the whole process of decolonization. One by one, sometimes peacefully, sometimes accompanied by great bloodshed, the remaining colonies of Western Europe became independent, as the colonial powers had for the most part lost both the ability and the will to hold empires as a result of the war. The French resisted the trend more than others, very much to their own and their former colonies' disadvantage. And decolonization, it should be noted, extended to those who had remained neutral in the war: Spain and Portugal. A new chapter in the history of what had been the expansion of Europe into the world began. Three aspects of this new chapter merit further attention: the old-new boundaries of the former colonies, the special situation in the Near East, and the colonies of Russia and the Soviet Union.

Let me turn first to the borders. The new states inherited borders designed by the Europeans to accommodate *their* interests and drawn without regard for, or much knowledge of, the peoples in the affected areas. That as a result there were and still are all sorts of problems involving structure and boundaries in the newly independent states ought not to occasion much surprise. And that these have been and remain most difficult in what had been India, as I said, the largest and most populous of the former colonies, has to be seen as part of this problem.

These difficulties are greatly accentuated in the Middle East as a result of Nazi actions. In the winter of 1938–39 the British switched their policies towards the Germans and the Arabs. Up to that time, the London government had tried to appease the Germans and to repress the Arab uprising in the smaller of the two mandates carved out of the original Palestine mandate. Now this scenario was reversed. Britain decided that she would fight Germany the next time it attacked any country that defended itself, but this meant that the troops in Palestine had to be brought home, and London would have to try to appease the Arabs. Jewish immigration was practically halted, and all plans to establish a tiny Jewish state within the mandate were dropped. The war turned all this in other directions.

On the one hand, the Jews in Europe who had survived the killing of some six million of their number by the Germans were almost all determined to go to Palestine; on the other hand, the leadership of the extremist Arab nationalists had aligned themselves with the Germans—in view of the promise of the latter to murder all Jews in the Middle East—and were therefore discredited. A new partition of the former mandate followed, with a Jewish state now to be larger than that contemplated in the discarded partition plan of 1937. Wars and other troubles followed. These would be further complicated by the fact that with the vast majority of East European Jews murdered during the war, a high proportion of the Jewish immigrants came until 1989 from the newly

independent Arab states and hence were resentful of persecution by Arabs rather than Germans, Poles, or Russians.

Jewish children from Poland, Latvia, and Hungary on the way to Palestine in June 1945. They had been released from the Buchenwald Concentration Camp. Courtesy of National Archives (no. 531300).

The third aspect of the decolonization process which must be addressed is that of the Soviet and Russian colonial empires. This represents merely a portion of the impact of World War II on Soviet society, but there is an advantage to starting with it. Nothing demonstrates more dramatically the false direction into which Moscow steered than the fact that precisely in the years when the other colonial empires in the world were being dismantled, the Soviet leadership was erecting a new Soviet colonial empire in Eastern Europe on top of the Russian colonial empire built by their Romanov predecessors. In the Baltic States, they followed the example of France in Algeria—annexation and mass settlement; in the rest of Eastern Europe, they tried to copy the British colonial concept of indirect rule—that is, rule through dependent local authorities selected by the imperial power.

Why did the Soviets, who were always so proud of their farseeing scientific understanding of historical evolution, so completely miss the real trend of the time? In trying to answer this question, we must look at two effects of the war: fear of possible new dangers and pride as well as consolidation because of the victory. The terrible experience of war should make it easy to understand why security concerns merged with ambitious expansionist plans in Stalin's poli-

cies. All this had been made possible by German actions. In the First World War, the German imperial government had done whatever it could to help the Bolsheviks obtain power in Russia. Then, instead of recognizing the advantages of a peace which placed a tier of independent states between Germany and Russia, the Germans could not wait to terminate their existence. Having once again obtained the dubious blessing of a common border, the Germans invaded the Soviet Union. It was this invasion which provided the Soviet regime with its only period of true legitimacy in the eyes of the mass of its population. It was this government which had held together the state in its great crisis; had, thereby, averted rule by people who had accomplished the extraordinary feat of making Stalin look benign; and had defeated the supposedly invincible German army. Without the consolidation of the Soviet regime as a result of this, there would not only never have been such vast expansion of Soviet power in Eastern Europe, but the whole system would most likely have collapsed even sooner under the burden of its own incompetence as it did in the 1980s. The war had inflicted terrible losses on the country—some 25 million dead—and immeasurable destruction, but it had given the government decades of superpower status in the world and years of added viability at home.

A further new development of the war, which attests to its historical significance, is connected with the fact that this prolongation of Soviet rule in Moscow did not lead to a new world war. The production of nuclear weapons, whose use helped end the war more quickly, had, precisely through that use, dramatically illuminated the possible costs of any new conflict and had thus made all major powers far more cautious. Because the leaders of the Soviet Union really did believe that history moved on railroad tracks according to a schedule laid down by Marx, Lenin, and Stalin, they saw no need to run unnecessary risks. Since they knew the direction of the world historical process ahead of time, no dangerous push was needed to accomplish the triumph of their vision, which was inevitable in any case.

There was here a fundamental difference from the view of Hitler, who was always worried about not moving fast enough, who very much regretted not having gone to war in 1938, and preferred to have war sooner rather than later.[8] If someone is absolutely determined to have war, there is really nothing other than surrender that one can do to avoid it. But because the Soviets were confident of ultimate triumph, the NATO countries could simply wait them out. There was always the possibility of a miscalculation—the Berlin crises of 1948–49 and 1958–61, as well as the Cuban missile crisis, offer particularly dangerous examples—but with sufficient self-confidence and deterrent weapons, one could await the future in a Cold Peace. It must be noted that the creation of the United States Air Force Academy was one of the steps this

country took to implement such a policy.* With caution and good luck, the waiting approach worked. The sad thing is that the peoples of the former Russian Empire now have to start over again; here the war delayed rather than accelerated developments.

* * *

From a distance of half a century, we see how the world was altered by the greatest war ever. It had shown that modern industrial society has an incredible capacity for destruction. It had also shown that human beings have the capacity to deny their own humanity and transmute themselves into something else: the recently released mass murderer Kurt Franz referred to his participation in mass killing at the killing center of Treblinka as "The Good Old Days."[9] The victory of the Allies saved the world from the practitioners of "The Good Old Days." That victory brought the defeated as well as the victors an opportunity to make a new start: in overcoming the hatreds of the war, in new international organizations—whatever their defects—in new forms of cooperation in Western and Central Europe, in the freedom of former colonial peoples, in the construction of democratic systems in many countries—Germany and Japan included. And just as the war demonstrated the destructive capacity of the modern world, so the postwar years showed that humanity's capacity for rebuilding can also not be overestimated. But reconstruction cannot be confined to the building of houses and the repair of bridges. Physical reconstruction is important, but it cannot stand alone.

A final but especially significant break in history was caused by the war through its impact on the religious life of many. After a century in which especially, but not only in the Western world, all belief in religious values had declined and been replaced by a secularistic way of life and thought, the Second World War brought an even more dramatic break. How could human beings believe in a gracious God who allowed such things to happen? Is there any possibility of rebuilding the concept of humans created in the divine image after so deep a descent? I would suggest that this is the central issue in the reconstruction of the world after the war. Instead of exclusive preoccupation with and adulation of themselves, people must once again find ways to recognize in the faces of others—whatever their color, religion, or nationality—the image of fellow human beings created in God's image. If we cannot do that, the end of World War II shows us what the end of human history will look like.

No one can claim that we have not been warned.

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*The Air Force Academy was established in 1954, accepted its first cadets in 1955 and graduated its first class in 1959.

Gerhard L. Weinberg was born in Hanover, Germany, in 1928. He attended school there but was expelled for being Jewish in 1938 and went to England. In 1940, his family moved to the United States. He later served in the US Army in occupied Japan, teaching American GIs history and government as well as literacy classes. He earned his doctorate degree at the University of Chicago in 1951 and then worked as a research analyst on Columbia University's war documentation project. He has become one of the world's leading authorities on Soviet–German foreign relations during the 1930s and on World War II. His book *The Foreign Policy of Hitler's Germany, 1933–1936* (1970) won the American Historical Association's George Louis Beer Prize in 1971. Professor Weinberg served on the Secretary of the Air Force's advisory board on the Air Force History Program and as vice president for research of the American Historical Association 1982–84. He was a distinguished visiting professor at the US Air Force Academy in 1990–91. He is author of many books including *A World at Arms: A Global History of World War II* (Cambridge University Press); *World in the Balance: Behind the Scenes of World War II* (University Press of New England); *Germany, Hitler, and World War II: Essays in Modern German and World History* (Cambridge University Press); *Hitler's Foreign Policy 1933–1939: The Road to World War II* (Enigma Books); and *Visions of Victory: The Hopes of Eight World War II Leaders* (Cambridge University Press). His career in education spans many decades of teaching at the Universities of Chicago, Kentucky, Michigan, and North Carolina at Chapel Hill. Weinberg currently serves as the William Rand Kenan, Jr., Professor Emeritus of History at the University of North Carolina at Chapel Hill where he has been a member of the history faculty since 1974. He lives with his wife in Efland, North Carolina.

Notes

1. This lecture was originally delivered with a somewhat different text in German with the title "Der Historische Ort des Zweiten Weltkriegs" at a conference of the Military History Research Office of the Federal Republic of Germany on 10 February 1995 and was to be published by that office in its volume, *Das Ende des zweiten Weltkrieges in Europa: Die Kampfe an der Oder, den Seelower Hohen und urn Berlin im Fruhjahr 1945*, ed. Roland G. Foerster (Herford: Mittler, 1995).

2. Jost Dulffer, Jochen Thies, and Josef Henke, eds., *Hitler's Stadte: Eine Dokumentation* (Cologne: Bohlau, 1978), 212.

3. KIemens von Klemperer, *German Resistance against Hitler: The Search for Allies Abroad, 1938–1945* (Oxford: Clarendon Press, 1992), 273.

4. Georg Meyer, ed., *Generalfieldmarschall Ritter von Leeb: Tagebuchaufzeichnungen und Lagebetrachtungen aus zwei Weltkriegen* (Stuttgart: Deutsche Verlags-Anstalt, 1976), 80n195.

5. Memorandum of Mr. Jebb, 19 August 1939, Documents on British Foreign Policy, 1919–1939, 3d Series, Vol. VII, 556.

6. There were Americans like Clarence Streit who favored a close tie, but this was to be in a federation including the countries of Western Europe and the British Dominions. *See* Robert A. Divine, *Second Chance: The Triumph of Internationalism in America during World War II* (New York: Atheneum, 1971), 38–39.

7. *Akten zur deutschen auswartigen Politik, 1918–1945*, Series E, Vol. 1, 270.

8. On Hitler's hurry in 1939, including his refusal to wait even the one day that his own timetable allowed before war was to start, see Weinberg, *Germany, Hitler, and World War II* (New York: Cambridge University Press, 1995), 147–48.

9. Ernst Klee, Willi Dressen, and Volker Riess, eds., *"The Good Old Days": The Holocaust as Seen by Its Perpetrators and Bystanders*, trans. Deborah Bernstein (New York: Free Press, 1988). The original German title of the book, *"Schone Zeiten": Judenmord aus der Sicht der Tater und Gaffer* (Frankfurt/M: S. Fischer, 1988), is derived from Franz's photo album.

Part II. Biography and Leadership

Introduction to Part II

John J. Abbatiello

One could argue that every lecture in this prestigious series addresses military leadership in some way. Human agency is the key driving force in historical events. Studying leadership helps us understand past events, and studying past events helps us understand effective leadership. Decision making, culture setting, and process building are key leadership aspects within the study of military history, regardless of the purpose of the inquiry or the audience targeted. As Harry Borowski, editor of the first volume of published Harmon Memorial Lectures, so aptly stated, "It is not surprising that so many Harmon lecturers have used the biographical approach to explain the leadership abilities of key historical figures."[1]

The Harmon Memorial Lecture series targets cadet audiences and endeavors to inform and inspire these future US Air Force leaders, directly supporting the Academy's mission "to educate, train and inspire men and women to become officers of character motivated to lead the United States Air Force in service to our Nation." There are many ways to "teach leadership." In the current iteration of the Academy's course of instruction, cadets learn about leadership by studying theory in the classroom; by practicing skills in their cadet squadrons and athletic, club, and aviation activities; and by learning about past leaders in various academic classes and "heritage" focused training activities. Of course, military biography is a significant part of the latter. For this reason, nine of the first 30 Harmon Lectures focused on biography and leadership. In this volume, the editing team decided to include four lectures in this section about leadership, but many more—arguably—could have been situated here.

Tom Crouch's 2003 Harmon Lecture on the Wright brothers opens this section. Crouch's role as a career curator and airpower historian for the Smithsonian Institution makes him particularly well qualified to lecture on such an important pair of aviation innovators. The lecturer describes the unique qualities that made Orville and Wilbur successful, including their "intuitive grasp of a process" that was part engineering, part experimentation, and part tinkering.

Crouch describes how the brothers dealt with challenges, setbacks, competition, and legal issues. He skillfully provides the international context surrounding the inventors' environment, especially with American and European competitors. He closes with a review of the Wright's legacy: choosing "the most difficult technical problem in sight," investing six years of inventive energy and grit, and succeeding in providing the world with a new concept for manned heavier-than-air flight.

Dennis Showalter's 2005 Harmon Lecture, the second in this section, is based on his dual biography entitled *Patton and Rommel: Men of War in the Twentieth Century*.[2] The lecturer addresses important issues of leadership and command throughout his presentation, noting that their enemies often regarded these men more highly than their own armies did. George S. Patton and Erwin Rommel both served during World War I and the interwar years, with each rapidly climbing the ranks of senior command during World War II. Showalter notes that the pair served in the armored forces of their respective armies.

Showalter skillfully provides a balanced view of both senior leaders. Patton was a trainer of soldiers and a military intellectual. Often regarded as a maverick within a conservative officer corps, he demonstrated a strong ability to be a team player, especially during the final campaigns of 1944 and 1945. Rommel, a strict disciplinarian and former infantry officer, demonstrated his keen abilities as a battlefield tactician, having commanded a division in France, a corps and army in Africa, and army groups in Italy and France. Usually fighting against a more numerous and better supplied foe, Rommel used maneuver and personal intervention to win battles. Showalter closes with an interesting question: how might history have been different if Patton served in the German army and Rommel served for the Allies?

The third lecture in this section addresses the figure for whom this lecture series is named: Hubert R. Harmon. Phil Meilinger, himself a former USAF Academy faculty member and graduate, provides a thorough biography of the Air Force leader charged with establishing the Air Force Academy, who later served as its first superintendent. The lecturer spends a significant part of his introduction on his subject's time at West Point, where two older Harmon brothers also attended, to highlight the nature of officer preparation in the years prior to World War I. Harmon, who had missed combat during the Great War due to illness and served in the interwar Air Service, led a number of senior but less glamorous commands during World War II. Under the new independent US Air Force, he served at the United Nations and Joint Staff and then as USAF Chief of Staff Hoyt Vandenberg's "Special Assistant for Air Academy Matters."

Development of a new Air Force Academy—to parallel the Army's West Point and the Navy's Annapolis—was slow, due to political opposition and the Korean War (1950–52). Dwight D. Eisenhower's election to the presidency added impetus to the effort, and the new president recalled his West Point classmate and football teammate to active duty, appointing Harmon to be the first superintendent of the Air Force Academy.

Meilinger describes Harmon's expertise as being a perfect fit for this final posting of the subject's career. Harmon's skills as an organizer, administrator,

thinker, and "master of personal relations" made him a superb first USAFA superintendent. Indeed, he would require these attributes to face important early challenges such as developing the new curriculum, instituting the Cadet Honor Code, and deciding the focus of the athletic program. In the end, Meilinger concludes that Harmon "was the ideal man for the job."

Finally, in his 2013 Harmon Lecture, journalist and historian Rick Atkinson addresses the leadership ability of Dwight D. Eisenhower. Atkinson opens with interesting and valuable observations about the value of military history, especially for military professionals. His treatment of Ike is balanced, much like his evaluation of the US Army in his "Liberation Trilogy." Atkinson points out key leadership characteristics of Eisenhower's challenging command of Allied forces in the Mediterranean and European theaters during World War II. Chief among the general's leadership traits were his skillful handling of personalities to maintain unity within the American–British–French alliance and his willingness to shoulder the responsibilities of supreme command.

Eisenhower built a headquarters with extremely able leaders, possessed superb communication skills, cultivated support from the media, and knew how to relax when appropriate. Atkinson explains that his subject was not without fault, at times holding grudges and occasionally exposing a sensitive ego. The lecturer clearly succeeds in his aim of pointing out the essence of what made Eisenhower a successful Supreme Allied Commander during World War II.

Such lecture topics achieved their aim of inspiring future generations of US Air Force officers. Since its first class graduated in 1959, the USAF Academy has produced over 40,000 officers and leaders for the Air Force, with a small percentage commissioning into the other services. After their military careers, most have gone on to lead in business, government, academia, and athletics. Over 400 graduates achieved general officer rank, and five became the titular head of their service as chief of staff of the US Air Force.[3] It is fair to say that the Academy has met and continues to meet its mission for the nation.

In closing his biography and leadership introduction for the first Harmon Lecture volume, Borowski argued that leaders are "ultimately responsible for the successes and failures of society and its institutions, particularly in the military. For these reasons, military biography has been and will continue to be a vital element of military history."[4] This certainly holds true in 2019 and will likely remain a key component in preparing young people to lead military institutions. If the Academy's graduates can innovate and compete like the Wrights, train and maneuver like Patton and Rommel, and organize and inspire like Harmon and Eisenhower, then our nation should be confident in our future Air Force.

John Abbatiello is the research division chief at the Air Force Academy's Center for Character and Leadership Development. He earned his doctorate in War Studies from King's College London and is the author of *Anti-Submarine Warfare in World War I: British Naval Aviation and the Defeat of the U-Boats* (Routledge, 2006). He was the deputy head of the Academy's Department of History from 2004 to 2012.

Notes

1. Harry R. Borowski, ed., *The Harmon Memorial Lectures in Military History, 1959–1987* (Washington, DC: Office of Air Force History, 1988), 45.
2. Dennis E. Showalter, *Patton and Rommel: Men of War in the Twentieth Century* (New York: Berkley Caliber, 2005).
3. Air Force Academy Information, USAF Academy, accessed 20 August 2019, http://www.usafa.af.mil/About-Us/Fact-Sheets/Display/Article/618977/usafa-quick-facts/.
4. Borowski, *Harmon Memorial Lectures*, 49.

The Wright Brothers and the Birth of the Air Age*

Tom D. Crouch

What an appropriate moment to hold a symposium on the Winged Crusade! The twentieth century is over. We won the Cold War, and it is a safe bet that everyone in this room appreciates the role that airpower played in bringing that about. It seems doubly appropriate in this year, when America commands the sky as no other nation ever has, that we should also be celebrating the centennial of powered, controlled, heavier-than-air flight, an American achievement that shaped the course of the century. Is that a coincidence? Is there something in our national character, our spirit that specially suits Americans for aerospace achievement?

It is a tempting notion. Wilbur and Orville Wright were certainly the quintessential middle class Americans. Their story seems to exemplify our national strengths and values. They were the boys next door who made good through hard work, common sense, perseverance, and native ingenuity. In fact, however, it is more useful to see the Wrights as especially talented members of an international aeronautical community. They began their own work on a foundation laid by their European predecessors. Initially, their achievement had a far greater impact in Europe than in America.

Octave Chanute, a Chicago-based civil engineer who was the Wright brothers' closest confidant in aeronautics, had begun to create an informal international community of flight researchers in the early 1880s. Having surveyed the history of the subject, he launched a vast correspondence with aeronautical experimenters scattered around the globe. He identified flight enthusiasts, gathered information from them, offered encouragement, spread news of what was going on elsewhere, and provided occasional financial support. Chanute wrote an authoritative book, *Progress in Flying Machines* (1894), published articles on flight technology in popular magazines and professional journals, lectured widely, and organized sessions of aeronautical papers for leading engineering and scientific societies.

Chanute attracted a new generation of enthusiasts into the field. The most notable of these was Samuel Pierpont Langley, who, as secretary of the Smithsonian Institution after 1887, was effectively the unofficial chief scientist of the United States. In the spring of 1896, Langley and his team launched a steam-powered model aircraft with a 15-foot wingspan. The craft remained in the air for one minute and 20 seconds, climbing to an altitude of 70 feet and covering a distance of three-quarters of a mile.

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*Harmon Memorial Lecture #46, 2003.

In May 1900, Chanute received a letter from yet another newcomer. Wilbur Wright, a 33-year-old bicycle maker from Dayton, Ohio, admitted to being "afflicted with the belief that flight is possible to man."[1] It was the first of hundreds of letters and telegrams that would pass between the two men over the next decade. Chanute would become the best friend and closest confidant that Wilbur and Orville Wright had in aeronautics. His work would also provide them with their basic approach to an aircraft structure. His most significant contribution to their success, however, was to introduce the Wrights to the technical details of Otto Lilienthal's work.

Lilienthal provided the essential starting point for Wilbur and Orville Wright. They had followed his work in newspapers and magazines for almost a decade before their own entry into the field. Their decision to undertake experiments with manned gliders was certainly inspired by his example. He provided the coefficients for lift and drag and the algebraic equations that would enable them to use such information to calculate the amount of wing area required to lift a glider and pilot into the air at a given airspeed. Without Lilienthal it is difficult to imagine how or where they would have begun.

All of this is to underscore the fact that aeronautical research in the early twentieth century was an international enterprise. The achievement of Wilbur and Orville Wright was not dependent on the fact that they were quintessentially American. Had they been born with the same talents under similar circumstances in France, England, or Germany, they might still have been the inventors of the airplane. In spite of increasing activity in the US, the airplane could as easily have been invented in Europe.

Why Wilbur and Orville? How were these two bicycle makers from Dayton, Ohio, able to succeed where so many others had failed? In part, it was a result of their upbringing and character. They had grown up in an extraordinarily tight-knit family, where children were encouraged to explore, experiment, and think for themselves. Their mother, the daughter of a carriage maker, was well educated and good with her hands. Their father, a clergyman whose career was punctuated by a long series of disputes with fellow church leaders, taught his children to have the courage of their convictions and to put their trust and faith in family. Neither Wilbur nor Orville ever married, nor did either of them ever find a better friend than his brother. They knew, understood, and trusted one another. Together as the Wright brothers, the whole was much greater than the sum of the parts.

The Wrights obviously brought special gifts and insights to the process of invention. Had you lived next to them on the West Side of Dayton, Ohio, in the year 1899, you would have regarded them as the most ordinary of men—friendly small businessmen, honest as the day is long, devoted to their family. But you never would have guessed that these two brothers were going to solve

the great technical problem of the age and change the course of history in the process. There were clues, however, for those who knew where to look. The airplane was not their first invention. They had designed and built printing presses and self-oiling wheel hubs for the bicycles that they manufactured. In both cases, they had approached the problems of design from their own unique and unexpected angle, producing a device that sometimes puzzled knowledgeable professionals. "Well, it works," remarked a visiting printer who inspected a press that the Wright brothers had constructed, "but I certainly don't see how it does the work."[2]

Wilbur Wright photographed in 1897 at his bicycle workshop in Dayton, Ohio. Courtesy of Library of Congress Prints and Photographs Division.

Wilbur Wright, in his early thirties, was running two small businesses with his younger brother and living in his father's house. "I entirely agree that the boys of the Wright family are all lacking in determination and push," he admitted to his sister-in-law. "None of us has as yet made particular use of the talent in which he excels other men, that is why our success has been very moderate."[3] Determined to break that mold, he wrote to the Smithsonian on May 30, 1899, announcing his interest in aeronautics and asking for advice on useful readings in the field. Over the next eight weeks, Wilbur and his brother Orville laid a firm foundation for their future, identifying a few kernels of useful information in the work of their predecessors and carefully analyzing

the problem. It was clear to them that an airplane would be a complex machine composed of three systems. It would have to have wings to lift it into the air, a propulsion system to move it forward, and a means of controlling it in the air.

Lilienthal had built wings capable of carrying him through the air on 2,000 flights between 1890 and 1896. Langley's model wings seemed to have worked quite well. The Wrights decided that they were safe in combining their own common sense with Lilienthal's data and his approach to calculating the required wing area. They would be flying gliders, so propulsion would not be an immediate problem. In any case, automobile builders were developing ever lighter and more powerful engines. If and when the time came for a power plant, the technology would be available. That left the problem of control. "When this one feature has been worked out the age of flight will have arrived," Wilbur explained, "for all other difficulties are of minor importance."[4]

Aerodynamic control was the element of the total problem that had received the least attention. Model builders like Samuel Langley had to design inherent stability into their craft, employing wing dihedral and a horizontal tail set at a slightly negative angle to keep the model moving forward in a straight line. As a result, they learned nothing about flight control. Most glider builders had relied on weight shifting control, moving their legs and lower torso in an effort to keep the center of gravity of the machine on top of the center of pressure of the wing. It was a dangerous technique that limited the size of the machine and the extent of control that a pilot could maintain. It had killed both Lilienthal and the English experimenter Percy Pilcher, who died in an 1899 glider crash. The Wright brothers were determined to develop a mechanical system that would enable the pilot, with a few simple movements, to maintain absolute control over an aircraft at all times.

After a false start or two, the brothers came up with the notion of inducing a twist across the entire wing, increasing the angle of attack and lift, on one side of the machine and reducing the angle and the lift on the other. By manipulating the geometry of the wing in this fashion, they would control the movement of the center of pressure with regard to the center of gravity, maintaining precise control of the entire machine.

In addition, they were decided on a specific structural design—a biplane configuration in which the two wings were linked through a system of struts and wires in a standard engineering truss. In this manner, the relatively frail single wings were transformed into a very strong-trussed beam structure. The basic idea was inspired by a well-engineered trussed biplane glider developed by Octave Chanute and his associates in 1896. The Wright brothers added their own brilliant twist to the design, however. Like the Chanute original, they would rigidly brace their biplane along the leading and trailing edges.

They would not truss the ends, however. Rather, the wires that would warp, or twist, the wings would be a closed loop, maintaining the strength of the beam across the ends, while at the same time allowing for wing warping. It was brilliant, elegant engineering.

The creation of a system to provide effective lateral control is an example of the extent to which Wilbur and Orville Wright were able to think in nontraditional ways. They had the ability to visualize a machine that had yet to be built and to imagine how it would behave with forces operating on it. It was only one of a series of gifts that enabled them to succeed where so many others had failed.

They had an intuitive grasp of a process that would enable them to move forward toward a full solution to the manifold problems of flight. It was something more sophisticated than the notion of design, test, and incorporate the lessons learned in the next design. Had their approach been that simple, they would not have been able to isolate and study problems in a specific system. Rather, the brothers were able to test specific aspects of their craft. With some notable exceptions, they were careful to incorporate changes in a new design so that the impact of a single alteration could be evaluated.

Wilbur tested the basic wing-warping system with a kite built and flown in Dayton in the summer of 1899. Having satisfied themselves that their system of lateral control would work, the next step was to design and build a full scale machine. Using Lilienthal's table of lift and drag coefficients they calculated the wing area required to lift the estimated weight of the glider and a pilot in a wind of given velocity. The calculations indicated that the craft would either have to have enormous wings or be flown in a considerable headwind. Correspondence with the US Weather Service regarding average wind speeds across the US led to the selection of Kitty Hawk, NC, as the site for a "scientific vacation," during which they could test their new craft.

When testing began, it was immediately apparent that the craft was generating far less lift than their calculations had predicted. True to their method, the brothers tied off the flight control system to simplify matters and focus on the central problem at hand. The Wrights devised a means of precisely measuring the forces acting on their machine when being flown as a kite. They attached a grocer's scale to the kite line, which provided a measure of the total force operating on the machine. They measured the angle of attack at which the kite was flying and determined the wind speed with an anemometer. With that information in hand and some simple trigonometry, they could calculate the actual lift and "drift," or drag generated by craft.

Their next machine, the 1901 glider, was both the least satisfactory and most instructive of their aircraft. They made the mistake of introducing too many variables. Unsure as to the source of the aerodynamic problems en-

countered in 1900, they increased the wing area of their 1901 glider from 165 feet to 290 square feet, adopted a much lower aspect ratio, and introduced a radically different airfoil. While the larger wing area allowed the Wrights to make repeated glides, the aircraft was still delivering 20 percent less lift than the calculations predicted. Because of the multiple changes in wing design, the brothers had no way of isolating the problem or understanding the impact of any one of the variables.

Worse, now that the Wrights were spending more time in the air, they discovered serious and unexpected control problems. When the pilot warped the wings to increase the lift on one side of the machine, that wing would often slow and drop, rather than rising, sending the aircraft into an incipient spin. The Wrights reasoned that addition of a rudder would balance the increased drag on a positively warped wing and allow effective lateral control. When incorporated into the design of the 1902 glider, the rudder was originally fixed. It was almost immediately made movable, however, and linked to the wing-warping system to increase its effectiveness in countering adverse yaw and allowing for smooth and controlled banks and turns.

At the end of the 1901 season at the Kill Devil Hills, Chanute assured the Wrights that they had moved far beyond all previous experimenters. Indeed, the Wrights were pleased to have spent some time in the air, to have discovered the problem of adverse yaw, and to have come up with a tentative solution that they could test on their next machine. At the same time, they knew that the continuing gap between their calculations and the actual performance of their first two gliders was evidence of a serious underlying problem. While they had not suffered any serious injuries in 1901, the fate of Lilienthal and Pilcher was never far from their minds. "When we left Kitty Hawk at the end of 1901," Wilbur later recalled, "we doubted that we would ever resume our experiments."[5]

Instead, they did a courageous thing, discarding all of the Lilienthal data on which they had based their performance calculations. It was the great turning point in their story. Had they suspected that there were problems with the inherited information at the outset, they might never have begun. They would not have had a firm starting point. Now they set out to gather their own data. They employed a simple airfoil device mounted over the handlebars of a bicycle to confirm that the existing data was flawed. The next step was to build a wind tunnel.

Francis Herbert Wenham had built the first such aerodynamic testing device in the 1870s with a grant from the Aeronautical Society of Great Britain. If the Wrights did not invent the wind tunnel, they were certainly the first to produce useful balances, the delicate instruments placed in the air stream inside the tunnel to measure the minute forces playing across the miniature

wings being tested. Small enough to fit in a shoebox, constructed of old hacksaw blades and bicycle spoke wire, the two balances—one to measure lift, the other resistance—were brilliantly conceived mechanical analogs of the algebraic equations that the brothers were using to calculate performance. There is no clearer example of Wilbur and Orville's ability to move from the abstract to the concrete, from a mathematical formulation to a brilliantly conceived machine that would provide the precise bit of data required.

Lilienthal had tested on a single airfoil shape. In less than a month during the fall of 1901, the Wrights gathered data on the lift and resistance of over 40 airfoils through an entire range of angles of attack. In addition, they conducted wind tunnel experiments to determine the best aspect ratio for a wing, the efficiency of various wingtip shapes, and the aerodynamic effect of changing the gap between the wings of a biplane. No longer dependent on borrowed data, the brothers could now move forward with confidence. It was the great turning point.

The 1902 Wright glider was the result of two years of experience in the field and a few short weeks of pioneering research with the wind tunnel. Unlike its predecessors, the new glider performed exactly as calculations predicted. The addition of a movable rudder resolved the control problems of 1901. After three years of effort, the Wrights had achieved their initial goal—to produce a heavier-than-air flying machine operating under the complete control of the pilot. Wilbur and Orville completed perhaps 1,000 glides with the machine between September 20 and October 24, 1902, and continued to fly the glider the following year, while they were assembling and testing their 1903 powered machine.

The Wrights did not patent a powered flying machine. They patented their 1902 glider, reasoning that three axis flight control was a patentable system. No one, they were confident, would be able to fly without drawing on ideas covered by their patent. Their all-important aerodynamic data, which could not be patented, would be kept secret and made available to manufacturers who purchased the right to use their patent.

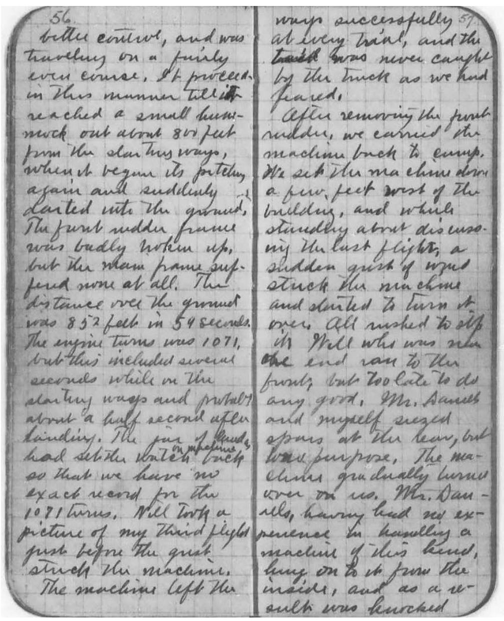
If Wilbur and Orville had overestimated the reliability of the aerodynamic data gathered by their predecessors, they had also underestimated the difficulties that they would face in the area of propulsion. The engine was not the problem. When a preliminary contract failed to turn up a manufacturer willing to build a power plant to their specifications, they decided to design and build it themselves. Charles Taylor, the machinist whom they employed at the bike shop, produced an engine that did the job. It was not a particularly powerful engine. The key was that fact that the brothers could calculate the power required to fly and estimate a maximum weight for the engine. Once they had a power plant that met their specifications, they were satisfied. Any attempt to

improve the engine beyond what was required, they realized, would represent overengineering and a waste of time and effort.

The Wrights had not anticipated difficulties with propeller design. Their original assumption that they could borrow a design approach from marine propellers proved incorrect, however. In order to produce propellers whose thrust could be accurately calculated, the Wrights developed a theoretical approach to propeller design that began with a recognition that a propeller was a rotary wing, in which the lift was vectored as thrust. The brothers were familiar with the work of the physicist-engineer W. J. M. Rankine and used a form of what engineers call blade element theory to design their propellers. Recent wind tunnel tests revealed that first generation Wright propellers are almost 80 percent efficient. That is to say, the propellers transform 80 percent of the engine horsepower delivered to them into thrust.

A modern wooden propeller for a light airplane is usually only 85 percent efficient. No other experimenters of the era came even close to the efficiency achieved by the Wright propellers. That is what kind of engineers they were.[6]

This year we celebrate the centennial of the four powered, sustained, and controlled flights that the Wright brothers made from the sand flats at the base of the Kill Devil Hills, four miles south of Kitty Hawk, NC, between 10:35 a.m. and noon on December 17, 1903. Of course that was not the end of the process of invention. On the best of those four flights, Wilbur Wright flew 852 feet over the sand in 59 seconds. The brothers knew that, with practice and an opportunity to keep improving the elements of their machine, they could do much better.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better control, and was traveling on a fairly even course. It proceeded in this manner till it reached a small hummock out about 800 feet from the starting ways, when it began its pitching again and suddenly darted into the ground. The front rudder frame was badly broken up, but the main frame suffered none at all. The distance over the ground was 852 feet in 59 seconds. The engine turns was 1071, but this included several seconds while on the starting ways and probably about a half second after landing. The jar of landing had set the watch on machine back so that we have no exact record for the 1071 turns. Will took a picture of my third flight just before the gust struck the machine. The machine left the

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ways successfully at every trial, and the ~~truck~~ tail was never caught by the truck as we had feared.
After removing the front rudder, we carried the machine back to camp. We set the machine down a few feet west of the building, and while standing about discussing the last flight, a sudden gust of wind struck the machine and started to turn it over. All rushed to stop it. Will who was near the end ran to the front, but too late to do any good. Mr. Daniels and myself seized spars at the rear, but to no purpose. The machine gradually turned over on us. Mr. Daniels, having had no experience in handling a machine of this kind, hung on to it from the inside, and as a result was knocked

Orville Wright's diary entry from 17 December 1903 chronicles Wilbur's 852-foot long flight, the longest from that epochal day. Courtesy of Library of Congress.

The Wrights decided to continue their experiments at Huffman Prairie, a 100-acre pasture some eight miles east of Dayton. By working close to home, they could devote full time to their experiments while keeping an eye on their business and avoiding the expense of living away from home. They worked at Huffman Prairie for the next two

years, designing and building a new airplane each year. Initially, they found that the absence of steady headwinds made it difficult to get into the air. In September 1904, they resolved this limitation by using a catapult system and began to make real progress. By the fall of 1905, they were covering distances of over 20 miles through the air, flying tight circles over their field for over half an hour at a time. They had transformed their marginal success of 1903 into the reality of a practical airplane.

The brothers were never happier than when they were wrestling with a difficult technical challenge. "Isn't it wonderful," Orville wrote to his friend George Spratt, "that all of these secrets have been preserved for so many years just so that we could discover them."[7] The process of invention that had begun with a wing-warping kite in the summer of 1899 was now complete, but the career of the Wright brothers was far from over.

The Wrights grounded themselves from 1905 until 1908, while they struggled to market their invention. By May of 1908, with signed agreements in hand for the sale of airplanes to both a French syndicate and the US Army, the brothers equipped their 1905 airplane with upright seating for a pilot and passenger and a new upright control system. They returned to the Kill Devil Hills to brush up their flying skills with the new arrangement. Then Wilbur was off to France, where he made his first public flights at the Hunaudières racecourse, near Le Mans, on August 8, 1908. Orville followed this first flight to demonstrate their machine to the US Army at Fort Myer, Virginia, on September 3, 1908. For five years, the brothers had been shadowy figures, their claims widely reported in aeronautical circles—and widely doubted. They swept all of the doubts away with these first public flights and emerged as great public heroes on both sides of the Atlantic.

Of course, by 1908, the Wrights no longer had the sky to themselves. Alberto Santos-Dumont, a wealthy Brazilian living in Paris, had flown his airplane, 14-bis, 722 feet through the air in 22.5 seconds on November 12, 1906. On October 26, 1907, Henri Farman piloted his Voisin aircraft through a full, remaining in the air for 74 seconds. It was the first time that anyone had matched the Wright brothers' 1903 performance. In July 1908, just a month before Wilbur made his first flights in France, Farman remained in the air for 20 minutes, 22 seconds at Ghent, Belgium. There was fresh activity in America, as well. On July 4, 1908, Glenn Hammond Curtiss, from Hammondsport, New York, won the Scientific American Trophy for the first flight in the US of more than one kilometer.

It is safe to say that none of those individuals would have flown had it not been for Wilbur and Orville Wright. The brothers were as important to this generation as Lilienthal had been to them. Now they were the starting point. They had met Glenn Curtiss and answered his technical questions and those

of his colleagues in the Aerial Experiment Association, a group organized by Alexander Graham Bell in 1907. In 1900 and 1901, the brothers had published three technical articles, complete with photos of their first two gliders.[8] Chanute had described their work to his wide circle of correspondents and given a slide-illustrated lecture on the subject to the members of the Aero Club de France in April 1903. The substance of the talk, and the illustrations, were published within the month.

Virtually all of the French aviators who took to the air in 1907–1908 had entered the field as a result of Chanute's lecture/article. Most of the new generation of French aeronautical pioneers began by building their own versions of a Wright glider. Santos-Dumont's 14-bis and the early machines designed and built by the Voisin brothers and Henri Farman were braced biplanes with pusher propellers and an elevator located in front of the leading edge of the wing. That is not a natural configuration. The French used it because they knew that was what the Wrights had done. None of them understood or appreciated the Wright control system, but they knew what the Wright aircraft looked like, and they knew the Wrights had flown. Make no mistake: the subsequent history of aviation begins with the Wright brothers.

The Europeans who began running to catch up with the Wright brothers swept past them by 1909 and kept right on going. Having mastered flight control after Wilbur's first flights in France, they seized leadership in world aeronautics from the land where the airplane had been born. Louis Bleriot's flight across the English Channel on July 25, 1909, followed by the first great international aviation meet and competition held a month later (August 22–29) on the plain of Bethany, three miles north of the cathedral city of Reims, marked the beginning of European hegemony in the air. The six years remaining before the outbreak of war in August 1914 witnessed constant startling improvements in performance, almost all of them the work of Europeans.

New developments in engine technology were of central importance. By 1914, the four-cylinder, 12.5-horsepower Wright engine of 1903 had given way to 100 hp, eight-cylinder, water-cooled in-lines and 90–140 hp rotaries like the Gnôme. Louis Bechereau had incorporated the monocoque structure, originally developed by the Swiss engineer Eugene Ruchonnet, in the design of the Deperdussin racing monoplanes. Hans Reissner experimented with corrugated aluminum wings, while Ponche and Primard produced the Tubavion monoplane, the first genuinely all-metal aircraft.

Henri Fabre made the first water take-off on 28 March 1910. The Russian Igor Sikorsky pioneered very large aircraft with his four-engine Bolshoi of 1913. The following year, Glenn Hammond Curtiss produced a multi-engine flying boat intended to fly the Atlantic. The ocean would have to wait for another five years, but, by August 1914, the North American continent had been

flown coast to coast, both ways, and both the Alps and the Mediterranean had been traversed by air.

On December 17, 1903, the world's first airplane had traveled a maximum distance of 852 feet in 59 seconds, reaching a speed of 30–35 mph and an altitude of 10–15 feet. Ten years later, only six years after the Wrights had first flown in public, the records had increased to a speed of 126.67 mph (Maurice Prevost in a Deperdussin); a distance of 634.35 miles over a closed circuit (A. Seguin in a Farman); and an altitude of 20,079 feet (G. Legagneux in a Nieuport).

The American Glenn Curtiss had won the first James Gordon Bennett race, staged as part of the Reims meet in 1909. By 1913, the US could not field a competitor for the same race. "We could not send an American biplane or monoplane over," Alan Hawley, president of the Aero Club of America, explained, "because none of our machines are half speedy enough." The airplane, born in America, came of age in Europe.[9]

How did the nation that had given birth to the airplane fall so far behind so quickly? It has often been suggested that the series of patent suits brought by Wilbur and Orville Wright were to blame for the retarded growth of aeronautics in the United States. A careful analysis of the situation is an important first step in understanding the underlying economic and political forces that would drive flight technology for the rest of the century.

The American aviation industry got underway on March 3, 1909, when Glenn Curtiss and Augustus M. Herring incorporated the Curtiss-Herring Company. They quickly sold one airplane to the Aeronautic Society of New York and began entering prize competitions. The Wright Company was incorporated under the laws of the State of New York on November 22, 1909. Wilbur served as president of the firm and Orville as vice president. The board of directors included August Belmont, Cornelius Vanderbilt, Robert Collier, and other leading figures in American business and finance. Corporate offices were in New York, but the heart of the operation, the factory and flying school, were in Dayton, where the brothers could retain personal control.

The new factory began production in November 1910, turning out Wright Model B aircraft. Powered by a 40 horsepower engine, it was the first Wright production aircraft and the first Wright machine mounted on wheels. When operating at full capacity, the workmen could push two airplanes a month out the factory door. The company produced 12 distinct aircraft designs between 1910 and 1915, when Orville Wright sold his interest in the firm. While precise figures are not available, the Model B and Model C, which sold to the US Army, were produced in the largest numbers. Other models included the EX, which Calbreath Perry Rodgers flew from coast to coast in 1911; the Model R, designed for air racing; and the Model G flying boat.

Even before the founding of the company, the Wrights and their backers had recognized that the basic Wright patent, granted in 1906, was one of their most valuable assets. The era of the patent suits began August 18–19, 1909, when the Wrights filed a bill of complaint enjoining their principal American rival, Glenn H. Curtiss and the Herring-Curtiss Company, from the manufacture, sale, or exhibition of airplanes that infringed on the Wright patent.

The patent litigation spread to Europe in 1910, when the Wright licensees, the Compagnie Generale de Navigation Aerienne (CGNA), brought suit against six rival aircraft manufacturers (Bleriot, Farman, Esnault-Pelterie, Clement-Bayard, Antoinette, and Santos-Dumont) for infringing on the Wrights' French patents. The following year, a consortium of five German aircraft builders brought suit against the incorporators of the German Wright Company in an effort to overturn the Wright patents in that nation.

The patent suits proved to be difficult, expensive, and time-consuming for all parties. In the end, they failed to produce a clear-cut resolution. In Germany, the courts invalidated the Wright patents, arguing that prior disclosure, the publication of information on the basic elements of the Wright airplane before the approval of their patent, had compromised their claims. The French suit, complicated by a very different legal system and the absence of spirited prosecution by the CGNA, was still not fully resolved when the Wrights' French patents expired in 1917.

The situation in the US was just as complex. As early as January 3, 1910, Judge John R. Hazel of the US Circuit Court at Buffalo, New York, had issued an injunction prohibiting Glenn Curtiss from the manufacture or sale of aircraft. Curtiss posted a $10,000 bond and appealed the decision. He could legally continue flying until the appellate court reached a decision, but he took a terrible risk in doing so. If Judge Hazel's decision was upheld, Curtiss would have to negotiate a settlement with the Wrights covering all of the monies earned while the injunction was in effect. Curtiss moved forward with the prospect of financial ruin staring him in the face.

On January 13, 1914, the judge of the US Circuit court of Appeals of New York ruled in favor of the Wrights. Rather than taking immediate financial vengeance against Curtiss, the leaders of the Wright Company, sensing the opportunity for monopolistic profits, announced the schedule of rates that they would charge anyone who wished to exhibit an airplane in the United States. Glenn Curtiss, represented by the best lawyers that money could buy, announced that he would immediately alter the control systems of his aircraft so that they no longer infringed on the Wright patent. Few knowledgeable individuals believed that was possible, but it was enough to muddy the waters and set the legal process in motion once again.

Ultimately, Orville did profit from the patent suits. He sold his interest in the company to a group of New York financiers in 1915 for an undisclosed sum said to have been in the neighborhood of $1.5 million. Certainly, it appeared that the patents might enable the firm to dominate the new industry. Orville sold out at the perfect moment, acquiring a personal fortune that would enable him to live comfortably for the rest of his life. Two years later, in 1917, industry leaders, with the support and advice of the federal government, brought the era of the patent trials to an end by purchasing the rights to all aeronautical patents and creating a pool of leading manufacturers who would share access to all patents.

Did the long battle over patents retard the growth of American aeronautics? Evidence to the contrary begins with the fact that the Wright Company was much more severely damaged by the patent suits than the Curtiss Aeroplane and Motor Company. Consider the matter of aircraft sales, the most basic measure of corporate success. Between 1909 and 1915 Wilbur and Orville Wright and the various Wright companies operating on the basis of their patents sold a total of 14 aircraft to the US Army, their largest single customer.[10] Orville Wright estimated the total production of the Dayton factory between 1910 and 1915 at roughly 100 airplanes.

During the same period, the companies controlled by Glenn H. Curtiss sold a grand total of 232 aircraft to the US Army. This number, representing 24 distinct designs, was almost half of the total number of aircraft purchased by the Army prior to US entry into WW I and nearly 10 times the number of Wright aircraft purchased during this period.[11] In addition, 16 of the first 27 aircraft purchased by the US Navy were Curtiss machines. The Burgess Curtiss Company, unrelated to Glenn Curtiss, produced four of those original naval aircraft. The Wright brothers were in third place with the sale of only three machines to the Navy. After 1913, Curtiss sales to the Navy skyrocketed, while the Wright Company sales to the Navy were at an end. The precise figures for civil and foreign aircraft sales are not available, but Curtiss's success in marketing single- and multi-engine flying boats to several Allied nations suggests that he was more successful in those categories as well.[12]

Curtiss prospered during the patent suit era, while the Wrights suffered. At the end of the period, Glenn Curtiss was the most successful producer of aircraft in America. He was the principal supplier of training aircraft to the US government and the only American manufacturer producing combat aircraft of his own design for the Allies. The Wright brothers were out of the airplane business.

Why did the Wright Company suffer as a result of the patent suits? The reasons are not so difficult to understand. Wilbur and Orville Wright, the engineering geniuses at the heart of the firm, paid far more attention to win-

ning victory in the patent suit than to the development of new and improved products. In truth, the brothers wanted most of all to be recognized as the true inventors of the airplane and for the world to appreciate the magnitude of their accomplishment. Victory in the patent suits, and any money that resulted, would symbolize the realization of those goals. Glenn Curtiss, on the other hand, wanted nothing more than to develop, build, and sell improved aircraft. He had bet that good lawyers would see him safely through the patent suits. While the patent suits may have frightened some embryonic US aircraft firms, the fact that Curtiss won his bet suggests that the patent suits had at best a limited impact on the development of aviation in the United States.

If the patent suits do not explain the retarded growth of the industry in America, what forces were at work? Before the First World War, the pressure of competition was an important factor encouraging technical progress. Initially, there was little to differentiate the prizes and rewards available to aviators in Europe and America. That began to change by the summer of 1909, as the leading European powers sought to showcase the aeronautical achievements of their citizens. Having served as the site of repeated competitions, cities like Blackpool, Hendon, Reims, Milan, Vienna, and Berlin emerged as world aviation centers. Between May 1910 and October 1913, Johanisthal, the principal Berlin flying field, hosted a total of seven *Flugwoche* (flying weeks), offering a total of 312,900 marks in prize money. In addition, the field served as either the starting point or an important stop on a number of famous long-distance contests, including the Circuit of Germany (June 12–July 10, 1910); the Berlin to Vienna Race (June 9, 1912); and the Circuit of Berlin (August 31–September 1, 1912).[13]

The more strenuous competition and richer prizes available in Europe fueled technological change. In the US the leading aviators were members of two or three touring exhibition teams who earned salaries for performing aerial stunts to thrill crowds of paying customers. There were no better pilots in the world than men like Lincoln Beachey and Walter Brookins, but they did not face the constant pressure to fly higher, faster, and farther against a wide range of competitors, week after week. More important, their technology was not tested either. The original configuration of the Wright airplane—a pusher biplane with a canard elevator—remained the US standard until 1911, when a series of accidents among military aviators led companies like Curtiss and Martin to switch to the tractor configuration.

The threat of war was an even more important factor. No one was certain what military utility the airplane might have. Faced with rising international tensions between 1900 and 1914, however, European leaders could ill afford to allow a rival nation to forge ahead with the new technology. "With Russia and Austria-Hungary in their present troubled condition, and the German

Emperor in a truculent mood," Wilbur Wright noted, "no government dare take the risk of waiting to develop practical flying machines."[14] As a result, European governments encouraged the development of a domestic aircraft industry through investment and subsidies.

The scale of European investment in flight technology is apparent in a table listing national spending for aeronautics prepared by US Army officials in 1913.

Table 2.1. Total Government Expenditures on Aviation, 1908–1913. (All figures in US dollars, 1913)

Nation	*Expenditure*
Germany	$28,000,000
France	$22,000,000
Russia	$12,000,000
Italy	$8,000,000
Austria	$5,000,000
England	$3,000,000
Belgium	$2,000,000
Japan	$1,500,000
Chile	$700,000
Bulgaria	$600,000
Greece	$660,000
Spain	$550,000
Brazil	$500,000
United States	$435,000
Denmark	$300,000
Sweden	$250,000
China	$225,000
Roumania [sic]	$200,000
Holland	$150,000
Serbia	$125,000
Norway	$100,000
Turkey	$90,000
Mexico	$80,000
Argentina	$75,000
Cuba	$50,000
Montenegro	$40,000

(All figures are from House of Representatives, *Aeronautics in the Army, Hearing before the Committee on Military Affairs*, 63rd Cong., 1st sess., USGPO, 1913.)

In addition to official appropriations, several leading aeronautical powers had also established national subscriptions that provided an additional $7,100,000 in financial support for their aeronautical industries. Once again, Germany led the way with $3,500,000 in private funds, followed by France ($2,500,000), Italy ($1,000,000), and Russia ($100,000). According to official US government estimates, the nations of the world had spent a total of $93,620,000 in public and private funds on aviation between 1908 and 1913.[15]

How was this money spent? England, France, Germany, and Russia invested large sums in state-supported, well-equipped aeronautical research facilities. Patriotic philanthropists also contributed to the cause. In France, for example, industrialist Henri Deutsch de la Meurthe, Gustave Eiffel, and Basil Zaharoff pursued aerodynamic research, created aerodynamic institutes at French universities, and established endowed chairs in aeronautical engineering.[16]

In addition to government support for flight research, European nations nurtured aircraft manufacturers. The impact of this funding was dramatic. By 1914, the Farman company employed 1,000 individuals in a series of plants scattered around Paris.[17] During the years 1909 to 1914, Bleriot Aeronautique produced 800 airplanes. The fact that two major firms, Deperdussin and Nieuport, prospered in spite of the early loss of very strong founders is striking evidence of a growing industrial maturity. European governments at least occasionally targeted spending to support a troubled company. In April 1910, for example, when a flood devastated the Voisin factory, the French government ordered 35 aircraft from the firm in a successful effort to prevent a collapse.[18]

The European propulsion industry also prospered during the years leading up to the First World War. In 1913 alone, the 650–800 individuals employed at the Gnôme factory at Gennevilliers produced a total of 1,400 rotary engines. Renault, the second-largest French producer of aircraft engines, provided fully one-third of the power plants purchased by the French military. The French aeronautical engine industry, the world leader by 1914, combined the use of the latest American machine tool technology with the older French tradition of handcrafted excellence in the metal trades.[19]

Without the incentive of war looming on the horizon, the United States did not even attempt to keep up. In 1910–1911, a period during which the US Army took delivery of 14 airplanes, the French government ordered over 200 flying machines. In 1912, a committee of wealthy French patriots raised four million francs to supplement the national budget for military aviation.[20] That year the US Secretary of the Navy pointed out that that France had spent $7,400,000 on flight to date. Russia had spent $5,000,000; Germany $2,250,000, and Great Britain and Italy $2,100,000 each. Even Japan ($600,000) had outspent the US ($140,000).[21] By 1913, 14 nations—including Belgium, Japan,

Chile, Bulgaria, Greece, Spain, and Brazil—were spending more on aviation than did the United States.

European nations recaptured the lead in flight technology not because the Wright patent suits had retarded American development but because European government investment had fueled the rapid development of aviation. The gap grew even wider as the pressure of war further accelerated developments in Europe. The result was, of course, that American airmen flew off to war in 1917 in aircraft that had been almost entirely designed and built in Europe.

By that time, of course, the Wright brothers were no longer an active force in aeronautics. Wilbur had died of typhoid in 1912. The members of the family blamed it on the stresses and strains of the patent suits. Having sold the Wright Company in 1915, Orville allowed the Dayton-Wright Company to use his name and served as a consulting engineer with the firm during World War I. He made his last flight as pilot in command on May 13, 1918. He would remain an honored figure, showered with honorary degrees and other awards and honored at scores of dinners and ceremonies for the rest of his life. The Wright achievement was commemorated by a great national monument dedicated in 1932, overlooking the spot where the brothers had made their first successful sustained and controlled powered flights. President Wilson appointed him to membership on the National Advisory Committee for Aeronautics in January 1918, a position he held until his death on January 30, 1948.

By then, the US was the world's dominant airpower. The American aircraft industry had finally achieved parity with Europe during the years immediately following World War I. There things remained until the design revolution of the mid-1930s. The new generation of streamlined, all-metal aircraft that took to the air in those years were not the result of any one breakthrough. Rather, they were the end product of a wide range of innovations in structures, aerodynamics, and propulsion that had occurred over a period of at least 15 years.

The process of change began with the development of the first metal aircraft prior to World War I, continued with the introduction of duralumin, and culminated with the appearance of anticorrosive coatings and new machine tools and production techniques. Variable speed and constant pitch propellers enabled the new aircraft to make full use of powerful radial engines shrouded in drag-reducing cowlings. Stressed-skin cantilevered wings, streamlining, the retractable landing gear, and flush riveting reduced drag, while high lift devices enabled the new all-metal, high-performance monoplanes with their high wing loading to take off and land safely. Each innovation had been significant in its own right. When engineers combined them to

create a new generation of aircraft during the years 1933–1935, they added up to a revolution in aircraft design and performance.

It was an international revolution. Streamlining, monocoque construction, and other structural innovations appeared in France before 1914. Metallurgical developments, experience in metal aircraft design, and theoretical research in areas from aerodynamics to structures had flowed from Germany to other parts of Europe and America. English engineers took the early lead in radial engine design and provided such key innovations as the sodium-cooled valve and the first drag-reducing cowling. An English aircraft won the Guggenheim Fund Safe Airplane Prize by demonstrating the use of the slats and flaps that would enable larger, heavier aircraft to take off and land safely.

While the impact of the design revolution was apparent in new aircraft produced in many nations, it was obvious that American industry was most successful at integrating new technologies into successful aircraft. New American airliners like the Douglas DC-3 set a world standard. The enormous industrial expansion of the US aircraft industry during World War II completed the process begun in the 1930s.

America did not have a monopoly on good ideas or brilliant engineers. The European origins of the jet engine and the large ballistic missile were proof of that. The strength of the American economy, heavy postwar government spending on all aspects of the aerospace enterprise, a strong commercial airline system, a thriving military and civil space program, and other factors ensured that those ideas would find their fullest expression in the US. The success of the US aerospace industry has been a major factor in our success as a nation since 1945. Through the end of the 1970s, US manufacturers supplied perhaps 75 percent of the world's large commercial airliners. By the end of the century, as noted at the outset, the success of American airpower enabled the nation to control the airspace over any potential battlefield.

As we look forward into the twenty-first century, problems cloud the horizon. American power inspires bitter opposition. Global competition challenges traditional American mastery of the market for large commercial aircraft. Analysts point out that our high-tech workforce is aging. And among the many things that we learned on September 11, 2001, was the relative ease with which adversaries who are weak in traditional military terms can turn the most sophisticated products of flight technology against us. The terrorist hijackers paid absolutely no attention to the good intentions of the men and women who design, build, and operate modern airliners. The words of historian Melvin Kranzberg ring truer than ever: "Technology is neither good, nor bad," he explained, "nor is it neutral."[22]

For better or worse, flight technology is ours to do with what we will. A thousand years from now, when our descendants look back on the twentieth

century, they will surely remember this as the time when human beings first took to the sky. Whatever its near-term consequences, flight has had a profound psychological impact on us.

The Wright brothers launched a new era in history—the age of flight. The author of this paper works in a museum that is a shrine to the air age. In an average year, 9 million people will walk through the doors of the National Air and Space Museum (NASM)—14 million in our best year. We welcome more visitors than the British Museum, the American Museum of Natural History, the Metropolitan, or the Louvre. It is the most visited museum in the world. When NASM opened to the public on July 1, 1976, the staff was confident of success, but no one expected the enormous number of visitors who arrived that first summer or the wave of media enthusiasm that washed over the building. President Gerald Ford commented that the museum was "our bicentennial birthday present to ourselves." In fact, those of us who planned the museum could take only limited credit for its success.

The quality of the NASM collection is a far more important factor. What other museum in the world, covering any subject, can offer such riches? Visitors to the NASM can see the world's first airplane; the world's first military airplane; the first airplane to fly around the world; the *Spirit of St. Louis*; the Lockheed Vega that Amelia Earhart flew across the Atlantic; Wiley Post's *Winnie Mae*; Howard Hughes' classic H-1 racing aircraft; the B-29 *Enola Gay*; the Bell X-1 that Capt. Charles Yeager, he of the right stuff, first flew faster than sound; the world's fastest airplane; the first airplane to fly around the world nonstop and unrefueled; the first balloon to circumnavigate the globe; the first helicopter to fly around the world; the world's oldest liquid propellant rocket; the spacecraft that carried the first American into orbit; and the Apollo 11 Command Module, *Eagle*, that brought the first human beings to walk on the surface of another world home again. And that is only the tip of our iceberg.

But the core of the museum's appeal runs deeper even than the opportunity to see the actual aircraft and spacecraft in which intrepid men and women wrote the history of the twentieth century in the sky. However one assesses the immediate consequences of aviation, flight remains one of the most stunning and magnificent of human achievements. People flock to the NASM from around the world because this is a museum that makes them feel proud to be human.

That is the legacy of Wilbur and Orville Wright. They were the inventors of the airplane in a much truer sense than Thomas Edison can be said to have invented the light bulb or Alexander Graham Bell the telephone. The Wrights chose the most difficult technical problem in sight. They analyzed the complex and confusing record of previous experiments in the field, focusing their attention on flight control. Having selected a starting point, the brothers

demonstrated their innate sense of a process of invention. They had to learn to fly gliders, risking life and limb, as part of that process. When their gliding experiments failed to provide necessary information, they developed a wind tunnel balance, an elegant engineering instrument that opened the way to success. In six short years, Wilbur and Orville Wright had produced an invention that would define the course of the twentieth century.

The achievement of heavier-than-air flight involved nothing more nor less than the realization of the oldest and most potent of human symbols. To fly is to escape restraint, soar over obstacles, and achieve mastery and control of our fate. Suddenly, the old dream, which had become the very definition of the impossible, was a reality. If human beings could fly, what could they not accomplish? The invention of the airplane threw open the doors to unimagined possibility. That, it seems to me, is an achievement worth celebrating.

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Patton and Rommel

Men of War in the Twentieth Century*

Dennis Showalter

The horse cavalry had a song about a place called Fiddler's Green, where the grass is always lush and the beer is always cold. It stands along the road to Hell, but no trooper ever reaches that grim destination. Instead, he stops off at Fiddler's Green and stays to drink with his friends. Surely, Fiddler's Green has made room for tanks and those who ride them. And just as surely, two old tankers hold court eternally under the trees. For a while, let us join them there.

George Patton. Erwin Rommel. Their likenesses are available on prints and posters and in varying scales to model-builders and collectors. Their names and faces are regularly used to advertise volumes on armored warfare, on World War II, on great battles and great captains. Patton and Rommel. Their deeds and ideas run like threads through academic monographs and professional military writing on war. They appear regularly in science fiction and alternate history. In *Fox at the Front*, Douglas Niles and Michael Dobson even have them fight side by side to prevent the Soviet overrunning of Germany after Hitler's assassination.† A Google search—that twenty-first-century standard for measuring significance—turns up over 400,000 references to "Erwin Rommel" and almost two million for "George Smith Patton, Jr."

The generals and their commands remain identified in the same way Robert E. Lee is synonymous with the Army of Northern Virginia and Napoleon with the *Grande Armée*. Patton molded Third Army in his own likeness, into a fighting force his biographer Martin Blumenson compares to those of Hannibal, Cromwell, and Napoleon.‡ Rommel's *Afrika Korps* developed a legendary identity under its charismatic leader—a mutual understanding one of his staff officers described as "a gift from the gods."

Patton and Rommel were in part their own creations. Each man was his personal construction of what a soldier should be. From his days at West Point, Patton defined himself as a hero in the making. He spent his life preparing for the opportunity to fulfill his destiny on the battlefield, and when opportunity came, however late and truncated, he seized it with both hands. Rommel, while he sought and enjoyed the public acclaim that came to him as

*Harmon Memorial Lecture #48, 2005.

†Douglas Niles and Michael Dobson, *Fox at the Front* (New York: Forge Books, 2003).

‡Martin Blumenson, *Patton: The Man behind the Legend, 1885–1945* (New York: William Morrow, 1985).

the Desert Fox, saw himself as essentially a warrior for the working day, making the best of tools that lay to hand and circumstances as they developed.

Patton and Rommel were also constructions of their enemies. In the middle of the North African campaign, Winston Churchill, the last great romantic, paid tribute to Rommel in the House of Commons. The Desert Fox was so admired by British soldiers and officers that "doing a Rommel" came to be a synonym for anything executed competently and with flair. American and British soldiers and scholars continue to praise Rommel's grasp of the initiative, his mastery of improvisation, and his ability to maximize the effect of inferior numbers and limited resources. In America's service academies, he remains for cadets an archetype of what a leader should be: a general combining muddy boots and operational genius—what contemporary military analyst David Hackworth calls a "warrior stud."*

On the other side of the hill, German military analysts have at best limited regard for Rommel as a general. To soldiers trained in the schools of Clausewitz and Moltke, the qualities Americans admire in Rommel are exactly those that merit criticism: acting on impulse, favoring spontaneity over planning, trusting to luck for resupply. German interpretations emphasize Rommel's focus on tactics at the expense of logistics, strategy, and ultimately policy. Rommel in North Africa is depicted as getting too easily discouraged and for blaming his allies and his superiors for defeats better put to his account. He gets high marks for quick reactions and for leadership, but the usual evaluation describes him as a superb division commander, adequate or a little better at corps level, and miscast in the higher roles he played in 1944.

For German professionals, on the other hand, Patton remains a general who understood how to wage modern war and how to use the tools provided by American industry. Germans, during the war and afterwards, consistently described Patton as the closest thing to a panzer general the Western allies produced, unique among British and Americans in his mastery of mobile warfare at the operational level. "Patton is your best," Gerd von Rundstedt informed his postwar questioners. Fritz Bayerlein compared Patton to Heinz Guderian—Patton was imaginative, aggressive. Patton saw that the tank made it possible to paralyze an enemy, then destroy him at low cost. "Patton!" the old Wehrmacht hands and their successors of the Bundeswehr reflect. "Had he been given a free hand by your Eisenhowers and your Bradleys, the war would have been over by November. Shermans would have been rolling down Unter den Linden before the Russians ever saw the Oder."

*Hackworth is the author of *About Face: The Odyssey of an American Warrior* (New York: Simon and Schuster, 1989).

In the years after 1945, George Patton came to be relegated to the supporting cast of America's World War II experience as a character actor—sometimes almost as comedy relief. His single-minded devotion to war seemed a dangerous anomaly in a thermonuclear age. His conscious flamboyance appeared unseemly posturing in an era of gray flannel suits and anonymous generals. His achievements as a commander diminished to parochial successes in the best-selling memoirs of Omar Bradley and Dwight Eisenhower.

Lt Gen George S. Patton, left, discusses military strategy with Lt Col Lyle Bernard in Sicily, 1943. Photo courtesy of National Archives (no. 531335).

Aficionados and popular writers have overwhelmingly interpreted Patton as the only US senior officer who understood and practiced the concept of maneuver based on shock and finesse, as opposed to attrition based on mass. They also see in Patton an appealing combination of military intellectual and rebellious outsider, a model of professionalized effectiveness as opposed to the GI general, everyman at war, images projected by such icons as Eisenhower and Bradley. In an age when leaders' feet of clay are regularly sought and exposed, even Patton's various indiscretions appear less unusual than they did in 1943—and Patton at least was no hypocrite. His behavior reflected his beliefs, a welcome congruence in an increasing age of spin and mendacity.

Military scholars and academic historians are less comfortable with Patton. They usually concede that he was a first-class battle captain, at the top of his

form in exploiting victory. But when it came to the hard fighting necessary to set up the mobile operations, Patton is frequently described as falling short. A quintessential cavalryman, he tended to overlook the practical complexities of war making—particularly against the Wehrmacht. In a similar context, while Patton may have been denied command above army level because of specific personal behavior, a certain subtext lingers regarding his overall emotional and mental staying power in a higher post.

Patton had always been, to put it gently, a man of strong opinions about his fellow men. His postwar assignment as military governor of Bavaria ranks among the most ill-considered senior appointments since Emperor Caligula made his horse a consul of Rome. The experience nurtured an anti-Semitism increasingly public, increasingly vitriolic. Patton simultaneously began steeping himself in radical anti-Soviet literature. Had he resigned and spoken out, as he talked of doing, his probable themes bade fair to carry him deep into the fever swamps of American politics, to a place beyond McCarthyism. Patton's death in a traffic accident, mundane though it was, may have been Bellona's final gift to one of her most fervent devotees. The Goddess of War can be an ironist.

Sixty years after his triumphs, Patton remains to his countrymen in good part the bad boy become general—a profane, posturing soldier-slapper, a loose cannon with an extroverted lack of self-discipline. Patton the general stands as an embodied indictment of war's specious promises of glory and its very real indifference to suffering—a necessary evil who America was lucky to have in an emergency. In a culture still reluctant to acknowledge the role of war in American society, Patton's ebullient enthusiasm for conflict makes him uncomfortable—a figure to respect but not to identify with. He is like an athlete admired for performance but not judgment—a uniformed cross between Barry Bonds and Dennis Rodman.

As for Rommel, in 1945, he was another dead general in a Germany whose emerging definition of "Zero Hour" (*Stunde Null*) involved a rejection of war and the men who made it. However, an emerging Federal Republic needed military exemplars whose shields were as clean as possible. Rommel's forced suicide gave him status as one of Hitler's victims. Junior officers who had served with Rommel in Normandy, particularly Hans Speidel and Friedrich Ruge, saw the value of constructing an image of the field marshal as simultaneously a heroic leader of Germany's armies and a principled conspirator against Hitler's Reich. Ruge and Speidel rose to the tops of their respective services and make honorable names for themselves in NATO.* West Germany

*North Atlantic Treaty Organization. Ruge, a veteran of both World Wars, served as head of the German Navy from 1955 to 1961. Speidel's postwar German Army career lasted from 1955 to 1963, and during his last assignment, he commanded all NATO ground forces in Central Europe.

adopted the Rommel mythos with enough enthusiasm to name one of its navy's major ships after the army general—and to sustain Rommel's image in the English-speaking world as an enduring symbol of the "good" German: the man who fought a clean, honorable war, untainted by the ideology or the institutions of National Socialism and out of place among the thugs and poseurs of the Third Reich. Perhaps it is all just as well. A living Rommel, with his limited tolerance for fustian and hypocrisy, might have challenged the cardboard characterizations built around his name.

Fate denied soldiers and historians the guilty pleasure of a direct engagement between Patton and Rommel. Direct comparisons are rendered even more difficult by the lack of congruence in their professional backgrounds and their operational experience. Patton was a son of privilege, a cavalryman when that still meant something, not merely a student and scholar of war but an insider on issues of doctrine and planning. Rommel was a muddy-boots infantryman who owed his place and position in the *Reichswehr* to his achievements as a field soldier. Patton had access to the resources of the world's greatest military-industrial power. Rommel fought his war on a shoestring; even 7th Panzer went to battle in looted tanks. Rommel excelled as a division and corps commander; Patton led an operational corps for slightly over a month. Rommel finished in command of an army group; Patton never rose above army level.

When all those points are made, what remains to be said about George Patton and Erwin Rommel as men of war? Patton was far more than the sum of his public achievements and public performances. He cultivated a complexity of character that defies explanation and developed a personality whose force was terrifying. Stronger than the individual or the collective personalities of his soldiers, it tapped into the spectrum of motivations for making war. It appealed to bloodlust and vengeance as well as courage and comradeship. And it generated rapport with the citizen soldiers of a democracy—to a degree that still makes Patton's critics uncomfortable.

Patton was a trainer. In the States, he first made his mark at senior levels by his successes in developing the Armored Force out of a collection of regiments and battalions. In North Africa, his primary achievement involved compelling II Corps, from its staff and division commanders down, to begin taking the war seriously. In Europe, perhaps the most outstanding characteristic of Third Army's order of battle was the constant accretion of green divisions, with everything to learn at all levels: even the cadres were raw, and few commanders had any combat experience in the current war. While all US field armies had the same problem, Third Army's new formations seemed to adjust more quickly and suffer fewer casualties relative to their early missions. On another level, Patton's racism did not deter him from being the first army

commander to employ, and personally welcome, black tank battalions or to integrate black volunteers into Third Army's replacement-starved rifle platoons surging the Battle of the Bulge.

Patton was both an educated soldier and a military intellectual. A lifetime of reading and reflection focused on war developed a mental sophistication that enabled him to think ahead, anticipating moves and developing counters, forcing the pace of battle to points where neither his enemies, his superiors, nor his subordinates could readily keep pace. Patton's concepts of war led him away from conventional approaches towards a nonlinear paradigm whose pace and impact compelled the enemy to fight at a disadvantage, to surrender, or to flee. Often presented as designed to avoid enemy contact, Patton's way of war accepted combat but sought to make it brief and decisive: the final element in throwing the enemy fatally off balance through sophisticated use of time, space, and mass.

Patton compensated for his personal and intellectual apartness by being a team player. A survey of his military career suggests strongly that the familiar image of Patton the outlaw, Patton the rebel, is significantly overdrawn. When the fustian is subtracted—and when the distinction is made between public behavior and private comments intended to discharge steam—Patton emerges as a team player whose superiors had in common a confidence that they could handle him. Even his feud with Montgomery has been exaggerated on both sides. The admittedly high degree of tensions at SHAEF* during the D-Day campaign owed much to wider political factors: the pressures caused by Roosevelt's bid for a fourth term in the US and the increasing fragility of Churchill's wartime coalition in Britain generated corresponding pressure on the respective generals. It was Eisenhower, not Patton, who was Montgomery's principal *bete noir* throughout the campaign. Monty, in fact, though well aware of Patton's habit of insulting him in public, seemed to find the American mildly amusing much of the time—like a poorly housebroken dog whose messes others clean up.

Compared to Patton, Erwin Rommel spent his early World War II career in what the Germans call a "made bed." The German army had a doctrine for mobile war, an organization to implement it, and training methods that produced officers and men able to execute it. Rommel brought strict discipline, high standards, and incandescent energy to his command of 7th Panzer. The result was the most spectacular record of the 10 divisions who decided the campaign of 1940. Sent to North Africa, Rommel again enjoyed the advantages of commanding in the *Afrika Korps* a force that knew what it was supposed to do and responded positively to its commander's hard-driving style.

*Supreme Headquarters, Allied Expeditionary Forces

Rommel offered few second chances to units or commanders—largely because the *Afrika Korps* and *Panzerarmee Afrika* had so little margin for error. His German formations might be defeated, but they seldom failed him. In time, the Italian mobile divisions as well adapted to Rommel's methods as far as their deficiencies in equipment and command allowed.

Rommel brought to the desert a set of qualities well adapted to that theater's balance of space, time, and mass. Ultimately the Axis forces were not consistently outnumbered and outgunned because the British held Malta, or because the Italian navy was ineffective, or any other immediate reasons. North Africa was a tertiary theater for Hitler and a secondary theater for Mussolini, while it was the primary theater of engagement for Britain. Those respective priorities shaped the governments' respective commitments and put Rommel in the position of a short-money player in a table-stakes poker game. His only hope of keeping the field against superior British mass, and British generalship that was not always as inadequate as Rommel made it look, was to use his assets as though they were not wasting assets, to be husbanded like a miser's coins.

Erwin Rommel with the 15th Panzer Division between Tobruk and Sidi Omar, North Africa, 1941. Courtesy of National Archives (no. 540147).

Rommel's boldness in maneuver, his feel for the pace of a battle, his personal intervention at crucial points, above all his risk-taking, were necessary force multipliers at the cutting edge. Because Rommel was constrained consistently to push the envelope, he made mistakes in conceptualization and execution. Yet in the contexts of policy and strategy, the ambition and the recklessness often attributed to Rommel by his critics acquire a different dimension. So does his approach to logistics, which was in no way as cavalier as it is frequently described. So does his relationship with his Italian allies and superiors—

again, on the whole more politic than admitted in most general accounts. If Rommel in North Africa was essentially a virtuoso corps commander of mobile forces, it was in good part because such a general was absolutely essential to sustaining the Axis position no matter whether it was defined as a springboard or an outpost. Subtract that virtuosity for any reason and the result, as indicated by the course of events from El Alamein to the surrender in Tunisia, was an endgame, likely to be completed sooner than later.

Rommel demonstrated a level of intellectual growth unusual for someone under the kinds of pressure he faced in the desert. He continued to emphasize tactics and operations because he believed, like the German officer corps as a whole, that wars are won by winning battles and that strategic opportunity develops as a consequence of tactical and operational success. But even before leaving North Africa, Rommel grasped the consequences of a developing Allied air supremacy on future operations. He understood the potential of Allied amphibious operations long before he engaged any landings. In Italy and later in northwest Europe, Rommel showed that his approach in North Africa had been a matter of tactics rather than principles, that maneuver war as he had practiced it was no longer feasible—at least on the German side of the line. He wrote his ideas down. He discussed them frequently. He became a mentor to the commanders and staff officers of High Command West: someone to turn to in the hope that somehow the worst might be averted—if not through combat then by means initially barely thinkable.

Heroes in the epic mold are ultimately limited not by external values or official codes but by internal standards individually derived and personally held. In the modern world, the real world with its complex institutional and social organizations, a hero's virtues are correspondingly likely to seem ambiguous. He tends to assume the status of a clown or an outlaw. In the context of America's World War II, George Patton was a hero out of his time. But in the context of Hitler's Reich, what might someone with Patton's heroic stature and heroic aspirations have achieved? Correspondingly, where might Rommel's commonsense approach and his skill at maneuver war have carried him on the other side of the line, as part of Eisenhower's command team and with America's military resources behind him? Erwin Rommel with an endless supply of tanks and all the fuel he needed! It's worth discussing, over another drink at Fiddler's Green.

Dennis Showalter was a retired professor of history who first joined the Colorado College faculty in 1969, after receiving his bachelor's degree from St. John's University and his master's and doctoral degrees from the University of Minnesota in 1965 and 1969, respectively. He was also the past president of the Society for Military History

and joint editor of *War in History*. His publications include over a dozen books and 150 articles. Recent monographs include *The Wars of German Unification* (London: Arnold, 2004), *Patton and Rommel: Men of War in the Twentieth Century* (New York: Berkeley, 2005), *Hitler's Panzers* (New York: Berkeley, 2009), and *Instrument of War: The German Army 1914–18* (Oxford, UK: Osprey, 2016). Showalter was an award-winning educator, having earned the Lloyd E. Worner Teacher of the Year Award (2011) and the Gresham Riley Achievement Award (2005) at Colorado College. In 2011, Showalter was honored with a Festschrift, *Arms and the Man: Military History Essays in Honor of Dennis Showalter*, ed. Michael Neiberg (Leiden, Boston: Brill, 2011). Dennis Showalter passed away on 30 December 2019 at the age of 77.

Hubert R. Harmon and the Air Force Academy

The Man and the Issues*

Phillip Meilinger

Lt Gen Hubert R. Harmon is a largely forgotten figure, even here. I'd guess the average cadet knows little about the man other than that his name graces the building where the superintendent's office is located. My goal is to explain why our first superintendent was a great man and officer and why he was so vitally important to the Air Force Academy.

Harmon came from a military family. His father had graduated from West Point in 1880. Both of his older brothers graduated from Hudson High, and both of his sisters married West Point graduates. Hubert decided that he too wished for a career in uniform; he initially leaned towards the Naval Academy. Fortunately, he came to his senses before he could make such a disastrous mistake. Even so, getting into the Military Academy proved challenging.

In 1910 he received an appointment and reported to West Point. Only a week into basic training, however, he was summoned to the office of the superintendent. I'm sure you can all realize how surprising such a call must have been to a basic. The superintendent, Col Hugh Scott, held up a cadet roster and noted that there were two other cadets on it named Harmon: were they of any relation? Hubert proudly responded yes, they were his brothers. "In that case," said Scott, "you will have to leave; you can't expect the American taxpayers to pay the tuition for three boys from the same family."

Hubert was sent home. He was dumbfounded, and his father was outraged. He wrote the Army chief of staff asking him to overturn the superintendent's decision, but got nowhere. Soon after, his parents left for an assignment in the Philippines, so Hubert moved into a boarding house in Brooklyn. He told his story to his Irish landlady, who was the sympathetic sort. Family lore has it that she said they should talk to her husband, who was involved in local politics, to see what could be done. That night, while the master of the house was sitting in his favorite chair, Hubert told his story. The man was moved. He had friends. The next day he and Hubert were off to talk to the local ward boss. Hands were shook and drinks were drunk; Hubert was told not to worry. Sure enough, a few months later Harmon received a second appointment to the Military Academy. When he reported in June 1911 his oldest brother, Kenneth, had just graduated and Colonel Scott had moved on to a

*Harmon Memorial Lecture #52, 2010.

different assignment. The new superintendent asked no questions of Basic Cadet Harmon. He was in to stay.

Regarding West Point in 1911: The Military Academy had not kept up with the times. The military training program and academic curriculum were mired in the previous century. Military training consisted of a rigid caste system emphasizing excruciating attention to detail, endless drill, parades, and inspections. There was little discussion of tactics and even less of military strategy. Cadets were to be platoon leaders.

Academically, things were even worse. The curriculum was a single list of courses that all cadets took. There was no transfer credit for those who had attended civilian college. There was no validation credit for those intellectually ahead of their peers. There were no academic majors and no electives. Classes were held six days per week. The classroom environment consisted of rote learning with cadets "reciting" their lessons to the instructor. Math and engineering courses generally involved the entire period spent at the blackboard working problems. All cadets were graded every day; grades were compiled weekly and were then published for all to see. This happened for all four years. Outside observers complained that the curriculum was barely advanced over the high school level.

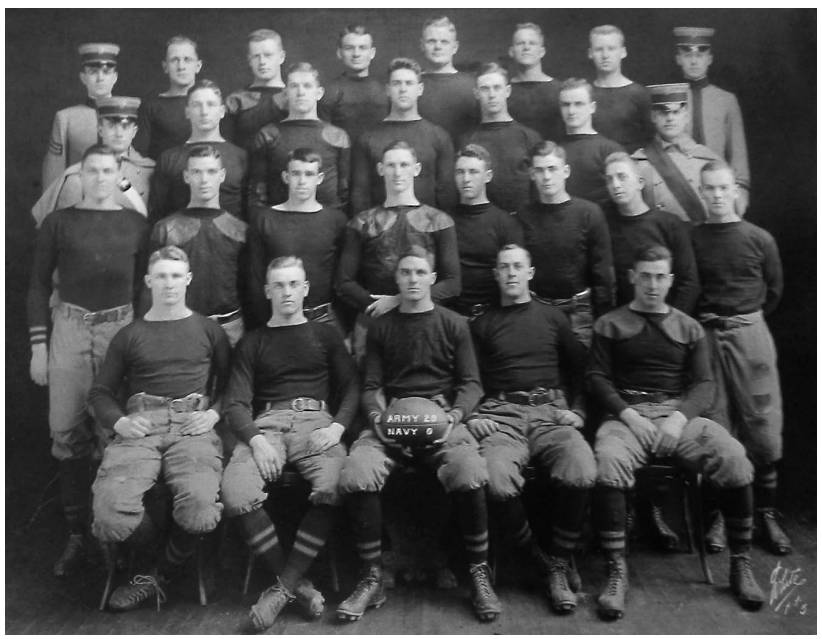
As for faculty, instructors were Army officers, and virtually all were Academy graduates with no additional schooling beyond what they had learned as cadets. Most of the texts were written by the department heads, and any changes to these texts had to be approved by the Secretary of War.

And yet this system, as out-of-date as it appears, worked. West Point provided the vast majority of senior commanders in America's wars, and these commanders included virtually all the senior commanders on both sides during the Civil War, John Pershing, Douglas MacArthur, George Patton, and a host of others. The first crop of leaders of the Army Air Forces and Air Force were also West Point grads: "Hap" Arnold, Hoyt Vandenberg, Nate Twining, and many others. Clearly, West Point was doing something right. Its emphasis on discipline, duty, obedience, and attention to detail had proved its worth.

To his dismay, Hubert was soon recognized as the younger brother of Millard Harmon. One of the typical hazing activities of the time was to have a plebe crawl around on all fours to the amusement of the upperclassmen while reciting a ditty: "Doodle Bug, Doodle Bug, your house is on fire!" Millard had been quite adept at this questionable skill and had earned the nickname of "Doodle." Hubert was tasked to see if he could do as well as his brother. Alas, the skill ran in the family, and he too was good at emulating insects; he was given the nickname of "Little Doodle." Over the years, Millard lost his and was always referred to by his colleagues as "Miff." Hubert would be called "Doodle" by his classmates and colleagues for the rest of his life.

Harmon did poorly in most subjects, save drawing. Militarily, he was always at the top of his class, or the bottom actually, in the number of demerits received. As a consequence, Doodle remained a cadet private and never attained cadet rank during his four years. In cadet parlance, he was a "clean sleeve"—he wore no stripes. Coincidentally, perhaps, I should note that the commander of the Army Air Forces during World War II and the only five-star airman in our history, "Hap" Arnold, was also a "clean sleeve" during his cadet career. The first chief of the independent Air Force, Gen Carl Spaatz, had also been a "clean sleeve" while at West Point. His successor, Hoyt Vandenberg, was—you guessed it—also a "clean sleeve." Harmon was in good company, although I'm not sure that should comfort us!

Like many cadets, Harmon escaped from the daily drudgery of the cadet experience through athletics. Despite his small size—he was barely 5'8" and 135 lbs.—he played football, baseball, hockey, and tennis. He was the backup quarterback on an outstanding, undefeated football team. The story is told that in one game he attempted a quarterback sneak on the goal line. He dove for the end zone but was grabbed in midair by a burly defensive lineman who simply held him there until the referee blew the whistle. He lettered in football, a feat for which he was extremely proud—there were only 14 members of his class who wore the Army "A" on their sweater.



Harmon (second row, far right) as a player on the West Point football team in 1914. Courtesy of USAFA McDermott Library SMS 325.

Harmon's class of 1915 was one of the most illustrious in Academy history, usually referred to as "the class that stars fell on" because so many eventually made general. The list included five-star generals Dwight Eisenhower and Omar Bradley—both of whom were football teammates and fellow lettermen; four-star generals James Van Fleet and Joseph McNarney; and seven other lieutenant generals, one of whom was Hubert Harmon.

I have spent some time on Harmon's time at West Point because I believe that the cadet experience, for all of us, is of tremendous importance in our lives.* The values we learn, the experiences we share, the friends we make, will to a great extent determine the course of our careers and lives. That was certainly the case with Hubert Harmon.

Class standing determined graduation assignments. Because Harmon graduated 103 out of 164, he had few options. He chose coastal artillery, largely because that had been his father's branch and because it was better than the infantry. He went to artillery school and then his first post, but he did not find it interesting. He then received a letter from Miff, who was in pilot training at the time. The letter advised his younger brother that he too should transfer to the only branch of the Army that had a future—the Air Service.

Hubert did transfer and won his wings in May 1917 as the US was set to enter the world war. To his chagrin, he was sent to Texas to work in training command. Miff went to France, and Hubert pestered him to pull strings to get him "over there" as well. Finally, in mid-1918 Hubert received orders for France; he was to be a "pursuiter"—a fighter pilot. On the troop ship over, however, Harmon contracted the flu and nearly died. He recovered, briefly, and then went down again a month later. His oldest brother, Ken, received a phone call in France telling him that his little brother was about to die, so he hurried to the hospital to be with Hubert at the end. Upon arriving he found his brother awake and alert: he wondered what Ken was doing there. Harmon was lucky. The influenza epidemic of 1918 was the worst plague in history, killing 675,000 Americans and at least 50 million people worldwide.

Today we grow concerned when H1N1 kills several hundred; in comparison, with today's population, the pandemic of 1918 would have killed 3 million Americans and perhaps 350 million worldwide. The numbers are staggering. Yes, Hubert Harmon was lucky, although he didn't think so. The near-death experience cost him the chance to fly combat, and he always regretted that.

Harmon remained in Europe for the next two years, spending one year in Germany in occupation duties and another year in London disposing of war surplus materials. London was eye-opening. He was impressed by the cultural

*The lecturer graduated from the USAF Academy in 1970.

breadth of Royal Air Force (RAF) officers. They could discuss not only military matters and airpower but could also converse about art, music, literature, and political affairs—subjects that Harmon had barely encountered while at West Point or in the Army. RAF officers were also great party-goers, and he recalled playing a game in the mess called "sink the ship"—what we would term "buck, buck." He would remember this tour.

He returned to Washington in late 1920 to serve as an executive officer to the chief of the Air Service. This was an important position, giving him an education in organization, administration, finances, maintenance and supply, doctrine, and of course, operations. His office was situated between those of Maj Gen Mason Patrick, the Air Service chief, and that of Billy Mitchell. Harmon must have gotten an earful.

Later he became deputy head of the Information Division. This pivotal division has no real counterpart today; in the 1920s, it combined the activities of intelligence, public affairs, and legislative liaison. Harmon's boss was "Hap" Arnold. Major Harmon learned a great deal and in 1925 even testified for the defense at the court-martial of Billy Mitchell.

The most important aspect of Harmon's six years in Washington involved the pursuit of his greatest challenge. Her name was Rosa-Maye Kendrick. Rosa-Maye was beautiful, witty, intelligent, cultured, a bit of a tomboy, and the daughter of the US senator from Wyoming, John B. Kendrick.

Doodle chased that girl for five years before she finally caught him. He wrote her poetry. He sent countless letters telling her how much he adored her. When she would go back to the family ranch in Wyoming each summer and at Christmas, he was distraught. His frequent letters often included little drawings. It was very romantic. Harmon flew out to see her each year, ostensibly on official business, but on one occasion, there was a mishap: he attempted to take off from Sheridan too heavily loaded and ended up plowing through a fence. The plane was totaled, but Harmon was uninjured. He, and the remains of the aircraft, returned to Washington by train.

Despite Harmon's countless marriage proposals, Rosa-Maye put him off. This changed in January 1927 when Hubert told her he had orders for overseas—he was going to the Philippines. Would she accompany him as his wife? Rosa-Maye immediately burst into tears and refused to answer. Three days later, Hubert admitted he had been pulling her leg: yes, he was going overseas, but it was as the air attaché to London. Did that make a difference?

They were married a month later. The wedding was a major Washington social event given the prestige of Senator Kendrick. Guests included the president and Mrs. Harding, vice president and Mrs. Dawes, secretary and Mrs. Hoover, and assorted senators, congressmen, and generals. A week later, the newlyweds were on their way to London. This was an important tour for Har-

mon because once again he was exposed to the Royal Air Force officer corps that had so impressed him earlier. He remained struck by their educational breadth and worldview. He liked the way the RAF educated its officers.

After three years, the Harmons returned to the States and a tour at West Point. Major Harmon was a battalion tactical officer—what we would call a group AOC.* He saw the Academy from a different perspective but noted how little had changed in either the curriculum or the military training system. This stood in stark contrast to what he had just seen in Britain. Perhaps the most important part of this tour was the birth of daughter Eula, who soon became the apple of her father's eye.

Back to school. The Harmons spent the next year at Maxwell Field at the Air Corps Tactical School. This was the golden age of the "Tac School," when the theories of strategic bombardment and the "industrial web" were being spun by a faculty of young and eager airpower advocates. From there, the Harmons went to Fort Leavenworth for the Command and General Staff School, then a two-year program. This prolonged emphasis on tactical land warfare, so different from the broad, visionary thinking he had experienced at the Tactical School, was a drudge. Harmon therefore focused on other matters. I came across this notation in his medical records: "wound, contused, moderately severe, dorsal surface, right foot; accidentally incurred while playing golf, when hit on foot by golf ball knocked by another player." The price of freedom doesn't come cheap. In addition, in 1934 Kendrick was born. The two would become close friends as well as father and son.

In the summer of 1935 Lieutenant Colonel Harmon returned to operations. He was posted to the 1st Wing at March Field in California, where he would serve as the wing exec under the commander, Hap Arnold. After a year on staff, he became the commander of the 19th Bomb Group. Then it was back to school again, this time to the Army War College.

The War College was pitched at a higher plane than the Staff School, and here Harmon learned the intricacies of war planning, mobilization, and industrial-base issues. It was a good year, and he was then posted to the War Department General Staff. After two years Colonel Harmon returned to the Air Corps and was sent to San Antonio, Texas, as the Kelly Field base commander. His immediate boss was his brother Miff. After a year, Hubert received his first star and became the commander of the entire Gulf Coast Training Center, one of three major training commands that trained the hundreds of thousands of crewmembers needed for the war effort.

*Air Officer Commanding, the commissioned officer that commands a cadet squadron at the Air Force Academy.

But Harmon was eager to go to war—recall that influenza had kept him out of combat in the First World War. In November 1942, he got his wish, as upon receiving a second star he was sent to the Panama Canal Zone to command the Sixth Air Force. The Canal was a crucial strategic asset to the US, allowing the fleet to travel between the two oceans and fight a world war against Germany and Japan. As it turned out, however, the enemy was never able to seriously threaten the Canal. Instead, the main threat was the German U-boats, but they had been driven east beyond Trinidad by the time Harmon arrived. He chafed at being in a backwater theater and pushed Washington for a transfer. He got his wish and in November 1943 was sent to the Solomons to take command of the Thirteenth Air Force. His boss would again be Miff, who was the commander of US Army forces in the South Pacific.

Harmon's timing remained bad. He arrived in the Solomons when the battle for Guadalcanal was over and the entire island chain was falling into Allied hands. It was soon apparent that the war was moving west into the Southwest Pacific Area under Gen Douglas MacArthur and north into the Central Pacific under Admiral Chester Nimitz. As a result, the Thirteenth was moved to the Southwest Pacific, but Harmon did not accompany it. The air commander there was Gen George Kenney, and although he had known Harmon for years, the two were not close. Kenney told Arnold he wanted a new commander. Harmon was sent home after only six months in theater. This was a bitter disappointment for him—the biggest setback of his career. He had thirsted for a combat command and upon receiving one thought he had done a good job, but others thought differently.

It was typical of Harmon's character that when given a lemon he made lemonade. Returning to Washington for a staff job, he threw himself into his work. Arnold directed him to form a new command, the Personnel Distribution Command, whose mission was to handle the hundreds of thousands of men and women going overseas, returning from overseas, being retrained or reclassified, or in convalescence. Harmon crisscrossed the country setting up scores of new facilities to handle the flood of personnel. As the war wound down in Europe, this flood increased. Harmon was one of the busiest men in the Army Air Forces by the middle of 1945.

When the war ended, Harmon considered retiring—like many he was tired of the long hours and separation from family. He was persuaded by old friend Ira Eaker, then Arnold's deputy, to hang in there. In 1946 Harmon was reassigned to Panama, largely the job he had held in 1942. But he knew this was just temporary, and in early 1948, Harmon was promoted to lieutenant general and posted to New York City. He was to be the US air representative to the United Nations.

He thought it would be a significant job. The new UN was slated to have major military forces at its disposal. Harmon's job as a member of the Military Staff Committee was to advise the UN leadership on air matters. As it turned out, the wartime allies—the US and the Soviet Union—soon fell out and could agree on almost nothing. The UN's military forces were never established because the Soviets and the West could not agree on their size, composition, location, or function. Harmon had been steered into a dead-end job.

After months of meetings that went nowhere, he approached the Joint Staff in Washington and said he was willing to do any tasks that they might have in the offing—anything to keep him busy. He was soon given a greater challenge than he had bargained for.

In 1949 the defense budget was being severely cut, and as often happens at such times, the military services began squabbling among themselves. The main conflict in this instance was between the Navy and the Air Force. The Navy wanted to build aircraft "supercarriers" that could house multi-engine bombers capable of delivering atomic weapons. The Air Force objected.

Strategic bombing was its mission, and it wanted more heavy bombers, B-36s, to accomplish that mission. Charges flew back and forth, ultimately resulting in congressional hearings and the firing of several high-ranking Navy officers. While this drama was playing out, the Joint Staff decided to look more deeply into an underlying premise. The issue was the US war plan that envisioned an atomic air offensive conducted by the Air Force. Could the Airmen carry out this mission? The Joint Chiefs appointed a special board, chaired by Lieutenant General Hubert Harmon, to look into it.

Harmon's board consisted of himself and four other high-ranking officers, two each from the Navy and Army. After two months of study, the board released a top-secret report that concluded the Air Force could carry out its mission as planned, but this would not defeat the Soviet Union. In fact, Harmon's team concluded that although massive damage would occur to Soviet industry and armed forces, they would still overrun most of Europe; moreover, the atomic strikes would confirm Soviet propaganda and perhaps even strengthen the resolve of the Soviet populace. This was not what the Air Force wanted to hear, and the chief of staff, Gen Hoyt Vandenberg, was livid. He insisted that the report be changed. Although under great pressure, Harmon refused to budge and the report stood.

The significance of this incident becomes apparent in December 1949. Vandenberg was grappling with the issue of a new Air Force Academy. It was a subject that had already consumed much of his time and that of his staff: What should be its mission? Should it be four years like West Point and Annapolis or a two-year finishing school? What about the curriculum and who should teach it? Where would it be located? And more practically, how

would legislation establishing and funding an academy be steered through Congress?

Vandenberg needed a senior officer to manage such affairs, someone with political astuteness and administrative experience, someone who had a demonstrated ability to plan and stand up a large organization from scratch, someone of unquestioned integrity who would not be swayed by the political currents that would swirl around all decisions regarding an academy. He turned to the man who had defied him a few months earlier: Hubert Harmon. This decision speaks eloquently and deeply regarding leadership, followership, and integrity regarding both men.

Let me now say a few words about Harmon the man. In stature, Harmon was slight, around 5'8" and 135 pounds. He had hazel eyes and thinning gray hair. He smiled often. He smoked prodigiously, even after being diagnosed with the lung cancer in 1956 that would soon result in his death. Harmon enjoyed a scotch and water and drank an occasional beer—usually after a round of golf or while watching a football game. He was never known to drink in excess.

Rosa-Maye was the only woman in his life. Throughout their marriage, he remained devoted to her. She was always more serious than her husband, but they filled each other's gaps. Rosa-Maye and Hubert remained each other's best friend throughout life.

As a father, Hubert was attentive and affectionate. He loved to play with his kids, take them to the park, talk to them, and read to them at night. He taught Kendrick to play chess, which they did often. Eula was his princess, and he always had enormous affection for her.

He remained a devoted Army football fan, but his great love was golf. He was good but not outstanding. While Academy superintendent, he golfed with Ben Hogan, Omar Bradley, Governor Dan Thornton, Air Force Secretary Harold Talbott, President Eisenhower, and many others. To be Harmon's aide, an officer had to be an accomplished golfer and card player. He was a good poker player and sometimes played for high stakes. During one session at the Army-Navy Club, he won enough to buy a new Cadillac.

He liked dogs but not cats. His reading tended towards the likes of Mark Twain, Rudyard Kipling, or Jack London. He enjoyed happy movies, especially when they starred classy ladies. As for music, he preferred classical.

Hubert's most enjoyable and rewarding hobby was carpentry, and he spent many evenings tinkering in his workshop. He much enjoyed making a chair or table for friends and family. He continued to doodle, and his many drawings, often humorous, are scattered throughout his papers and letters.

He remained a plainspoken man. He was honest, forthright, and candid. He was a man of rigid integrity—he didn't even cheat on his golf scores! If you

asked him for his opinion, you would get it, unvarnished. Yet, it was this simplicity of spirit that was so appealing.

As a boss, he was a dream. His longtime driver commented, "I didn't work for him. He treated me like one of the family." One aide later said, "I always felt that he could do anything, and the reason he could do it was that people worked for him and didn't work because they were scared of him." He never yelled and seldom even got angry. On those occasions when it was necessary to discipline a subordinate, he would seek humorous ways to soften a blow. For example, Harmon's aide, Capt Tom Curtis, was a good fighter pilot but a poor organizer. On one occasion, the two were headed for the flight line to catch a plane, and Harmon asked, "Tommy, did you get the flight lunches?" "Oh geez, general, I forgot!" Harmon then reached behind the seat and brought out the boxes, showed them to Curtis, and said, "Tommy, I'm the best aide you've ever had."

All of Harmon's talents at interpersonal skills, diplomacy, ingenuity, and doggedness would be required for his duties as Vandenberg's special assistant for air academy matters. Neither man anticipated how difficult and lengthy it would be to establish an Academy. It would be five years before Harmon could push the required legislation through a recalcitrant Congress, find a suitable site and architect to build the facilities, hire the faculty and staff, and design a first-rate curriculum, military organization, and athletic program.

Why did it take so long? There were several reasons. First, President Harry Truman was not a supporter of a new air academy. The reasons for this are unclear. He had been a National Guard officer in the First World War, so perhaps he thought citizen-soldiers were adequate to fight America's wars. Perhaps the nasty and public fights between the services, and his even more public fight with Gen Douglas MacArthur during the Korean War, had soured him on service academy graduates. Perhaps he just thought a new academy was too expensive.

It should also be noted that the other services were not overly supportive of a new academy either, and their concurrence was necessary for Congressional approval. They feared a dilution of their own influence in Congress and a drain on their funding. And, of course, the ongoing fights between the Air Force and the Navy over bombers and carriers referred to earlier did not leave the sea service inclined to help the airmen.

More specifically, there were unforeseen events that periodically cropped up to block Harmon's plans. In June 1950, the Korean War broke out, catching America totally by surprise. By the end of that year, the massive Chinese intervention set the US back on its heels. Congress told the Air Force this was no time to be distracted by an Academy that it deemed of low priority. In 1951, the war situation had stabilized, but then a massive cheating scandal

occurred at West Point and 90 cadets were expelled. This incident and its adverse publicity put Congress in no mood to discuss a new academy.

The following year the scandal had faded from memory, but 1952 was an election year and members of Congress were concerned with how academy legislation would play in their states and districts. Both parties were reluctant to take action until the smoke cleared. As anticipated, the Republicans won in 1952, and Dwight Eisenhower would be the new president. In 1949, he had co-chaired a board for the Secretary of Defense that had looked at the need for military academies in general and a new Air Force Academy in particular. He came down strongly for both. It was therefore expected by Harmon and the Air Force that things would now move quickly towards the required legislation.

They did not. The new administration had a necessary period of coming up to speed, as did Republican leaders in both the House and Senate—after all, they had been out of power for 20 years. An Air Academy was not at the top of their priority list.

During this period Harmon retired from active duty—twice. Although he had hoped to see the Academy through to completion, the interminable delays caused him to retire in February 1953. He was immediately recalled to duty in anticipation of good news from Congress, but when this was not forthcoming, he retired again in June and moved to San Antonio. Finally, with a strong push from President Eisenhower, Congress acted. In anticipation of legislative passage, the president himself recalled his old friend, classmate, and football teammate to active duty in November 1953. This time the stars were indeed aligned. Congressional hearings were held in early 1954, and in April legislation establishing the United States Air Force Academy was signed by President Eisenhower. Hubert Harmon was named the first superintendent.

President Dwight Eisenhower (seated) shakes hands with Secretary of the Air Force Harold Talbott, 1 April 1954, after signing legislation authorizing the establishment of the US Air Force Academy. Looking on (from left) are Congressman Carl Vinson, of Georgia; Gen Nathan Twining, Air Force chief of staff; Congressman Dewey Short, chairman of the House Armed Services Committee; James Douglas, undersecretary of the Air Force, and Lt Gen Hubert Harmon, special assistant for the Academy. Courtesy US Air Force Academy.

Hubert Harmon was the ideal man for the great challenge given to him. He was the perfect choice to fight the agonizingly long journey from conception to ful-

fillment of the Academy. This was so for several reasons. Harmon was a gifted organizer and administrator. From early in his career, it was obvious that his strength lay in staff work. He was conscientious, dedicated, tireless, and meticulous. He knew how to budget his time and prioritize so as to get the important things done first. As he advanced in rank, his duties became more complex and demanding, but he continued to excel.

Second, Harmon was a master of personal relations, and this was not an affectation. He genuinely liked people and their company. He cared. He listened. He killed people with kindness. Everyone loved him.

Third, Harmon was intellectually inclined to establish and run the Academy. He had spent nine years as a student at the college level, with three more in educational administration and five years in a training environment. He knew what a quality education entailed and what was required to make it work. He understood what motivated students and how they learned. He recognized the requirement for well-qualified teachers and administrators.

In addition, his four years as Vandenberg's special assistant made him the unquestioned expert on the subject of an academy. He had the time to think through all aspects of an air academy in great depth—its curriculum, disciplinary system, organization, location, personnel requirements, and construction. He was able to dwell on details.

Fourth, Harmon understood the political environment in which he had to work. His education began with staff experience in Washington from 1921 to 1927, where he worked closely with Congress. And then of course there was his marriage to Rosa-Maye and the association with her father, Senator John Kendrick. Harmon's political education was further advanced by tours in London, command in Texas that involved a great deal of interaction with local politicians, and his tours in Panama and at the United Nations. All of these assignments gave him a deepening appreciation for the intricacies and complications of the political process.

Once the Academy was authorized, Harmon's warm relations with President Eisenhower became a factor. This closeness was a function of their having been West Point classmates and teammates. By 1954, there were slightly over 100 men left from the Class of 1915; they had been through three major wars together and had endured the long peace between the world wars when the military was neglected. These men knew each other and, in most cases, liked and respected one another. The president's support for Harmon, and by extension the Academy, was known and understood by all.

Fifth, Harmon succeeded with the Academy simply because he loved it. He loved the idea of an academy, and, most importantly, he loved cadets.

Let me now turn to the challenges that General Harmon faced as the first Academy superintendent—challenges that have continued to echo down

through the years and that have been endemic to the Academy experience. The first of these concerns the curriculum. From early in his career Harmon doubted the utility and focus of the West Point curriculum. He was not enthused by academics as a cadet—except for drawing—and his grades showed it. But this dissatisfaction was not realized until his tour in London in 1920. His assignment on the Air Staff further alerted him to the broadness of the issues confronting the Air Corps. It was during this period that Harmon attended night school at George Washington University, taking courses in journalism, architecture, and the arts. He even contemplated resigning his commission and becoming an architect.

Although he changed his mind, seeds were planted. As an aside, when the Academy was being built, Harmon took a deep interest in its architecture and made numerous suggestions to the builders. Indeed, the beautiful spiral staircases in the library, Mitchell Hall, and Arnold Hall were due to his insistence—he wanted some relief from the relentless lines, angles, and rectangles of the buildings in the Cadet Area.

Also influencing Harmon were his experiences in WWII when he served in San Antonio and Panama. Both tours were marked more by the need for political smoothness than operational ability. His return to Panama after the war, when US-Panamanian issues were tense, reinforced his diplomatic skills.

In sum, Harmon's entire career had convinced him that military officers needed a broad education. He wanted greater interest on the social sciences and humanities. West Point and Annapolis were heavily focused on math, science, and engineering. To Harmon, this was outdated and did not adequately prepare air officers for the strategic thinking necessary for a world power. He got his wish. The curriculum in 1955 consisted of 53 percent math and sciences and 47 percent humanities and social sciences.

At the same time, Harmon was intrigued by the idea of a faculty composed of military and civilian instructors. This too was controversial at the time—and indeed still is. West Point had an all-military faculty, and the first vice dean, Col Robert F. McDermott, himself a West Point graduate who had taught in its social sciences department, maintained that an all-military faculty was essential for the Air Force Academy. He argued that a civilian would only be able to teach the academic lesson of that day; an officer could teach that but also serve as a professional role model. Harmon continued to pitch for having some civilian instructors, but he lost this battle. His faculty and staff were almost unanimously opposed to civilians, and when the Academy opened, its faculty consisted totally of Air Force officers.

These have been subjects that have resonated throughout the years here. The large core curriculum consisting of a balanced mix of academic disciplines has remained basic at the Academy to this day—although the exact

definition of *balance* is in the eyes of the beholder. As for civilians on the faculty, the Academy held to this policy for nearly four decades. These debates continue and probably always will.

The second major issue that Harmon grappled with was the Cadet Honor Code. Harmon had lived with such a code as a cadet, but things were far different then. There was no Cadet Honor Committee; indeed, there was not even a written statement of an honor code, although cadets nonetheless understood. Harmon later commented that things were simple back in 1915: if a cadet was viewed as having overstepped the bounds, a group of his peers would get together and discuss it with him. If the group decided the man had violated his honor, he was told to leave. In Harmon's words, "We took up a collection, gave the guy a hundred bucks, and told him to beat it."

In the 1920s, the Military Academy adopted an honor code that was run by the cadets, and Harmon saw this system in action when he served as a battalion "tac" in the 1930s. Harmon himself chose the wording for the proposed Air Force Academy Code: "We will not lie, steal, or cheat nor tolerate among us anyone who does." He did not want to impose the Code upon the cadets; rather, he hoped that after receiving instruction on the concepts of honor and integrity and how they relate to an Air Force career, they would accept it voluntarily.

The first step was to educate the faculty and staff, many of whom were not academy graduates and were thus unfamiliar with its strictness. The "toleration clause" caused concern, and it was feared that it would trouble new cadets as well. Many youngsters were taught they should not "rat out" their friends or siblings, but the toleration clause required cadets to do precisely that: to inform on friends they saw committing an honor violation. Many questioned whether such a principle was viable.

To Harmon, the toleration clause was the heart of the Honor Code. It made the Code self-policing and countered the "us versus them" syndrome—officers as enforcers policing cadets who would then close ranks and protect each other. Harmon recognized this would be the most difficult idea for cadets to grasp.

Harmon introduced the Honor Code to the new cadets during their basic training. He has been seen as the "driving force" behind the Code, but he did not have to drive very hard: the first cadet class voted to accept the Honor Code in September 1955—just as they were beginning their academic classes.

Problems quickly developed, however, over the scope of the honor system and how much it governed cadet activities. In short, would the Code be used to enforce regulations? Harmon was leery of this and quoted Mark Twain to underline his concern: "Honesty is our most cherished possession and we should use it sparingly." By this Harmon meant that the purpose of the Honor

Code was to shape and influence a cadet's behavior—to make him want to live an honorable life. The Code should not exist for "easing the authorities' administrative or policing responsibilities."

But this was indeed a problem. A concept inherited from West Point called the "Five Points" concerned five serious infractions: drinking, gambling, narcotics, hazing, and limits. Our Academy adopted this rule, which stated that when a cadet signed in from an off-duty privilege, he was testifying by his signature that he had not violated any of the rules regarding the Five Points. Cadets found this unfair, especially regarding drinking. It happened. To tie a cadet's honor while on a legitimate off-duty privilege to whether or not, in the privacy of a hotel room, he drank a few beers was unfair. If a cadet were caught in a bar, then he should be punished accordingly—in the military sphere for violating regulations. Such activities should in no way be considered an honor violation. This provision was eventually removed from the Honor Code, but not until 1960—after the first class had graduated.

Another controversial issue was "discretion." Two philosophical questions surrounding the Code concerned the severity of an offense and the severity of punishment. Most criminal or religious codes distinguish between felonies and misdemeanors, between mortal and venial sins. The Honor Code did not: all lies, cheats, and steals were of equal weight. Similarly, the punishment for all transgressions was the same—disenrollment. Thus, a black-and-white standard was imposed on a decidedly gray world. West Point came to believe this was out of balance, and during the 1950s, cadets there began considering such factors as age of the violator, severity of the offense, mitigating circumstances, and whether the offense was self-reported. In some cases, the Honor Committee would give a cadet a second chance—he would be given "discretion." This policy was formalized at West Point in 1959. It would provoke controversy and vigorous debate at the Air Force Academy as well but would not be incorporated into our Code for another decade.

In sum, the Cadet Honor Code was one of the new Academy's most distinctive and unique features. Yet, time would reveal that some of the systemic problems already noted—the Code's black-and-white nature regarding degrees of *dishonor* and the severity of punishment, and the issues of toleration, discretion, and the enforcement of regulations—would be oft-debated in the years ahead.

A third challenge facing Hubert Harmon concerned athletics. All wanted the Air Force Academy to have intercollegiate teams, but there was disagreement over the balance between having teams that could compete on the national level with the emphasis on a challenging academic curriculum that would be recognized as the hallmarks of a first-rate university.

Cadets then were graded on a daily basis and their grades accumulated and were published each week. Those on academic probation were prohibited from engaging in intercollegiate athletics until their grades improved. The athletic director, Col Robert Whitlow, became much exercised over this policy when he saw his teams being devastated by poor grades. He noted that as of 28 September there were already 79 cadets academically deficient—over one-quarter of the Cadet Wing. Worse, over 80 percent of them were athletes.

Wrote Whitlow: "I can't believe a man is automatically less bright merely because he wants to play a sport. We need to demonstrate to team members that they can participate without being at such a tremendous disadvantage in study time with respect to their classmates." The workload had to be reduced.

The dean, Brig Gen Don Zimmerman, offered little relief: an athlete at any institution was always at an academic disadvantage relative to his classmates—"it is the price he pays for fame." There would be no let up. I would note that Zimmerman had lettered in three sports at West Point, so he understood the problem.

The issue of cadet academic workload was one of several involving Colonel Whitlow. There would soon be missteps that would lead to his removal. It's useful to review the background regarding his selection.

Harmon heard a briefing given by Whitlow in 1950 in which he had argued, "In the current US national outlook, an educational institution primarily contacts the US public not by means of its superior educational program, but by means of its athletic representatives and resulting comment in the sports pages of the nation's newspapers." He noted that Annapolis, which played a tough schedule, received "nothing but praise" for its athletic prowess, whereas, West Point "is treated with decided coolness on all sides for its pantywaist schedule." Whitlow wanted the air academy to play serious football; his ideal schedule would include every year powerhouses like Alabama, Michigan, Southern Cal, Notre Dame, and, of course, Army and Navy. This study sold Whitlow to Harmon: he liked his enthusiasm.

Upon arriving at Lowry AFB, Whitlow was a bit more enthusiastic than was appropriate.* He sent a letter to ROTC programs around the country hoping to stir up interest in the Air Force Academy among prospective athletes. One line caught the attention of several: "The national reputation of an educational institution is rarely determined by academic achievement, but by athletic victories which are highlighted in the public eye by the newspapers, radio, and television." This was the same point he had made in his Air Staff briefing in 1950, but now it rang a discordant note. The president of Kansas

*Lowry Air Force Base, in Denver, Colorado, was the temporary site of the Air Force Academy while the main campus north of Colorado Springs was under construction.

State University sent a strongly worded complaint to Harmon, who responded that such a belief was "certainly out of line with our policy." Whitlow was forced to retract his statement.

Whitlow persisted in his aggressive posture, arguing that "unless the Air Force Academy is to be relegated to the stature of the Coast Guard Academy in the eyes of its officers and the general public, the Air Force must move rapidly to have teams capable of competing successfully with the two older services." To assist in grooming athletic prospects, funds from the Academy's Athletic Association were used to set up a program at the New Mexico Military Institute for the purpose of boosting test scores for athletes so they could get into the Academy. As Whitlow phrased it: "New Mexico is where I put boys who needed a few more smarts."

Harmon's stance on all of this was, frankly, subject to misinterpretation. For example, he wrote that "if we play down athletics and make it appear that a coming star will have no chance to glitter in our firmament we will surely fail to attract to our Academy many young men of the type we desire." He then added, "No discrimination was to be made for or against a young man simply because he was an athlete."

There was a razor-thin line in Harmon's reasoning: he wanted quality athletes to choose the Academy, not only because he wanted respectable athletic teams but also because his own experiences convinced him that athletics nurtured qualities that were highly desirable for future officers. His career had taught him this—recall that his most illustrious classmates were fellow athletes Dwight Eisenhower and Omar Bradley. On the other hand, he was reluctant to distort the cadet selection process in favor of athletes.

In 1957, the Air Force Inspector General conducted an investigation of the Athletic Department. It faulted Whitlow for his entire attitude towards athletics at the Academy. Its report stressed that "national standing of the teams will be of secondary importance." The IG also condemned Whitlow's "cooperative program" in New Mexico. The report concluded emphatically, "Considerations of athletic capabilities will not be permitted to compromise an impartial cadet selection and appointment procedure." Whitlow was fired.

The Academy football team of 1958–59—the first that included seniors—went undefeated and earned a Cotton Bowl berth, raising eyebrows around the country. This entire issue of the role of athletics at the Academy would, like the matters of curriculum and the Honor Code, continue to reappear over the next 50 years. Were athletics, especially intercollegiate football, overemphasized? The honor scandals of 1965 and 1967 largely involved athletes, and many have blamed the scandals on such an overemphasis. This is a multifaceted question that deserves greater exploration.

The final challenge facing Hubert Harmon, and indeed every officer and cadet that has been associated with the Academy ever since, concerns its mission. As early as August 1948—before he was formally associated with the Academy, Harmon wrote that the first and most important goal regarding an academy must be the articulation of its mission statement: "upon this all other plans and decisions depend." As superintendent, he focused on this matter. The mission statement he devised will sound familiar to all of you; it is not dramatically different from the Academy's mission statement today:

> The mission of the United States Air Force Academy is to provide instruction, experience, and motivation to each cadet so that he will graduate with the qualities of leadership and knowledge required of an officer in the United States Air Force, and with a basis for continued development throughout a lifetime of service to his country, leading to readiness for responsibilities as a future air commander.

This is important. These words are important, but too often we memorize them without internalizing them—without thinking about what they really mean. Too often we interpret the mission within the narrow confines of our own organization: as faculty members we judge success on how well we fulfill our academic responsibilities; as AOCs we view victory in terms of our duties as military trainers or airmanship instructors; as coaches we measure progress by team records. Yes, all of these are valid measures of merit, but for the Academy to be successful, much more is necessary. Bluntly, the success of the Air Force Academy must be measured by its ability to produce military commanders, specifically, combat commanders. That is why we exist, and we must never forget that simple truth. Harmon understood that, and indeed, so did his entire generation—they had fought three major wars. Leadership had been the key to victory then and would be in the future. As a consequence of this fundamental priority, everything the Academy does, everything we do as members of the Academy community, must be focused on fulfilling that primary mission of producing military leaders.

When the first cadets arrived at Lowry AFB, Harmon was already 63 years old—an age when most men are already grandfathers. He looked the part. It is therefore understandable that he was seen as a warm and paternal figure to cadets, and this warmth was reciprocated. He drew strength and energy from his association with cadets. It was not unusual for him to leave his office and walk outside between classes, just so that he might meet and talk to the cadets. A wonderful story that epitomizes the relationship between Harmon and these young men was later recalled by his wife.

One evening the general returned home from work, and Rosa-Maye noticed the smile on his face and that he was in an unusually upbeat mood. She asked him why. Harmon responded that when he left the office and stepped out onto the sidewalk he encountered two cadets who were passing by. Upon

seeing him, they snapped to attention, saluted smartly, smiled, and exclaimed, "Hi, General Harmon!" It made his day. It summed his life.

The combination of respect and affection this incident reveals says much about Harmon and his impact on the Academy and its personnel. Hubert Harmon, the Father of the Air Force Academy, was the ideal man for the job.

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Eisenhower Rising

The Ascent of an Uncommon Man*

Rick Atkinson

Good evening. There have been 54 Harmon lecturers before me, but none were more humbly appreciative of the opportunity to speak to you than I am. The first Harmon Lecture in 1959 was delivered by Wesley Frank Craven, a distinguished academic who, as some of you know, was the lead author in the seven-volume official history of the US Army Air Forces in World War II. Professor Craven titled his talk, "Why Military History?"† I don't know that I can answer that question better than he did more than half a century ago, but I would suggest that any inquiry into the past will quickly wander into the province of military history. The scholar Will Durant once calculated that in three and a half millennia of recorded history there have only been 268 years during which there was not a war in progress, somewhere. Not one of those 268 years has unfolded during the lifetime of anyone in this room or on this planet. War is the warp if not also the woof of our society, our culture, and our political existence; to understand who we are and how we got here, you have to know something about war.

I'm not a theorist of historiography or an academic intellectual. I'm a narrative writer who accepts and, in fact, embraces the ground rules of academic rigor. For writers of my ilk, history is best understood, and certainly best conveyed, by narrative—by storytelling: even as we ponder the past intellectually, we can also respond to it viscerally, through history illuminated by emotion. As a narrative historian, I am drawn to characters, much as a novelist would be, except that I cannot fabricate mine. And in truth many of the figures I am privileged to write about—both those still famous and those now obscure—are beyond the creative power of any novelist to invent.

We can all profit by knowing something about singular characters who have gone before us; we learn from their successes and failures, draw inspiration from their achievements, or find cautionary tales in their stumbles, professional and personal. For those of you committed to the profession of arms, and perhaps especially to those of you who will soon be commissioned as military officers, this pillaging of past lives can be especially rewarding. Not

*Harmon Memorial Lecture #55, 2013.

†Harry R. Borowski, *The Harmon Memorial Lectures in Military History, 1959–1987: A Collection of the First Thirty Harmon Lectures Given at the United States Air Force Academy* (Washington, DC: Office of Air Force History, 1988), 9–23.

least, it can assure you that however dire your predicament, others have faced worse; however heavy your burden, others have carried more.

Gen Dwight D. Eisenhower gives the order of the day, "Full victory—nothing else," to paratroopers in England, just before they board their airplanes to participate in the first assault in the invasion of the continent of Europe, 5 June 1944. Courtesy of National Archives (no. 531217).

Tonight I'll talk for a few minutes about one of those figures you certainly have heard of—Dwight David Eisenhower. I'm going to dwell very little on his biography—go read the Wikipedia entry if you want to review his career chronologically. Rather let's try to isolate some of the characteristics that made him a successful general, a war-winning general, and a character who, though he's been dead for more than 40 years, seems to have relevance for us today, even if you're not a general officer. A reader once wrote to me and said that studying Eisenhower's life "gives hope to those of us who are still a work in progress."

First, let's acknowledge the trait Napoleon most prized in his generals: luck. George S. Patton secretly grumbled that the initial's "D.D." stood not for Dwight David but "Divine Destiny." If our man had been born Manfred Wilhelm Eisenhauer in Düsseldorf in October 1890, instead of Ike Eisenhower in Texas, it's likely that even had he followed a military calling his career would have been considerably less illustrious. As it was, Eisenhower served as a major for 16 years in that sad, ignored interwar US Army. He thereafter ascended from lieutenant colonel to five-star in 42 months, an average of six months between promotions.

He arrived at his first field command, in the caves of Gibraltar in November 1942, on the eve of the invasion of North Africa, having never commanded

even a platoon in combat; now suddenly he's a theater commander. Think of it: virtually every lieutenant colonel in the Army today has more combat experience than Lieutenant General Eisenhower had in 1942, and there are captains today who have more combat experience than Eisenhower ever accumulated. But of course combat command experience was rare in the Army in the early months of World War II; those who'd gained a bit of it in World War I, and who were still in the Army in 1942, had been mostly quite junior in 1917 or 1918.

Not a single officer on duty at the time of Pearl Harbor had commanded a unit as large as a division in World War I; what mattered more was to have punched your ticket in the Army's education system, and Eisenhower, who'd been a rather indifferent cadet at West Point—which incidentally he attended not because he wanted to be Napoleon but because it was free—graduated first in his Leavenworth class. He read widely and pondered what he read; he'd concluded shortly after the First World War that a second was inevitable; his friends called him Alarmist Ike. And he served for six years between the wars—in Washington and in the Philippines—on the staff of that American Machiavelli, Douglas MacArthur. Theirs was a very complex relationship; at the end of their tenure together they were barely on speaking terms. At one point Eisenhower asked, "How did that damned fool ever become a general?" Some of you in the future may wonder which iron major is asking that about you.

What is the context for his ascent? The Army of 1939 numbered just 190,000, with only 15,000 officers, and that of course included the Army Air Forces. The average age of majors was 48; in the National Guard, nearly one-quarter of first lieutenants was over 40. That Army would grow to 8.3 million, a 44-fold increase, within five years. By the fall of 1944, there will be 1,300 general officers.

The American Army that Eisenhower led in the Mediterranean Theater had such shaky senior leadership that three of the first five corps commanders in combat against the Germans were relieved and sent home: Lloyd Fredendall in Tunisia, Ernest Dawley at Salerno, John Lucas at Anzio. Eisenhower, in January 1943, even before the Kasserine Pass debacle in Tunisia, believed he was going to be relieved. His aide, Harry Butcher, wrote, "His neck is in a noose and he knows it"; Patton talked to him late one night during the strategy conference at Casablanca, in late January 1943, and then wrote in his diary that Eisenhower "thinks his thread is about to be cut." When things were darkest during the Battle of Kasserine Pass, Eisenhower wrote to his son, John: "It is possible that a necessity might arise for my relief and consequent demotion. . . . It will not break my heart and it should not cause you any mental

anguish. . . . Modern war is a very complicated business and governments are forced to treat individuals as pawns."

So how did he evolve, grow, succeed? The American Army as a whole in the first couple years of World War II was going through a great sifting out, from platoon leaders to corps commanders, of the capable from the incapable, the physically and mentally fit from the unfit, of the lucky from the unlucky. Eisenhower sifted to the top. Why is that?

Let's also acknowledge what he was not. He was not a particularly good field marshal; he was not a Great Captain. Frankly it gnawed at him; he had a lifelong admiration for Hannibal, and he longed to orchestrate a double envelopment, like Cannae. But he lacked the gift of seeing a battlefield in depth spatially and temporally or of inexorably imposing his operational will on an enemy. There are repeated examples where he simply did not grasp the battle. For instance: when the Germans and Italians escaped from Sicily across the Straits of Messina in August 1943; when he approved a harebrained scheme to drop the 82nd Airborne Division on Rome in September 1943, with the nearest substantial supporting ground force landing at Salerno, 200 miles away; when he was with Omar Bradley and various missteps by the high command led to part of the German force escaping from the so-called Falaise Gap in Normandy in August 1944; and when he failed to heed clear warnings about the importance of capturing the estuarial approaches to Antwerp—the River Scheldt—in addition to the city itself, so that when Allied forces captured this absolutely vital port, intact, in early September 1944, the Germans kept the approaches and the port was useless for almost three more months.

When Eisenhower left the Mediterranean Theater in December 1943, to command Overlord, the invasion of France, he told reporters that Hitler is "going to write off this southern front, and I don't think he is going to defend it long." That was quite wrong. He had a penchant for underestimating the Germans; a year later he would fail to recognize the regenerative powers that permitted the enemy to put together the Ardennes offensive, in the Battle of the Bulge. On September 5, 1944, he told his diary: "The defeat of the German armies is complete." That too is quite wrong.

He was a man of character, but when we put someone on a pedestal it's easier to see that he has feet of clay, as Eisenhower surely did: he was not above subtly looking for scapegoats when things went wrong or occasionally taking credit for success that would more properly have been attributed to a subordinate.

So what did he have going for him? Of course his job was not to be a field marshal; it was to be the theater commander of an extremely complex, sprawling, rambunctious multinational coalition. He defined his role as a sort of chairman of the board—that's the metaphor he used—chairman of the big-

gest enterprise on Earth. In a private note in the spring of 1943, he wrote, "It is not the man who is so brilliant [who] delivers in time of stress and strain, but rather the man who can keep on going indefinitely, doing a good straightforward job." He occasionally quoted Napoleon, whom he claimed defined military genius as "the man who can do the average thing when all those around him are going crazy." Here are 10 salient traits that help understand Eisenhower's success in doing at least "the average thing" when those around him were often going crazy. Collectively they made this average man into an uncommon leader.

Trait no. 1. He passionately preached coalition unity. He knew in his bones that in a global war the best team wins. He knew that every alliance is beset with centrifugal forces that can pull it apart, from national chauvinism to personal vainglory. His preeminent mission is to counter those forces. The American Army was infested with Anglophobia, from George Patton and Omar Bradley to Mark Clark and Orlando Ward—almost all of them detested the British. Eisenhower, the kid who grew up in isolated, small-town Kansas, escaped that; he liked the Brits, drank tea, adopted words like "petrol" and "tiffin." He was broad-minded, not arrogant. The Brits were vital allies, both in the military coalition and personally. Churchill, Air Marshal Tedder, Admiral Andrew Browne Cunningham very much liked him. He was capable of turning the other cheek in the face of impertinence or insolence from the likes of Bernard Montgomery, for the sake of Allied unity.

He was a master of the sensible compromise; he said that an Allied commander must lead by considering disparate national viewpoints and, as he put it, "solve problems through reasoning rather than by merely issuing commands."

He was perceived as absolutely fair-minded; like Gen George C. Marshall, probity and integrity were at the core of his success. Others may have doubted Eisenhower's decisions but never his fair-mindedness. It sometimes irritated his American brethren, who grumbled that "Ike is the best general the British have got." But this aura of judicious integrity—that he was, as one admirer puts it, "good and right in the moral sense"—was really at the core of his success as a coalition commander. Montgomery described him as "the very incarnation of sincerity," with "the power of drawing the hearts of men towards him as a magnet attracts bits of metal."

President Roosevelt chose him as supreme commander for Overlord not only because he was a "natural leader," in the president's phrase, but also, as Roosevelt said, a military man with "exceptional political instincts." Eisenhower did not find that offensive; he said that the US armed forces are the biggest political institutions in the country. Roosevelt, the master politician, also knew how vital political savvy is in commanding a multiservice, multina-

tional operation. E. J. Kingston McCloughry, a British air vice marshal who worked at SHAEF—Supreme Headquarters Allied Expeditionary Force—said that Eisenhower "had a genius of getting along with most people, combining the art of persuasion and of inspiring good will."

Trait no. 2. He liked responsibility and shouldered it comfortably. Before each Allied invasion, he privately drafted a press release accepting blame should the operation fail. The conditional note he wrote on June 5, 1944, is a testament to his character, in which he announced that the Normandy invasion had failed and added, "If any blame or fault attaches to the attempt it is mine alone." He misdated the document—July 5, 1944—indicative of how exhausted and stressed he was. MacArthur in his evaluation of Eisenhower in 1932 wrote that this young officer is "distinguished by force, judgment and willingness to accept responsibility. . . . This officer has no superior at this time [within his cohort] in the Army."

On the other hand, he grew more hard-nosed about his subordinates. When Lloyd Fredendall failed as the II Corps commander in Tunisia in the late winter of 1943, he was given a third star and sent home to command an army. That would be the last time Eisenhower was so softhearted; he, and the Army, became quite ruthless about perceived command failures. He could cut a throat without remorse—sometimes it was unfair, or precipitous—but in his mind the stakes were too high to act otherwise.

He also came to realize that a commander must acknowledge the hardest of hard truths, which in his war he defined in stark and irrefutable terms: "Sometimes it just gets down to the dirty job of killing until one side or the other cracks." Yet he never forfeited his humanity; there was an authenticity about him, which subordinates and superiors alike sensed and responded to. In the spring of 1944, he wrote his wife, Mamie—the only letters he did not dictate—and he mused, "How many youngsters are gone forever. A man must develop a veneer of callousness that lets him consider such things dispassionately." That callous never obscured the sentient human being beneath.

Trait no. 3. He had had a good mentor early in his career, a cerebral officer named Fox Conner, and as a general officer he had the best mentor of all: the chief, George Marshall. Eisenhower sent Marshall more than a hundred personal letters during the war—the salutation was always, "Dear General"—and he relied on Marshall, cultivated him, sometimes flattered him although usually not to the point of being smarmy. Marshall in turn kept Eisenhower well-apprised of the thinking among the chiefs and in the White House, and he helped protect him from the British Chiefs and from Prime Minister Churchill.

Trait no. 4. He had one of the greatest chiefs of staff in the Army's history, Walter B. Smith. SHAEF—again, Supreme Headquarters, Allied Expedition-

ary Force—first in England and then in France, grew into an immense, chairborne force, just as AFHQ—Allied Forces Headquarters—did before it in Algiers. "Beetle" Smith did quite a good job of keeping it functioning and of helping the boss focus on issues of preeminent concern. This was important; one of Eisenhower's problems early in his tenure as theater commander was an inability to uncouple himself from distracting inessentials, often having to do with French political issues in North Africa. He empowered his chief and his other senior staff officers.

Eisenhower's command style was quite decentralized, which is ironic because he threatened to quit two months before Normandy if control over the strategic bomber force was not centralized under his command. But he essentially allowed his army group commanders and senior airmen to run their campaigns, sometimes to a fault, and again under the chairman of the board concept.

Trait no. 5. Eisenhower became more adept at making his case. Many Americans think of him as a syntax-mangling president whose diction at times was baffling, if not incoherent. In truth, General Eisenhower was exceptionally articulate, both orally and in writing. He spoke and wrote with clarity and concision. He was so articulate that Churchill privately noted, suspiciously, "Good generals do not usually have such good powers of expression as he has."

He honed his communication skills as the war went on, much as the Army institutionally became more competent at making its case, particularly in debating strategic issues. During the conference at Casablanca in early 1943, Eisenhower was asked to brief the Combined Chiefs on an offensive he was planning in Tunisia. He was unprepared, unpersuasive, and perhaps a bit intimidated. Gen Alan Brooke, chief of the Imperial General Staff and George Marshall's counterpart, ate him alive. Eisenhower was humiliated.

Contrast that to Eisenhower in London at 10 Downing Street in late 1944, at a conference with Churchill and the British chiefs, including Brooke. He explained the logic behind his broad-front strategy on the Western Front, in contrast to the narrow, single-thrust advocated by Field Marshal Montgomery. Brooke, whose nickname was Colonel Shrapnel, used the same phrase in December 1944 that he had used two years earlier: "I flatly disagree." But Eisenhower had learned. He was prepared, nimble, and cool. This time he more than held his own.

Trait no. 6. Eisenhower cultivated the press, not because he was a glory-hound looking for headlines but because he believed he needed the megaphone that only the press could provide to let people back home—including people in Washington—understand what he was trying to do.

For example, in June 1943, shortly before Operation Husky, the invasion of Sicily, he summoned the reporters accredited to his headquarters in Algiers; told them he was about to disclose his battle plan, which he said must for the time being remain secret; then pulled back a wall curtain to reveal a map of Sicily that showed Montgomery's Eighth Army invading from the southeast and Patton's Seventh Army attacking from the south. One reporter later said to him, "Don't ever do that again." Within the bounds of operational security, he contended that "the press has as much right to information as members of my own staff." Eisenhower told Beetle Smith, his chief of staff, "Tell them nothing sometimes, but never deliberately mislead them." Before the invasion of Normandy, he told reporters that he considered them "quasi-staff officers"; that he and the American Army needed to nurture public opinion "or we're only mercenaries"; and that "I do not believe that a military man in high places should protect himself." The press trusted him; they were a force multiplier for him.

It's not that he was without ego. Early in 1944, he complained in his diary about how the British press treated him. He wrote, "They dislike to believe that I had anything particularly to do with the campaigns. They don't use the words 'initiative' and 'boldness' in talking of me, but often do in speaking of . . . Monty. . . . It wearies me to be thought of as timid, when I've had to do things that were so risky as to be almost crazy."

Trait no. 7. He was forceful without rigidity. Montgomery claimed that Eisenhower was swayed by whomever spoke to him last, but in fact, he was reasonably consistent. He had a vision early in the European theater planning of the so-called broad-front attack into Germany in 1944, in contrast to the narrow-front advocated by Montgomery, and Eisenhower stuck with it.

Let me add that he could get a fixed, wrong idea. He developed a personal antipathy toward Lt Gen Jacob L. Devers, the 6th Army Group commander; this bias caused Eisenhower to underestimate Devers and to ignore his advice. Eisenhower could also nurse a grudge: when Marshall in early 1945 asked Eisenhower to evaluate and rank in order of value all of the senior generals in the ETO, he ranked Devers 24th, and Devers was the only general about whom Eisenhower says anything really negative. Jake Devers in fact was exceptionally capable; among senior American generals, he was second only to Eisenhower himself in his deft touch with Allied forces.

Eisenhower embodied an Emersonian self-reliance. His son John, who can be pretty astute about his old man, once wrote that Ike "appeared not to share the metaphysical feeling that God owed him anything specific, such as good weather on a given day." By the way, he was not religious; although his parents had read the Bible each morning and evening, Eisenhower, as the historian

Jean Edward Smith notes, is the only man who has been elected to the American presidency without belonging to a church.*

He also learned to hate the enemy; early in the war he mouthed the requisite bellicose language about killing Huns, but by 1944 and 1945, you sense that his depth of feeling had become quite genuine. It became a grudge match for him, and that served as a propulsion system. In March 1945, 104 German prisoners asphyxiated in a rail boxcar while being transported to a prison camp in France. Eisenhower wrote to Marshall, "It is irritating to have such things occur because I certainly loathe having to apologize to the Germans. It looks as if this time I have no other recourse." And he did send regrets to the German high command, through the Swiss.

Trait no. 8. Eisenhower found diversion and relaxation where he could, despite smoking four packs of cigarettes a day. (His blood pressure in July 1944 was 176 over 110—that's high-risk, stage 2 hypertension.) On the night of June 5, before D-Day, he played checkers; on the night of December 16, 1944, the first night of the Bulge, he played five rubbers of bridge with Omar Bradley over a bottle of Highland Piper Scotch. He was a fine card player, both bridge and poker. He went horseback riding in Algiers and in England, often with Kay Summersby, his Irish driver. I don't know if he was sleeping with her, nor does anyone else alive today. My guess is not, but the appearance of impropriety was so strong—far more titillating than anything Gen John Allen did in Tampa recently—that he probably would not survive today's hyper-scrutiny.†

By the way, Eisenhower's wife, Mamie, could be difficult, insecure, and self-absorbed. In one cry of the heart, he wrote to her in November 1944, after the battles of Aachen and Market Garden and during the Hürtgen Forest, "It always depresses me when you talk about . . . what a beating you've taken, apparently because of me. You've always put your own interpretation on every act, look, or word of mine, and when you've made yourself unhappy, that has, in turn, made me the same."

He also wrote something to her that I find touchingly human and contemporary. He told her, "We've now been apart for 2½ years and at a time under

*Interestingly, after the war Eisenhower called himself "the most deeply religious man I know." In early 1953 he became the first president to be baptized while in office, and he became a regularly attending member of the National Presbyterian Church. Transcript of Press Conference with General Dwight D. Eisenhower, 3 May 1948, Columbia University, Box 156, Eisenhower Papers, Pre-Presidential (1916–1952), Eisenhower Library, Abilene, KS.

†Gen John Allen, USMC, chose to retire in early 2013, declining an appointment to serve as commander, US European Command and NATO. Though cleared of wrongdoing, Allen had been accused of sharing inappropriate emails with a Tampa socialite. Rajiv Chandrasekaran, "Gen. John Allen Intends to Retire, Decline Military's Top Post in Europe," *Washington Post*, 19 February 2013, https://www.washingtonpost.com/world/national-security/gen-john-allen-intends-to-retire-decline-militarys-top-post-in-europe/2013/02/19/41cead8e-7aaa-11e2-82e8-61a46c2cde3d_story.html.

conditions that make separations painful and hard to bear. The load of responsibility I carry would be intolerable unless I could have the belief that there is someone who wants me to come home—for good."

Trait no. 9. He recognized that world war is a clash of systems. Which system can generate the combat power to prevail, whether it's in the form of the 12,000 Allied airplanes on D-Day; the 10-to-1 advantage in artillery ammunition often enjoyed by the Allies; the mass production of penicillin and proximity fuses; the ability to design, build, and detonate an atomic bomb? Which system can produce and educate leaders capable of organizing the shipping, the rail, and truck transportation, the stupendous logistical demands of global war?

It has often been argued that in a fair fight, mano a mano, that when one American infantry battalion fought one German battalion, or a regiment fought a regiment, that the Germans were usually better. A fair fight! Who is looking for a fair fight? Germany could not muster the wherewithal to cross the English Channel, 21 miles wide, to invade Britain. The US projected power across the Pacific, the Atlantic, into the Mediterranean, Southeast Asia, the seven seas, the infinite skies. Power projection, adaptability, versatility, ingenuity, preponderance—these were the salient characteristics of the US Army in World War II, and Eisenhower in some measure exploited and embodied those traits.

Trait no. 10. He achieved a certain wisdom, annealed by fire. In December 1942, a month after the invasion of North Africa, Eisenhower wrote himself a note: "Through all of this I am learning many things." One lesson in particular he cited then is "that waiting for other people to produce is one of the hardest things a commander has to do." Through the campaigns in Tunisia, in Sicily, in southern Italy, and then through the invasion of Normandy, the drive across France, and right on until the surrender of Germany, we see him looking to draw lessons, to learn, to grow. Among other things, at the end of the war, he demanded that his victorious armies keep to the moral high ground. In July 1945, he ordered all commanders in the European Theater with court-martial jurisdiction to conduct a thorough investigation "into whether enemy prisoners of war have been killed or otherwise mistreated by members of your command." (SS guards had been murdered by American soldiers at Dachau, which provoked this order.) And he explained why: "America's moral position will be undermined and her reputation for fair dealing debased if criminal conduct . . . by her own armed forces is condoned and unpunished by those of us responsible for defending her honor."

Some of you may have heard that there's a quarrel in Washington over how best to honor Eisenhower. A four-acre site has been set aside for a memorial—on Independence Avenue, just south of the Air and Space Museum—

and Frank Gehry, the most prominent architect in America, has designed a contemporary memorial that Eisenhower's grandchildren and some traditionalists have denounced. One architectural writer has concluded that the dispute arises from the fact that it is curiously difficult to adequately memorialize competence.*

But I think what Gehry, the architect, is trying to capture is not competence but character. In closing I'll offer one final vignette that reveals the man, and his character. On the 12th of June, 1945, a month after the war in Europe ended, Eisenhower was invited to receive honors in London's Guildhall, where he gave a remarkable speech. That speech included this line, now engraved over his tomb in Abilene: "Humility must always be the portion of any man who receives acclaim earned in the blood of his followers and the sacrifices of his friends." I suspect he wouldn't have been able to articulate that sentiment with such authenticity in 1942. By 1945, he knew it in his bones.

You are his heirs, his fortunate and accomplished professional grandchildren and great-grandchildren. The ultimate accolade came from George Marshall shortly after the German surrender. He told Eisenhower, "You have commanded with outstanding success the most powerful military force that has ever been assembled. You have made history, great history for the good of all mankind, and you have stood for all we hope for and admire in an officer of the United States Army."

Thank you again for the privilege of speaking to you this evening. I look forward to your questions and your comments.

Rick Atkinson is an award-winning journalist and historian, having served as a correspondent and senior editor at the *Washington Post* for 25 years. He received a bachelor's degree in English from East Carolina University and master's degree in English language and literature at the University of Chicago. He is the author of books on West Point, American wars in Iraq, and the US Army in World War II. As a journalist, he covered the 101st Airborne Division in Iraq in 2003 and later reported on roadside bombs in Iraq and Afghanistan in 2007. The first volume of his "Liberation Trilogy," entitled *An Army at Dawn: The War in North Africa, 1942–1943*, won a Pulitzer Prize in History in 2003. The son of a US Army officer, Atkinson served as a department chair and adjunct faculty member at the US Army War College.

*The Eisenhower Memorial is scheduled for completion in summer 2020.

Part III. Airmen and Institutions

Introduction to Part III

Douglas B. Kennedy

In the first Harmon volume, Harry Borowski noted that the discipline of military history recently had expanded its range of interpretations "to examine the life and role of the common soldier or officer" to "better understand the ways armies performed."[1] By way of a process that he suggests had occurred over several decades, academic historians were finally joining popular writers in describing and interpreting the experiences of the common soldier.[2] This scholarly approach draws its inspiration, perhaps, from the same conviction captured in the assertion often attributed to Napoleon, *"Á la Guerre, les hommes ne sont rien; c'est un seul homme qui est tout."*[3] No work of this type has best exemplified this approach than John Keegan's *The Face of Battle* (1976), which addresses the military man's experience in combat during the battles of Agincourt (1415), Waterloo (1815), and the Somme (1916). Many military historians recognize the contribution of this approach and methodology, and it has since remained an important avenue for interpretation within the discipline. In his introduction to the "Soldiers and Armies" section, Colonel Borowski cleverly recognized the opportunity to arrange his work by grouping John Keep's "Soldiering in Tsarist Russia" (1986), Edward Coffman's "The Young Officer in the Old Army" (1976), and Richard Preston's "Perspectives in the History of Military Education and Professionalism" (1979) in demonstrating the discipline's expanded historiography, as these authors discuss the soldier's context and circumstances in the Russian, American, Prussian, French, and British armies.

This section carries on the spirit that Colonel Borowski acknowledged in the first volume. The contributions in this section recognize the value of military histories that emphasize the individual experiences in service to a nation and to the institutions that they influence—and that influence them. Specifically, this section concentrates on Airmen, with the final essay dealing with a critical aspect of the military service: the chronicling of the combatant's experience while a captive during war. Not only do these essays focus directly on the features of the Airmen's service but also on the doctrinal and technological developments that Airmen have contributed to the changing character of warfare.

The challenge to properly train and effectively educate the military professional remains a thread of investigation within the academic and professional military community. One institution created to accomplish the training and education of the officer candidate is the service academy. Significant to this examination is the continuing quest at measuring the service academies'

worth, which is the topic of Mark Clodfelter's 2007 Harmon address. This continuing evaluation of service academies' value and ensuring that the institution is doing its mission right is because, as sociologist Morris Janowitz noted in his groundbreaking work, "Although attendance at a service academy is not universal for generals and admirals, the academies set the standards of behavior for the whole military profession."[4] In his assessment on the value of the United States Air Force Academy (USAFA), Clodfelter approaches the subject with what he suggests is historian Russell Weigley's idea on the "impact of 'the relatively remote past'"[5]—in this case, Clodfelter explores his own graduating class, the USAFA Class of 1977, 30 years after their graduation.

In evaluating the institution through the analysis of his class, Clodfelter extrapolates his findings to offer a conclusion about whether or not the Air Force Academy is successfully accomplishing its mission. He compiles his data from information given by the Air Force Personnel Center, statistics from USAFA headquarters, and the replies from his classmates to a 40-question survey—he received 121 responses out of a graduating class of 867. Among the survey questions were inquiries on why one attended the Academy, the thoughts of religious activities at the Academy, and the reaction on the acceptance of women at the Academy.[6] One of the survey questions queried graduate respondents on their "perceived value of the institution." Clodfelter's understanding, interpretation, and analysis of his classmates' responses certainly offers a novel approach to answering the great question on the Academy's value and provides readers insight on both military individuals and an important military institution.

In the second essay, Stephen McFarland's 1997 address discusses the dominance of Allied airpower during the Second World War and one of its ultimate organizational effects—the creation of an independent air force for the Americans. McFarland hails those individuals who were farsighted enough to develop the new technologies and to create the doctrines that led to that significant institutional change. He defends the vision of airpower proponents who set the stage for victory in 1945. He argues that three battles, *which never took place during the war*, demonstrated strategic airpower's revolutionary influence—validating the doctrine and force structure that the founders had established. This interpretation diverges from the standard debate of airpower's influence, which is conventionally one between the actual employment of independent strategic airpower during the Combined Bomber Offensive, or the auxiliary operational and tactical employment of airpower to support the ground advance—both of which most historians deem crucial to the defeat of Germany.

Instead, McFarland focuses on those battles that never took place as evidence on the effectiveness of strategic airpower doctrine. And the prewar vision of air force leaders was now equipped with the technology—specifically the B-17 Flying Fortress—to implement that doctrine.[7] The first battle that the Allies did not have to execute was the use of the strategic fleet to deliver some of the chemical weapons stockpile that the English were storing on the island. This use of chemical warfare was only necessary if Hitler and the Germans, or Hirohito and the Japanese, used them first. McFarland highlights the great fear in the Western Theater that Hitler would arm V-1 or V-2 rockets with chemical warheads. The Allied response was not required—Germany's first use never happened—since the Germans knew that the Allies had the ability with their main bomber forces to wreak even greater havoc on German or Japanese cities with similar weapons of mass destruction. The second battle never fought, again due to the dominance of Allied airpower, was that no air battle occurred during the invasion of Fortress Europe—along the Normandy coast—since the Army Air Forces and Royal Air Force had already decimated the Luftwaffe, which, like a bleeding body, protected the homeland and avoided the beaches. The final battle that was not necessary was the invasion of Japan, an invasion that planners knew would lead to the greatest loss of life yet in a Pacific campaign. The invasion was a battle never fought since, as McFarland states, strategic airpower decimated the islands from the start of the precision bombing in November 1944 to LeMay's revised doctrine in March 1945 to area bomb to the use of the ultimate weapon in August. McFarland concludes that this dominance of airpower, specifically leading to battles never fought, contributed to a relatively peaceful Cold War conclusion—society did not want to experience the definitive destruction that would come with all-out air attacks stemming from World War III. McFarland gives great credit to those airpower enthusiasts who were prepared for war and drove for an independent service that held the peace.

In a similar vein to McFarland, John Guilmartin praises the contributions of airpower during World War II, across all spectrums within the conflict—from tactical victories to strategic influence. In his Harmon Lecture in 2001, he argues that airpower in the generic sense was a decisive element of the war—setting aside the argument on the sole decisiveness of the strategic bombing campaign in Europe for another discussion—and that aircraft design efforts "contributed the crucial role in the process." He compliments the airpower advocates, specifically those within the Army Air Corps, the Royal Air Force, and the US Navy, as having the strategic vision to advocate for and to integrate technologies—and the respective doctrinal developments—that led to the ultimate victory through the air.

Guilmartin advances his argument through a review of what he determines were the top-ranked 21 aircraft designs during the war and how those designs directly influenced the strategic balance of the war—10 American, four British, four German, two Soviet, and one Japanese. In this review of the strategic influence of particular aircraft, Guilmartin approaches his exercise using two questions: "How did the aircraft in question strategically affect the conduct and outcome of the war?" and, "How would the conduct of the war have changed if the aircraft in question had not been developed and produced?" This activity encompasses two-thirds of his entire work and will satisfy any airpower enthusiast and technology aficionado in its detail and analysis. For example, listed eighth in order of strategic relevance is the Grumman F4F Wildcat, which was the main US naval fighter aircraft in the Pacific Theater as America entered the conflict. Guilmartin notes that the Wildcat's pilot community significantly assisted the worth of the aircraft with the prewar development of "remarkably innovative tactics," most notably those developed by John "Jimmy" Thach, Edward "Butch" O'Hare, and James "Jimmy" Flatley. Guilmartin also highlights the value of two other technologies, 100-octane fuel and the turbo supercharger, as also demonstrating the strategic vision and persistence of the airpower advocates, particularly in the United States and Britain. As Guilmartin concludes, "Technological competence and strategic vision are essential, but only if applied in conjunction with one another. . . . Technological cleverness in isolation is not enough." So as the Wildcat example demonstrates, an effective design, at the right time and place, properly integrated by some professional individuals, helped lead to strategic control and later victory.

In his 2016 address, Jeremy Black, too, salutes Airmen and their institutions that helped advance a revolutionary medium of warfare. Black leads a discussion through the decades, concentrating on airpower in the post-1950 world specifically, with more attention on US airpower, to show how influential and necessary airpower has been and remains in imposing one state's will upon another. He opens with an anecdote during a 1904 presentation by the renowned geopolitician Halford Mackinder[8] and the challenge posed to him during a discussion after the talk by a young airpower enthusiast, Leo Amery,[9] who recognized the potential geopolitical impact of the aircraft—however immature the technology was at the time. According to Black, airpower is nearer to warfare's technological trump card than land or sea power, given its flexibility and speed—certainly in the logistical realm if not its kinetic influence. Black reminds his audience that although the United States had difficulties employing airpower to definite strategic effect in some of the limited wars in the late twentieth and early twenty-first centuries, which then led many to focus on the limitations of airpower instead of the larger political limitations,

all of the period's conflicts were housed under an umbrella of airpower's successful deterrent mission. Given the context of the Cold War and the awesome potential power of nuclear weapons, Black suggests it is inappropriate to focus on only the limitations of airpower instead of the larger political limitations that constrained the use of military power in the era.

Black's intention in his swift survey of airpower's influence on warfare throughout modern history is to educate and inspire the professional Airman. He reminds us that change is not linear and therefore requires—especially given the profession that his audience will matriculate into—great reflection and study. As Black states, present and future military members' "ultimate talent" is their "ability to think flexibly about the world in which" they "live, and about what force can"—and cannot—"achieve within it." Given Black's attention on airpower, one continues to be reminded of Col Phil Meilinger's observation, over two decades ago: "Airpower is not widely understood. Even though it has come to play an increasingly important role in both peace and war, the basic concepts that define and govern airpower remain obscure to many people, even to professional military officers."[10] Black's essay appeals to the development of the individual as a strategic thinker, in warfare generally, and the influence of airpower in warfare, more specifically.

Finally, in his address from 2000, Robert Doyle provides a nearly exhaustive bibliographic essay on sources and meanings about American captives of conflict. He suggests that prisoners of war in American conflicts, from the sixteenth-century colonial period through the Vietnam War, share a similar experience. That is, no matter what the era, each captive has been stripped of material comfort and has faced a period of adversity that at once is unique and yet transcends time. As he summarizes during his discussion on Bataan during World War II, which actually speaks to all the periods that his essay covers, "Whether the topic concerns capture, torture, executions, the Death March, escapes, Hell Ships, slave labor, or liberation," the scholars of POW narratives "allowed their informants to narrate their experiences in a natural way." Autobiographical accounts, obviously, offer a similar, if even more raw, description. This work is a worthy resource for those interested in the topic.

Doyle believes that through these POW personal narratives, as well as the investigative collections by historians, we get "to examine what it means to be human." This is the "shared experience" that transcends time. Doyle categorizes all the works that he mentions, as well as the hundreds he has left out, into four major categories: "religious redemption, stoic resistance, escape, and assimilation." Doyle addresses a common criticism of POW narratives, that memory, especially in such intense situations, is hardly a reliable source. To the contrary, Doyle asserts, as many of his interviewees suggest, "One's memory is heightened." And, Doyle notes that while it may be true that "a soldier

knows only his own foxhole very well," it is equally true that "knowledge about enough foxholes gives us a pretty good view of the battlefield." All warfare generates captives, and detailing their experiences gives us a special window into the human condition and resulting behavior.

These five Harmon Lectures contribute to a historiography that focuses on the individual and the relationship with the institutions that those individuals created. The following examples have an emphasis on Airmen and offer some sound insight on both the human and the institutional elements of the military experience.

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Notes

1. Harry R. Borowski, ed. *The Harmon Memorial Lectures in Military History, 1959–1987* (Washington, DC: Office of Air Force History, 1988), 235.

2. Michael Howard, "Military History and the History of War," in *The Past as Prologue: The Importance of History to the Military Profession*, ed. Williamson Murray and Richard Hart Sinnreich (Cambridge, UK: Cambridge University Press, 2006), 17.

3. "In war, men are nothing; it is one single man who is everything," in Alistair Horne, *The Price of Glory: Verdun 1916* (1962; repr., London: Penguin Books, 1993), 142.

4. Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (1960; repr., New York: Free Press, 1971), 127.

5. *See* Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (New York: Macmillan Publishing Co., Inc., 1973), xii. As he observes, "This book of history . . . is based on an assumption that what we believe and what we do today is governed at least as much by the habits of mind we formed in the relatively remote past as by what we did and thought yesterday."

6. Pres. Gerald Ford signed the law allowing entrance for women in the service academies in October 1975; the first class with women entered in 1976 and graduated in 1980.

7. Stephen L. McFarland and Wesley Phillips Newton, "The American Strategic Air Offensive Against Germany in World War II," in *Case Studies in Strategic Bombardment*, ed. R. Cargill Hall (Washington, DC: Air Force History and Museums Program, 1998), 232–34.

8. Black does not make it clear, but one can assume this was Mackinder's "The Geographical Pivot of History" presentation that discussed his "Heartland Theory" ("Pivot Area")—thus the emphasis on the land power versus A. T. Mahan's sea power vision. *See* Derwent Whittlesey, "Haushofer: The Geopoliticians," in Edward Earle Meade, ed., *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler* (1941; sixth repr., Princeton, NJ: Princeton University Press, 1960), 390. As Mackinder stated in 1919, "Who rules East Europe commands the Heart-

land; who rules the Heartland commands the World-Island; who rules the World-Island commands the world." Halford John Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* (New York: Henry Holt & Co., 1919), 150.

9. British politician; First Lord of the Admiralty (1922–24); Secretary of State for India and Burma (May 1940–July 1945).

10. Phillip S. Meilinger, ed., introduction to *The Paths of Heaven: The Evolution of Airpower Theory* (Maxwell AFB, AL: Air University Press, 1997), xi. Later in Meilinger's compilation work another author notes, "US airmen have long been known for their fascination with technology and the mental toughness required to press home a bombing attack against fierce resistance or to outduel an enemy fighter. But they have never been known for their academic inquisitiveness, their devotion to the study of the art of war, or their contributions to the theory of airpower. Instead, American airmen have remained 'doers' rather than introspective 'thinkers.' " *See* Dennis M. Drew, "Air Theory, Air Force, and Low Intensity Conflict: A Short Journey to Confusion," in *The Paths of Heaven: The Evolution of Airpower Theory*, 346.

Matching Mountains and Fulfilling Missions

One Grad's Assessment of USAFA's True Value*

Mark Clodfelter

US Air Force Academy Cadet Chapel, Colorado Springs, Colorado. US Air Force photo.

I must begin my remarks to you by saying that there are a multitude of thoughts swirling around in my head right now—and I'll elaborate on them in just a minute. Yet, I'm guessing that for most of you sitting in Arnold Hall, you've probably got only one thought on your mind, and it goes something like this: "Is this guy on stage going to say anything worthwhile, because I've got a lot of other stuff that I could be doing right now?" Yes, I still remember what it was like to sit in this building, some 30 years ago, listening to a guest speaker drone on while knowing that if I didn't get my butt back to the dorm to study for a Mech GR† I had the next day, I was a dead man.

But those thoughts, indeed, were 30-odd years ago—and the fact that they were is one of the notions that's now swirling around in my head. This year marks my thirtieth class reunion, and I can assure you that 30 years ago I

*Harmon Memorial Lecture #50, 2007.

†Mechanical Engineering Graded Review—an exam for one of the core curriculum classes.

never thought that I would be giving the Harmon Memorial Lecture at the Air Force Academy. Thirty years ago, I rarely thought farther ahead than the next weekend, much less what I'd be doing several years down the road. And rarely—if ever—did I think about what the value of the Academy experience might be to my subsequent "career development"—I wasn't even sure I was going to have a career, especially a career as an Air Force officer. The passage of time, however, tends to make you reflective. And 30 years is a significant chunk of time in most people's lives. It's also a nice "round" figure. As my father-in-law pointed out, we Americans tend to focus on those anniversaries ending in "zero," such as a tenth reunion or a fortieth birthday.[1] My father-in-law is David MacIsaac, who was one of my instructors here when I was a cadet, and who also presented the Harmon Memorial Lecture, in 1987—20 years ago this year, and that's another thought that's swirling around in my head. In his lecture, he noted that in August 1907—now 100 years ago—the Army's Signal Corps created its Aeronautical Division, and that division ultimately evolved into the United States Air Force in September 1947—which for us today is an even 60 years ago. He also said that what transpired during those first 40 "formative" years laid the groundwork for the "modern" Air Force and that the people who played a significant role in the creation of the new service—men such as Hap Arnold, Carl Spaatz, and Ira Eaker—were profoundly affected by what they did as junior officers. Thus, in his lecture, he chose to examine the early careers of Arnold, Spaatz, and Eaker, and he offered this quote from historian Russell Weigley as justification for that focus:

> What we believe and what we do today is governed at least as much by the habits of mind we formed in the relatively remote past as by what we did and thought [only] yesterday. The relatively remote past is apt to constrain our thought and actions more, because we understand it less well than we do our recent past, or at least recall it less clearly, and it has cut deeper grooves of custom in our minds.[2]

I agree with Weigley's assertion regarding the impact of "the relatively remote past," and I'd like to use it as a focal point in my remarks to you tonight. Like my father-in-law, I aim to test it by going back in time, but my focus on the past is going to be a bit different than his. First of all, I'm going to restrict my examination to only a four-year span in the lives of a particular group of young people—the four years spent as an Air Force Academy cadet. Secondly, I'm going to focus on the group of cadets that I know best—the members of the Class of 1977. My goal is to determine if the Air Force Academy succeeded in accomplishing its mission for my class—and, by implication, for other classes that the Academy has produced. My tentative answer is "yes"; however, the "yes" requires a bit of explanation because, as with many aspects of the Academy experience, there are a fair amount of "buts" involved (please pardon the pun).

Determining whether the Academy fulfilled its mission first requires a definition of it. I'll provide that by citing the greatest source for Academy "knowledge" known to exist: *Contrails*. Here's how '77's version defined it: "The mission of the Air Force Academy is to provide instruction and experience to each cadet so that he graduates with the knowledge and character essential to leadership and the motivation to become a career officer in the United States Air Force."[3] It seems straightforward, doesn't it? And yet, I wonder about its validity as the Academy's driving goal. How do you determine success or failure?

The Air Force has often resorted to quantification to evaluate the effectiveness of many activities—to include the use of airpower—and that approach is one way to evaluate USAFA. The stated mission emphasizes the production of superb leaders who become career officers, and those elements provide ready data points. Focusing on the "leadership" aspect of the mission yields a percentage of the Air Force's general officers who are Academy grads. Focusing on the "career" aspect reveals how long the typical Academy graduate stays on active duty compared to officers produced by ROTC or OTS.[4] The Air Force does indeed highlight both of those factors. The service's personnel center notes that 150 of the Air Force's 290 general officers currently on active duty—52 percent—are Academy graduates.[5] From the year 1977, 2.1 percent of USAFA's graduates with Air Force commissions became generals, compared to 0.5 percent of ROTC graduates and 0.3 percent from OTS.[6] Over time, though, an Air Force officer's commissioning source has not proved a significant determinant of whether the officer will make general. Data from 1980–2002 show that specific career fields and particular job assignments provide greater indicators of making general, with pilots having the highest probability, and jobs such as a general's aide producing a large boost to one's own chances of wearing stars.[7] In terms of retention, USAFA's Class of '77 compared favorably to its ROTC and OTS counterparts, with 37 percent of its graduates still on active duty at the 20-year point, compared to 32 percent of 1977 ROTC graduates and 20 percent of those from OTS.[8] For the first seven years of the span 1980–2002, the retention rate of USAFA graduates easily surpassed that of ROTC and OTS grads; but from 1987 to 2002 the Academy's retention advantage slipped considerably, and in several years during that period both ROTC and OTS graduates had a higher retention percentage than Academy grads.[9]

Officer retention would not, however, have appeared at the top of Billy Mitchell's list for evaluating Academy success. For Mitchell, and those who followed closely in his footsteps, the vision of an "Air Academy" was an institution that produced aeronautical engineers and pilots.[10] Mitchell saw West Point as "largely a waste of time" for Airmen, who had different concerns from their counterparts on the ground.[11] Indeed, I still recall hearing as a ca-

det that the real mission of the Air Force was "to fly and fight," and the cadets in '77 received extensive encouragement to become pilots. Undergraduate pilot training—UPT—became the great goal for many, and I well remember the battle cry of "2.0 and Go!" as a warped justification of why we should not take academics too seriously. Until 1992, USAFA had unlimited UPT slots for medically qualified candidates who had the requisite 2.0 cumulative GPA at graduation.[12] Since then, the Academy has received a quota of UPT slots each year—the same number provided to ROTC graduates.[13]

Yet to the chagrin of Billy Mitchell—and perhaps to others sitting in Arnold Hall tonight—West Point was the model chosen for the Air Force Academy, and an emphasis on flying did not appear in the Academy's mission statement. The desire from Hubert Harmon, Dwight Eisenhower, and others instrumental in creating USAFA in the aftermath of World War II was an Academy that produced the key leadership core of Air Force officers, much like West Point did for the Army, through a broad-based educational program that stressed not only academics but also military training and athletics.[14] Still, an officer's aeronautical rating trumps the commissioning source in determining the officer's likelihood of becoming a general. If the Academy experience and its current $312,000/copy price tag does not guarantee more generals—as well as more officers who make the service a career—what, then, is the true value of this institution?[15] To answer that question, I thought that I'd take the "standard" Air Force approach—and gather more data.

This time, I thought that I'd go right to the source for data collection—to the graduates of USAFA. Furthermore, I thought that I'd rely on the data source that I knew best, given that I am a part of it—the Class of 1977, whose graduates are now 30 years removed from the day that we threw our hats into the air and are officially old. Hopefully, though, we're not completely out of touch with reality, and the thoughts that we have about USAFA and its value to our lives might be useful to you guys, who one day—believe it or not—will be gray-haired jokers like us, coming back for football games and reunions, discussing your medical conditions, and talking about how your children are now flying the latest mach-10 fighters that operate on solar power—or perhaps about how they're flying the same B-52s that your grandfathers flew. Thus, you might think of what we have to say to you, collectively, as a "preview of coming attractions"!

My data come from an internet survey that I designed—with lots of help—and that many of my classmates completed this past spring.[16] Through the generous assistance of the Academy's Association of Graduates (AOG),* which sent survey links to the 435 of us who are AOG members, I received

*The AOG is the alumni organization.

121 responses, a return rate of almost 28 percent, to 40 questions dealing with the perceived importance of the Academy experience.[17] I requested anonymous responses, though some of my classmates chose to sign their names. Most provided "write-in" responses in addition to answering multiple-choice questions, and many of those responses were detailed—and quite revealing. In reading through them, I had to wonder just how "clueful" I had been during my four years here—a trend that my wife would say has continued for 30 years after graduation.

Before sharing the responses, let me give you some brief background on my class and those members of it who completed the survey. We graduated 867 out of 1,461 who arrived as basic cadets, with 851 receiving Air Force commissions. Eighteen remain on active duty as Air Force generals—and given that we are now all past the 30-year point, the only ones who can still be on active duty are indeed general officers. Twenty-one died while on active duty, and, though none were killed in combat, a majority of them died in aircraft accidents.[18] As all USAFA classes are distinctive in some ways, so too were we. We were the first class not to have mandatory chapel attendance on Sundays; we were the first to receive only 30 days of graduation leave rather than the previously granted 60; we were the first to lose the GI Bill benefits given to previous classes; we were the first to enter the Academy after America's war in Vietnam had ended; and we were "Firsties" when women cadets first arrived at the Academy in the summer of 1976. Of the 121 grads completing the survey, 69 percent were pilots, 9 percent were navigators, 21 percent were non-rated or members of another service, and 2 percent were lawyers or doctors. These numbers parallel the overall percentages for the Class of 1977: 63 percent were pilots; 8 percent were navigators; 28 percent were non-rated Air Force officers or members of another service; and 1 percent were flight surgeons.[19] Thirty-five of the 121 had service in either the Guard or Reserves after leaving active duty.

While the bulk of responses reflected favorably on the Academy experience, many also revealed a contradiction in feelings about the value of the institution. For instance, in response to the question—"What impact do you think that the Academy had on the collective perspective of your classmates at graduation?"—60 percent of those completing the survey answered, "Most of my classmates were inclined to see issues as 'shades of gray' rather than in absolute terms by the time they graduated," while 34 percent said the opposite—"most of my classmates were inclined to see issues as 'black and white' absolutes by the time they graduated." When asked, "How do you think that the collective mindset of your classmates evolved during the four-year Academy experience?," 44 percent answered that "as a group, my classmates became more conservative in their thinking," 11 percent said they became more

liberal, and 45 percent said they could not be classified "as either more conservative or more liberal." The write-in response of one classmate perhaps best sums up the conflicting data: "Perhaps you could describe 'us' as rigorous liberal thinkers and enthusiastic conservative actors." Another expressed surprise at such questions for the class that had as its unofficial motto, "Just Passin' Through" (we tried to get "JPT" engraved on the outside of our class rings and nearly succeeded), noting that the mind-set was "liberal inside the framework of an organization that bombed people for a living, [and] so it had its limitations." Many contended that the military is naturally more conservative,* and one who did added this quote from Churchill: "If you're 21 and not a liberal, you have no heart. If you're over 21 and still a liberal, you have no brain!"

The disparity of responses continued when my classmates were asked why they attended the Academy. The top answer would have made Billy Mitchell smile—44 percent of my classmates said, "The desire to pursue a flying career," almost double the 24 percent who listed the mission-oriented goal of becoming "a career Air Force officer" as their top choice. The "desire to receive a superb, 'cost-free' college education" garnered the third-highest number of votes, with 20 percent of my classmates selecting it. While almost 90 percent of the surveyed grads agreed that the Academy changed the way that they thought and their views of the world, with about 58 percent saying that it significantly expanded their intellectual horizons and 36 percent saying that it gave them more insights about the world at large—disagreement was widespread about what aspects of the Academy experience were responsible for their expanded horizons. Somewhat surprisingly, perhaps, for "Just Passin' Through," the top-rated choice was the academic curriculum, selected by 35 percent of the survey group. The "views of classmates and other cadets" was second at 20 percent; the "military training program" was third at 18 percent; "the views of faculty and staff" fourth at 14 percent; and "participation in athletics" was fifth at 5 percent. The remaining 8 percent of my classmates said that the Academy failed to expand their world view.

Disparate responses continued for questions about how organized religious activities and the arrival of women cadets affected the Academy experience. Thirty-three percent of my classmates commented that religious activities had a significant impact on their cadet life, while 28 percent said that they had no impact, and 37 percent said that they had some impact. Regarding the admission of women, 59 percent of my classmates believed at the time that it

*The two classics that address elements of this idea of a conservative officer corps are Morris Janowitz, *The Professional Soldier* (1960; repr., New York: The Free Press, 1971), 233–56; and Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, MA: Belknap Press of Harvard University, 1957), 55–79, 93–94.

was the right thing to do, while 41 percent did not. Those attitudes have changed a bit in 30 years. Only 2 percent of my classmates who originally thought that women should have been admitted now think that it was a mistake to do so, while 61 percent of those who thought it was wrong for women to be here 30 years ago now think that they should be part of the cadet wing. Still, many '77 grads remain conflicted on whether women should attend USAFA. When asked if they would be pleased if they had a daughter or niece who attended the Academy, 77 percent said yes, 15 percent said no, and 8 percent said that they were not sure. At least one graduate revealed that his answer was not gender-specific with this write-in response: "If they could get in I would be proud, but I would not necessarily want them to go there—that goes for sons and nephews, too."

Despite the disagreement that the survey revealed, it also showed quite a bit of consensus regarding the Academy experience and its subsequent value. When asked how attending USAFA affected career development, 96 percent of my classmates thought that their Academy time improved their career prospects, regardless of whether they made the Air Force a career. Fifty-five percent of my classmates said that USAFA was invaluable to the success that they have had, and 41 percent noted it was, in general, a positive contribution. Almost half of my classmates said that the Academy had a significant positive effect on the development of their personal standards; 39 percent acknowledged that USAFA had elevated their standards to some extent. Nine percent said that their standards were set prior to arriving at the Academy. "I came in with high standards," one of my classmates wrote, "but I left knowing specifically WHAT I believe, and WHY I believe it. I may have been completely different had I attended a 'normal" university." No argument here. Many of my classmates pointed to the Honor Code as a key factor in shaping their personal standards. Twenty-three percent remarked that it was "the dominant element that caused cadets to act with integrity," while 73 percent said that "it reinforced notions of honor that most cadets already possessed." Only 4 percent said that it was "ineffective in establishing a sense of integrity that shaped cadet behavior." My classmates also believed that the Academy played a substantial role in molding their leadership skills. Ninety-two percent said that it had a positive effect, with 57 percent observing that it had a "significant" positive effect, and 35 percent saying that the effect was positive but less dramatic. Of course, learning to be a good leader often means learning what examples not to follow. See if any of these write-in comments resonate: "At the Academy I did see many examples of behavior I vowed never to allow myself to repeat"; "the experience I had with my AOC [air officer commanding][20] taught me exactly how NOT to be"; "I learned just as much about what not to do as a

leader." Such responses indicate that the Class of '77 did not always think about USAFA fondly.

When asked to relate their dominant memories of the Academy, and given several possible response options, 68 percent answered, "Pride tempered by memories of hard times," while 16 percent said "excitement and enthusiasm." One grad remarked, "It was a struggle, but I'm glad I graduated," which likely sums up the feelings that many of us had. Questions regarding our fondest, and most negative, memories of USAFA amplify this view. These questions did not have multiple-choice responses—all of the answers were "write-ins," and thus matching answers here have perhaps a greater significance than elsewhere in the survey. For 26 percent of my classmates, their fondest memories of the Academy were shared experiences with other cadets. "Time spent with good friends," "camaraderie," and "spirit missions" typified these responses, and many classmates placed an emphasis on bonding with "adversity" lurking in the background. The second-highest response reflected that mind-set but did so more directly: 18 percent listed "graduation" as their fondest memory, which one individual phrased as "surviving to graduate." Participation in airmanship programs ranked third in terms of fondest memories, written in by 10 percent of the respondents. One classmate typed simply, "I am not being sarcastic here. I don't have any fond memories"—but all the rest found something positive to say about their four years at USAFA.

Not that they were unable to find anything derogatory to say—comments abounded regarding the most negative Academy memories. Once again, I added together similar write-in responses and once more found three dominant answers. Basic Cadet Training and the Fourth Class year topped the list, but by only a small margin, with 15 percent of my classmates mentioning some aspect of the "doolie" experience.[21] "Being written up, chewed out, marching tours, or serving confinements" was a close second, with 14 percent of my classmates providing that response, one of whom noted that he had marched more than 200 tours. Next was "loneliness and the Dark Ages,"[22] which garnered votes from 8 percent. Three different categories tied for fourth with 5 percent each, including: a perceived misuse of the Honor Code to enforce regulations, "jerk instructors," and "jerk AOCs," with three of the latter zapped for sniffing underwear in laundry bins to guarantee that cadets were not placing clean, unfolded clothes in them.

Two other questions that had "write-in only" responses—no multiple-choice questions to select from—provided revealing insights about the perceived value of the institution. When asked what part of the Academy experience for the Class of 1977 should be retained at all costs, the leading response from my classmates (19 percent) was the high degree of emphasis placed on teamwork, bonding, and esprit de corps. Despite the negative memories pro-

duced by Basic Cadet Training and the Fourth Class system, 12 percent of my classmates said those programs should endure at USAFA, and indeed, they received the second-highest number of votes for retention. One grad highlighted the confidence that came from completing the Fourth Class year: "I learned to work with others under pressure. Even if the situation seems tough, I know I can work my way through it." Third on the list was the Honor Code, mentioned by 11 percent. Two facets tied for fourth: a broad academic curriculum and airmanship programs, with each receiving 7 percent of the vote. Two also tied for sixth with 6 percent: the Survival, Evasion, Resistance, and Escape (SERE) program administered at the Academy for the Class of '77 and which was then a graduation requirement for all cadets, and USAFA's athletic programs. Yet, one of my classmates also said that he would retain everything about the Academy experience or, as he put it, "The whole enchilada—nothing less. If you shrink parts of the Academy," he insisted, "you slip back to a civilian institution."

That perspective resonated when my classmates were asked what part of their Academy experience they would change instantly if empowered to do so. The answers given here were more disparate than those provided about what to retain, perhaps indicating that the choice of what to discard was more difficult than the choice of what to keep. Nonetheless, a few dominant responses did emerge, and at the top of the list was the desire by 13 percent to eliminate elements of negative motivation such as tours, doolie hazing at meals, etc. Next, though, 11 percent of my classmates said that they would change nothing. One grad summed up his rationale this way: "I believe that AFA was my life shaping event. Once you change history, you change outcomes and I do not want that. So, I think I learned from the good, the bad and the ugly parts. I would not change a thing; they all have gone into who I am."

For some of my classmates, maintaining the status quo at the Academy equated to maintaining a successful institution, and some contended that factors disrupting stability had an adverse impact on USAFA's ability to accomplish its mission. For some of those grads, the admission of women was one such disruptive event, and 7 percent of my classmates recommended removing women from the cadet wing. Conversely, another 3 percent of my classmates thought that women cadets should have been part of the wing but that they should have been integrated into it better—women cadets in the Class of 1980 were originally kept segregated on the top floors of Vandenberg Hall and placed in only the first 20 squadrons.[23] My classmates further disagreed on the amount of cadet leadership opportunities made available to them: 4 percent would have added more, and another 4 percent would have provided less. Another 4 percent would have placed more "down time" in the Academy's schedule.

Yet, making USAFA different—or keeping it the same—provided no assurance that the Class of '77 would ultimately lead the Air Force as general officers. The USAFA experience often included the unexpected, and the same was true following graduation. When asked if they were surprised by any of their classmates making general, almost half of those completing the survey said yes, but several also couched their response: "Not that they couldn't," one wrote, while another added, "Almost all grads have the potential." Others stated that they were more surprised by certain officers who did not become generals. One grad remarked, "Most general officers were predictable, but 10–20% were in the category of 'I never thought they would make it that far!' " An unnamed classmate who had in fact made general put himself in that latter camp, stating that he was surprised to be wearing stars and felt that he was "a computer glitch in the system."

Despite an inability to divine future generals, most of my classmates believed that the Academy experience prepared them well to serve as officers. Three out of four rated their Academy background superior to that provided by ROTC or OTS. In addition, 88 percent rated the quality of military training received at USAFA as either "superb" (45 percent) or "adequate" (43 percent) in terms of its preparation for active duty. One grad who cross-commissioned into the Army stated, "Although an Army Officer, I felt I was better prepared than my West Point peers. Officers there do many things that cadets handle at USAFA." Another grad observed, "I learned how to prioritize, accomplish many things in a short time, and how to succeed. . . . The best lesson I learned was to trust the mid-level and senior NCOs as essential to success as an officer." Another added, "Although I may not have appreciated most of it at the time, in my old age I see the importance of most of what we went through. Perhaps it should have even been much harder." While providing a grudging acknowledgment that some degree of pain was a necessary part of the Academy experience, few of my classmates expressed a desire for more of it.

For most, USAFA produced a love-hate relationship that sometimes emphasized both emotions simultaneously. More than 90 percent of my classmates stated that they had returned to the Academy more than once since graduation, and 52 percent had returned more than five times. "The longer I live, the more proud I am of having graduated from there," one classmate revealed, while another confided, "The longer it's been since graduation the more I seem to be drawn back." Yet 52 percent also stated that they do not wish to have visited USAFA any more than they have. "I get an uneasy feeling in my gut whenever I see USAFA," confessed one grad. "Then I calm down and can relax." Another added, "I still feel vaguely uncomfortable walking across the terrazzo." Yet another remarked, "I go to AFA football games when

they are nearby and I'll go to the 30th reunion, but that's enough." A few classmates rationalized their reluctance to return as the result of a perceived failure to live up to the high standards that they deemed a hallmark of the institution and its graduates. One commented, "I would hate to have to explain all of the ridiculous things I've done with my time while others were in NASA or commanding officers." Another offered this assessment: "Took a girlfriend there after 15 years away; felt very strange. Did not feel like I belonged there anymore since my civilian life was nothing special."

For many, if not most, of my classmates, the notion that we were "special" by virtue of USAFA's unique training experiences and distinctive education resonated. We all knew the Academy's exhortation to "Bring me men to match my mountains," a reference to the first line of the Samuel Walter Foss poem, "The Coming American,"[24] and 30 years after completing the four-year ordeal the belief that we received a special boost on the path to success endured. Eighty-eight percent of my classmates described USAFA's overall impact as "definitely positive," while another 8 percent rated it as "slightly positive." Only 3 percent rated the impact of the USAFA experience as "a wash," and only one person out of the 121 completing the survey said that the Academy's overall impact was negative. One graduate offered a pithy summary of USAFA's value with this comment: "Surviving it gives me a great sense of achievement and a lot of confidence confronting future challenges—but it sucked 24/7." Such sentiments appeared in responses to the question—"If you could live that part of your life over again, would you attend the Academy?"—and, indeed, those answers may offer the strongest testimony yet to USAFA's lasting impact. More than four out of five of my classmates—81 percent—said that they would repeat the Academy experience, even with the benefit of 20/20 hindsight. Only 6 percent said that they would not, and the remaining 13 percent were uncertain. Many of those who would do it all over again, however, acknowledged the love-hate relationship that for them defined the institution. Here's just one example, but it conveys its central point in unvarnished fashion:

> The worst day of my life was my first day at USAFA. The worst month of my life was my first month at USAFA. The worst year of my life was my first year at USAFA. The worst 4 years of my life were my 4 years at USAFA. But it got me where I wanted to go. I'm not sure how anyone could schlep through 4 years at the Academy without their final goal in view.

For all of us who "made it" to throw our hats in the air, the Academy experience will likely resonate until our dying days. Given the intensity of that experience in many cases, it could hardly be otherwise. Almost one in five of my classmates reported dreaming that they are back at USAFA as a cadet as often as once or twice a month; more than 50 percent reported dreaming that

they are back at the Academy at least once or twice a year. Several classmates said that the dreams occurred when they were stressed out or overworked, and many of the dreams depicted stressful times at the Academy. Apparently, the psyche still remembers that USAFA wasn't a piece of cake.

What, then, does this collection of data show? Well, for one thing it shows what a profound impact the Academy experience had on each of our lives. It also shows that, despite the angst, the vast bulk of us view that experience in a positive light—so much so that most of us would repeat the experience if we were somehow given the opportunity to do so. It does not say that we all had a fun time here and that we all loved this place—far from it. Yet it does say that we thought USAFA was essential to the way that we subsequently turned out—and that we're pretty happy with those results.

I would contend that what you have in the survey are data points that sum up the value of the Academy experience for a *typical* class of graduates. Though I've been heard to say that '77 was the greatest Academy class ever, in actuality I'm fairly certain that we were "fast, neat, average, friendly, good, good."[25] Still, I would also contend that an "average" Academy class is a pretty remarkable group of people, given the high degree of selectivity and the competitive nature of Academy appointments. I would maintain that each class contains individuals who not only make exceptional contributions to the Air Force but also to the nation as a whole. And I say that not just based on the survey data but also based on the "data" that I happen to know best—the 19 guys who graduated with me as a part of the Firstie Class in "Tiger Ten."

So, then, let me say "Huzzah!" right from the start. We said it all the time, but I was never quite sure what it meant, and I still have grave doubts that it was the yell given by British commandoes in World War II when they went into combat (and if that was the case, how did it end up as the greeting for a cadet squadron at the *American* Air Force Academy?). The 19 guys I graduated with were typical guys graduating from a typical squadron at USAFA in 1977. In fact, we even had one of our AOCs describe my classmates in Tiger Ten as "mediocre at best" when asked on the eve of June Week to compare us to the other two groups of Firsties he had seen up close and personal during his tour at the Academy. But now, 30 years later, I maintain that the classmates I knew so well in Tiger Ten were anything but "mediocre," and I wanted to highlight for you some of my memories of them and what just a few of them have done in the past three decades since graduation.

Here's a picture of our Tiger Ten's Firsties on the eve of graduation. Bright, eager, and ready to go—well, certainly ready to get away from this place! Yet no sooner had we escaped USAFA than tragedy struck—Steve Morris became the second member of our class to die "on the job"; he was killed in a T-38 accident at UPT. For those of us who needed reminding that our profession

was very different than most others, that was an instant clue. When I heard of Steve's death, I remembered thinking back to a gregarious cadet who never failed to help out a classmate needing assistance, a kind-hearted soul who enjoyed playing pranks when he got the chance. And I wonder what he might have accomplished had he made it to our thirtieth reunion.

As for the other '77 grads from Tiger Ten, I haven't had to wonder. Four of them became generals and are all now wearing two stars—a pretty impressive achievement for one squadron's senior class. One of those is Kurt Cichowski, who will soon become vice commander of Air Force Special Operations Command at Hurlburt Field, Florida. In his previous assignment, he was deputy chief of staff for strategy as a part of the Multi-National Task Force in Baghdad; earlier, he had been wing commander of the 49th Fighter Wing and its stealth fighters at Holloman. Yet, I remember him best as the most bow-legged member of the Class of 1977, and it was always a mystery to me as to how he could run as fast as he did, much less march in a straight line! Another Tiger Ten general is Steve Miller—which some might have said was predictable, given that he also served as cadet wing commander his Firstie year. Yet Steve was far more "hyper" when he was a cadet about whether he would be able to meet his girlfriend (and future wife) Teresa on a weekend pass than he was about overseeing drill and ceremonies. Six years after graduation, he got the chance to display true grace under pressure when a maintenance problem triggered an in-flight emergency in his F-15. He managed to get the crippled aircraft on the ground without incident—a nifty bit of flying that won him the Aviator's Valor Award that year. He went on to command the famous 94th "Hat in the Ring" Squadron that had produced Eddie Rickenbacker in World War I, and he would later command Langley's 1st Fighter Wing. He currently serves as commandant of the Air War College.

The final two members of Tiger Ten to make general from '77 were perhaps the yin and yang of our squadron, academically speaking: "Dutch" Remkes and Curt Bedke. Dutch sat on the last row on graduation day, while Curt was a distinguished graduate who had only a single "B" for his course work at the Academy—the rest of his grades were all "A's." It was by the grace of God that I had Curt as a roommate for most of my remaining three years at USAFA, for only he had the ability to explain math and science courses in terms that I could understand—and pass. Dutch, like me, was a history major (yeah!); Curt was a double major in Astro and Math.

When we all got our new cars at the end of our "two degree" year, Dutch proudly drove up in a red Ford pickup, which he delighted in cleaning by driving up to a car wash and "hosing out" the inside of the cab. Curt, meanwhile, got a Toyota Celica that he carefully waxed every few months. Yet, despite the seeming differences in temperament displayed at the Academy, both

took from their experiences here and excelled as officers. Dutch flew F-4s, F-15s, and F-16s and served for two years in the late 1980s in the demanding job of aide to General Robert Russ, the commander of Tactical Air Command. As the commander of the 39th Wing at Incirlik, Turkey, Dutch directed air strikes against Iraq in Operation Desert Fox in December 1998; he later took command of the 3rd Wing at Elmendorf from 2002–2004; and he now serves as the director of strategy and policy assessments for US European Command in Stuttgart, Germany. Curt, meanwhile, became a B-52 pilot after graduating with a master's in astronautics from Stanford, and then served as a test pilot at Edwards Air Force Base at the time that Dutch was shepherding General Russ at TAC. After commanding the 31st Test and Evaluation Squadron, Curt returned to B-52s as commander of the 5th Operations Group at Minot and later commanded the 2nd Bomb Wing at Barksdale, during which time he also served as US Central Command's senior military representative to Pakistan. He's just finished an assignment as the commander of the Air Force Flight Test Center at Edwards and moved to Wright-Patterson AFB to command the Air Force Research Laboratory. By virtue of his three Edwards assignments, he's amassed 4,300 flying hours in *74* different types of aircraft.

You now know about several of my Tiger Ten classmates who went on to do great things in an Air Force uniform, but I'm sure some of you might be thinking, "Wow, that's great, but I don't know if I'm going to make it to graduation, much less make the Air Force a career." I can assure you that many—if not most—of us had that same thought when we sat in Arnold Hall as cadets, so I wanted to give you a final snippet about a member of Tiger Ten who indeed left the service after initial commitment for flight training had ended. That guy is Bob McNeal, whom I'll always remember wandering around the squadron after taps dressed in a bed sheet that resembled a Roman toga—and this attire came *before* John Belushi popularized it in the movie *Animal House*. Bob got KC-135s to Griffiss Air Force Base, New York, after graduating from UPT—an assignment that he really wanted because it was close to Syracuse University. While a pilot at Griffiss, he enrolled at Syracuse and during his off-duty time completed a master's degree in *electrical engineering*. After a stint teaching physics at USAFA, he left the Air Force and began a civilian career path that proved both personally rewarding and financially lucrative. He worked at an aerospace firm in Los Angeles, got his MBA from the Wharton School, founded several successful companies, worked in high-level jobs for the Census Bureau and Time Warner, and now is vice chairman of Interoute, a large company that provides telecommunication services across Europe. He resides in London and typically works 14-hour days, despite having "made it" financially. Thirty years later, though, I still remember him wandering around the squadron looking like Julius Caesar.

Well, that's a quick-and-dirty snapshot of one group of cadets who "survived" this place—and I think "survival" is the word we would've used 30 years ago. I wish I had time to talk about each of my Tiger Ten classmates, who are all very successful in a multitude of professions, but I know that you have to get back to the dorm to study that Mech—or to watch *Smallville*![*]

So let me add just a few brief concluding remarks about what I think that my survey data and Tiger Ten examples reveal about the *true* value of this institution. Is there a correlation between what we endured at USAFA and what we accomplished later in life? Those dots are probably hard to connect directly, and yet I think that a connection is present. To me, the survey data and Tiger Ten success stories show that the true value of USAFA is both enduring and intangible, no matter how hard those in positions of authority might want to rely on numbers to justify the cost of an Academy education. Our mission statement focused on developing career leaders for the Air Force—a worthy goal, to be sure. Yet, such emphasis did not adequately acknowledge that simply creating leaders who are intellectually nimble, with high standards of integrity, and committed to serving the nation is in itself a noble goal—and one that the Academy should pride itself in achieving. The mission statement for the Class of 2010—"to educate, train, and inspire men and women to become officers of character, motivated to lead the United States Air Force in service to our nation"—comes closer to meeting that mark.[26] The mission statement for the class of 2040 is likely to be closer still.

I maintain that the Academy experience not only made us better leaders than we otherwise would have been, it also made us better *people*, regardless of the professions that we ultimately chose. USAFA enhanced our values, our standards, and our overall way of thinking—not just about our nation and its Air Force but about how we should interact with our fellow human beings. USAFA further gave us a profound understanding that most meaningful achievements require hard work and a solid foundation for meeting the unknown challenges of the future; as a result of our Academy experience, most of us don't rattle too easily when faced with stress. The story of the Class of 1977 is the combination of hundreds of individual success stories, and the Academy played a significant role in many of those accomplishments. My guess is that would also have been true for the Class of 1959 and that it will be true as well for the Class of 2010—and that it will continue to be the case as long as this Academy exits. The great, enduring value of USAFA cannot be quantified, and yet the value is there—just as certainly as the steel, aluminum, and granite blend together to form the lasting structures of the Cadet Area.

[*]A popular television show that ran from 2001 to 2011 based on the Superman character from DC Comics.

The key elements that make up the ethos of USAFA are not physical—and those are the elements that will forever make the graduates of this institution a worthy match for its mountains.

Dr. Mark Clodfelter joined the faculty of the National War College in July 1997. Mark "Clod" Clodfelter is a former Air Force officer who was a ground radar officer by trade. After serving radar tours at Myrtle Beach and South Korea, he spent the remainder of his career in military academia. That service has included two teaching tours in the Air Force Academy's History Department, one at the Air Force's School of Advanced Airpower Studies (SAAS) at Maxwell AFB, and one as Air Force ROTC Professor of Aerospace Studies at the University of North Carolina at Chapel Hill. He holds a bachelor of science degree from the US Air Force Academy, a master of arts degree from the University of Nebraska–Lincoln, and a doctorate from the University of North Carolina at Chapel Hill. He is the author of *The Limits of Air Power: The American Bombing of North Vietnam* (New York: Free Press, 1989) and numerous articles and book chapters dealing with the American military experience. Two particular National Defense University case studies that he produced are *Violating Reality: The Lavelle Affair, Nixon, and the Parsing of the Truth* (March 2016) and *Fifty Shades of Friction: Combat Climate, B-52 Crews, and the Vietnam War* (September 2016). His area of expertise is American military history, with a special emphasis on airpower and the Vietnam War.

In addition to USAFA classmates, colleagues at the National War College, and others mentioned in the lecture/notes, the author is grateful to the following individuals for their helpful suggestions: Peter Maslowski, David Tretler, and Roy Stafford. The author claims full credit, however, for any mistakes or inaccuracies and notes that his work represents his views alone and not those of the National War College, US Air Force, or Department of Defense.

Notes

1. David MacIsaac, "Leadership in the Old Air Force: A Post-Graduate Assignment," *Harmon Memorial Lecture Number 30* (US Air Force Academy, CO: 1987): 1. Editor's note: Dr. MacIsaac (1927–2014) was a retired Air Force lieutenant colonel who served four tours in the US Air Force Academy's Department of History. He earned his doctorate from Duke University in 1970 and served at Maxwell Air Force Base in the Air Power Research Institute. Among his published work is *Strategic Bombing in World War II: The Story of the U.S. Strategic Bombing Survey* (New York: Garland Press, 1976) and "Voices from the Central Blue: The Air Power Theorists" in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986).

2. MacIsaac, 2, quoted in Russell Weigley, *The American Way of War* (New York: MacMillan, 1973), xx.

3. *Contrails: The Air Force Cadet Handbook, Volume 20: 1974–75* (US Air Force Academy, CO: 1974), 173.

4. The Reserve Officers Training Corps (ROTC), the Air Force's commissioning program, is located on many college campuses in the United States. The Officer Training School (OTS) is a commissioning program of approximately three months administered at Maxwell AFB, Alabama, for college graduates who did not participate in ROTC and who wish to become Air Force officers.

5. Data provided by Mr. Dennis Davis at the Air Force Personnel Center, Randolph AFB, Texas (AFPC/DPAPDT) on 23 August 2007; the information is current as of 31 July 2007. The commissioning sources for the remainder of the Air Force's active duty general officer corps are as follows: 95 from ROTC, 32 from OTS, 2 from West Point, and 11 from direct appointment. In a 22 August 2007 email to the author, Ms. Elizabeth Wilson at USAFA's Office of Institutional Research (USAFA/XPXR) notes that of the Air Force's 12 four-star generals, 5 are USAFA graduates; of the Air Force's 37 lieutenant generals, 16 are USAFA graduates. A comparison with Army general officers comes courtesy of Sergeant Michael Frank at the Army's General Officer Management Office. He stated in a 21 August 2007 telephone conversation that of 307 active duty Army general officer billets, 144 (47 percent) are currently filled by West Point graduates. Of those totals, 3 of 12 four-star generals, and 26 of 52 lieutenant generals, are West Point graduates.

6. Elizabeth Wilson, USAFA/XPXR, to the author, emails, 17 and 23 July 2007. As of 23 July 2007, 18 of the 851 USAFA graduates commissioned into the Air Force from the Class of 1977 had become generals.

7. *See* Col Brian Collins (USAFA 1982), "The United States Air Force and Profession: Why Sixty Percent of Air Force General Officers Are Still Pilots When Pilots Comprise Just Twenty Percent of the Officer Corps" (dissertation, Georgetown University, 25 August 2006), 1–3; 392–405; 578–81.

8. Information compiled by Mr. Dennis Davis at Air Force Personnel Center, Randolph AFB, Texas, (AFPC/DPAPDT) and sent to the author via e-mail on 22 August 2007; the retention percentages for officers commissioned in 1977 were as of 1 January 1997. Mr. Steven J. Tulo, Contractor and THRMIS Project Manager for AF/A1PFS, provided similar information based on a 20-year retention date of 30 September 1997. Those percentages for officers commissioned in 1977 and still on active duty were: USAFA graduates, 31 percent; ROTC graduates, 27 percent; OTS graduates, 17 percent. Steven J. Tulo, to the author, email, 22 August 2007.

9. Data on officer accessions collected by Col Brian Collins from Analysis and Reports Branch, Air Force Personnel Center (AFPC/DPSAR) and graciously shared with the author. The number of USAFA graduates who remained on active duty compared to officers from other commissioning sources is affected to some degree by the "regular" commission given all Academy graduates, a distinction reserved for only a very small number of ROTC or OTS graduates, most of whom received "reserve" commissions. In January 2006, the Air Force abolished the "regular vs. reserve" distinction, with all officers commissioned on or after 1 May 2005 being given regular commissions, and the commissions for the remainder of the active duty officer corps with reserve commissions becoming regular by 1 May 2006. Until the January 2006 decree, most ROTC and OTS graduates had to compete for regular commissions during their time on active duty. See "Policy Guidance for Transitioning Reserve Officers on the Active Duty List and Accessing New Officers to All-Regular Status," HQ USAF/DP, 12 January 2006.

10. Edward A. Miller Jr., "The Struggle for an Air Force Academy," *Military Affairs* 27 (Winter 1963–1964), 163–64.

11. Miller, "Struggle for an Air Force Academy," 163–64.

12. Dr. Elizabeth A. Muenger, USAFA Command Historian, to the author, email, 21 January 2007. See also Collins, "The United States Air Force," 396n.

13. Collins, "The United States Air Force," 396n; Conversation with Air Force Col Paul A. Price, HQ USAF/A1DO, 2 February 2007. A limited number of UPT slots go to selected OTS graduates.

14. Miller, "Struggle for an Air Force Academy," 169–73.

15. Cost of four years at USAFA provided by Headquarters USAFA/DPY, 30 January 2007.

16. Several classmates, in particular John "Lou" Michels, Armando Costales, George "Barney" Ballinger, Steve Petersen, Carroll "Chip" Lamb, Roger Smith, and Curt Bedke, offered valuable suggestions concerning what types of questions to ask and how best to ask them, though the responsibility for crafting the survey is mine and mine alone. Col Richard "Dick" Rauschkolb, (Ret., USAFA '70) was my link to the USAFA Association of Graduates and provided tremendous assistance for the project. Without the experience and expertise provided by Mrs. Susan Sherwood, director of instructional research and assessments for National War College, I could not have produced a successful survey. Susan is a master of survey design, and her help was vital in creating a "user friendly" structure that produced excellent results.

17. The Association of Graduates sent an announcement of the survey, and a link to it, to AOG members from the Class of 1977 in March 2007. Those classmates who completed the survey did so between March-May 2007; the survey results referenced during the remainder of this lecture come from that data.

18. USAFA/XPXR to the author, email, 23 July 2007.

19. USAFA/XPXR to the author, email, 17 July 2007.

20. Each of the 40 cadet squadrons consisted of roughly 120 cadets and had an Air Officer Commanding (usually referred to simply as an "AOC") assigned to it to monitor the squadron's military training activities. AOCs were either majors or captains and worked for the commandant, a one-star general, who supervised military training activities for the entire Academy.

21. "Doolie" is the slang term for an Academy freshman. Its origins supposedly stemmed from the Greek word for "slave."

22. The "Dark Ages" referenced the 11-week span from the return from Christmas leave to the start of spring break, when cadets left their dorms for morning classes before the sun had risen and then returned to the dorms from afternoon classes after the sun had set. For the Class of 1977, the only holiday during that period was President's Day.

23. *See* Allison Gawlinski, "'Bring Me Men and Women': The Integration of Women into the United States Air Force Academy," *Air Power History* (Summer 2007): 32–45, for a detailed analysis of how the women in the Academy's Class of 1980 were incorporated into the cadet wing.

24. "Academy Seeks New Slogan," Air Force Press Release, 19 August 2003, http://findarticles.com/p/articles/mi_prfr/is_200308/ai_19534504.

25. The "standard" answers to critiquing a meal in Mitchell Hall on the Cadet Wing Form 0-96.

26. Mission statement taken from official webpage of the US Air Force Academy, accessed 28 October 2019, https://www.usafa.edu/about/mission/.

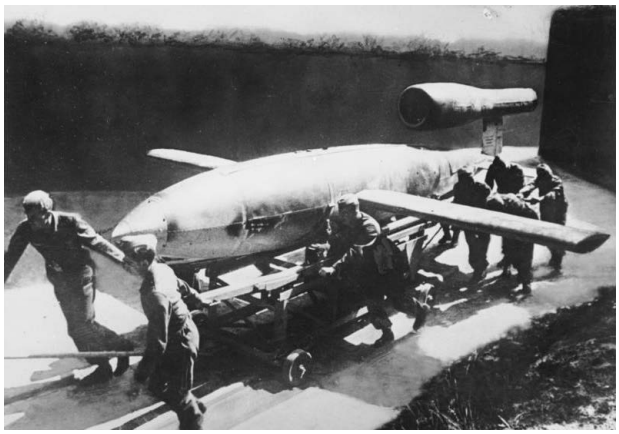
Battles Not Fought

The Creation of an Independent Air Force*

Stephen L. McFarland

When America's armies and navies returned from World War II, they brought with them glory comparable to any in history. Except for technology and scale, the victories of America's warriors were little different from those gained by all the other conquering armies and navies in history. World War II produced images of sinking ships, prisoners of war, liberated cities, raised flags, and destruction that could have come from the Punic Wars 2,000 years earlier. This was no revolution in warfare.

Airmen brought back photographs of leveled cities—how would the surviving inhabitants view the results any differently than the survivors who watched the Mongols devastate Baghdad a thousand years ago? If there was a revolution in warfare, it came from three battles that never took place. These were at the root of Air Force independence and of a new, revolutionary type of warfare that has influenced world events ever since.



The *Vergeltungwaffe* V-1 rocket, as pictured being towed from cover, in 1944. Bundesarchiv (Bild 146-1973-029A-24A / Lysiak / CC-BY-SA 3.0).

On July 13, 1944, the first German V-1 rocket landed on London. The Army Air Forces and the Royal Air Force launched 68,913 bombing sorties

*Harmon Memorial Lecture #40, 1997.

and took 1.25 million photographs in an attempt to reduce or delay this German aerial offensive. Seventeen thousand V-1s and V-2s fired on Allied-controlled territory during the war, and the 9,000 deaths they caused revealed a battle Allied air forces lost in World War II. Airpower had failed to achieve its objective. But when that first V-1 landed on July 13, it exploded with the bang of high explosives, not the hiss of a chemical or biological warhead. That bang, and not a hiss, signified that the Army Air Forces had won one of the greatest battles of the war that was never fought—a battle that, if fought, might have doubled or tripled the war's casualty figures.[1]

The scale of the victory in this battle that was never fought lies in the numbers. From 1941 to 1945, the United States invested $2.814 billion ($27 billion in 1997 dollars) to produce 143,166 tons of World War I–era poison gases.* Germany produced 80,000 tons, including 12,000 tons of the revolutionary nerve gas Tabun and 1,100 pounds of the experimental nerve gas Sarin. Japan added nearly 8,000 tons. All also produced various biological agents ranging from anthrax to sclerotium rot.[2] These arsenals were in stark contrast to the public proclamations of every major combatant that in some way echoed the conviction of Winston Churchill, "We are ourselves firmly resolved not to use this odious weapon." Why the enormous chemical and biological stockpiles? Because Churchill added, "unless it is used first by the Germans." President Roosevelt declared, "unless they are first used by our enemies." Japan agreed not to use them only if "troops of the United Nations also refrain from using it." Combatant nations prepared for such warfare in case the enemy initiated it and retaliation became necessary.[3]

Fearful of what German chemical attacks could do to England's congested cities and to the troops and supplies concentrated in southern England for the Normandy invasion, the Allies launched the largest preemptive air offensive of the war. When photographic intelligence showed rocket-launching ramps at Peenemünde, it became a target for destruction.† When intelligence pointed to "ski-sites" in France as possible launch sites for these missiles, they too became the targets for bombing. Hitler chortled with glee. His V-1 and V-2 sites in France became the greatest aerial defensive weapons in his arsenal, more effective than all his Messerschmitts, Focke-Wulfs, and 88 mm guns. Every bomb dropped on one of these sites, he said, was one less bomb dropped on Germany.[4] These were the Noball missions, Operation Crossbow, appreciated by thousands of American airmen as "milk runs," so-called because they brought credit for a combat mission—and therefore one step closer to going

*About $40 billion in 2018 dollars.

†A city on the Baltic Sea that was the location for the development and production of the *Vergeltungswaffe* ("Retribution Weapons")—or "Vengeance" weapons—primarily the V-2 rocket.

home—without the danger of deep missions into Germany. These preemptive strikes delayed the V-1 and V-2 offensives, but only advancing Allied armies in the fall of 1944 would stop them completely. All of this was just a sideshow, however. The real show was the apparent German intent to use these inaccurate terror weapons to begin a war against the cities, employing chemical agents to turn, as one writer described it, metropolises into "necropolises."[5]

The Joint Chiefs of Staff assigned the Army Air Forces to prepare for this battle that never took place. While B-17s and B-24s battled their way to Schweinfurt, Regensburg, Gotha, Heiterblick, Leipzig, and Berlin, hundreds of thousands of gas bombs were being stockpiled in England for what many thought was their inevitable use once the V-1s and V-2s began dropping out of the sky with a hiss, not a bang. The Allies would not strike first; Churchill and Roosevelt had already declared this.

But if Germany did initiate chemical or biological warfare, the Allies would be ready to raise the ante. The Army Air Forces' retaliatory plan, in conjunction with the Royal Air Force, identified Germany's 38 largest cities for destruction with anticipation of killing upwards of 20 million people, making over one-half of Germany's urban area uninhabitable, and reducing industrial production by 60 percent. Ready in time for the Normandy invasion, 4,600 American heavy bombers then in the Eighth and Fifteenth Air Forces would launch a 15-day all-out blitz, each carrying a 75-percent mustard gas bomb load mixed with a 25-percent high explosive bomb load to help spread the gas. German civilians did not receive gas masks until late 1944 and then only for Nazi Party officials. Germany had no penicillin to fight the bacterial infections that would accompany the blistering effects of mustard gas. An average gas persistence of 30 days guaranteed a holocaust of unprecedented proportions.[6]

There would be no such battle, no such slaughter. By 1944 Germany's skies belonged to the Allies, and its urban landscape lay bare to Allied bombing. Air superiority was in American hands. The thousands of crewmen who died fighting their way to Frankfurt, Emden, Hamburg, and Cologne had made this so. Eighth and Fifteenth Air Force bombers could go anywhere in the Reich and could not be diverted except by American order. With his cities vulnerable and aware of America's retaliatory policy, Hitler ordered that no gas munitions be taken outside of the prewar Reich lest he lose control over them. He would not allow the Allies any justification for a retaliatory strike. As Allied armies poured into a chaotic, confused, disorganized Germany in 1945, Hitler pulled himself together long enough to sign an order prohibiting the demolition of chemical weapons dumps for fear the action might be misconstrued as the initiation of chemical warfare. The war in Europe was total in many aspects, but it would not be a war of chemical or biological annihilation.[7]

The vulnerability of Japanese cities to aerial assault, tied to firsthand knowledge in China of what gas could do, likewise deterred Japan from using chemical weapons against American units. Japan ordered its commanders to ignore any small-scale Allied use of chemical weapons to prevent retaliatory strikes against its cities. The Army Air Forces planned to retaliate if Japan did use them first, targeting Japan's 10 largest cities with the same 75-percent mustard gas–25-percent high explosive mix. Japan's tropical climate would intensify the effect of the gas, while the wooden structure of Japan's cities would increase the persistence of the gas. The Army Air Forces estimated a death count of 14.5 million. Unlike the war in Europe, the United States did not fear Japanese retaliation, because Japan lacked a strategic bombing force.[8]

Germany and Japan never used chemical weapons against American forces, so no retaliatory strikes were necessary or justified. The Joint Chiefs of Staff seriously considered the unilateral use of chemical weapons to reduce the casualties that would accompany the invasion of Japan. Its chairman, Adm William Leahy, vetoed the idea because in 1943 President Roosevelt had renounced such a first use.[9]

Despite the preparations and the plans, the chemical battle did not have to be fought in World War II. All sides had sufficient arsenals to threaten a chemical Armageddon, but only the Allies had the wherewithal, strategic air forces, to wage it. Hitler, the records indicate, was keenly aware of what chemical warfare could accomplish—but also alert to the fact that Allied air forces could transform the most horrific tactical weapons of World War I into the strategic weapons that would cost him his cities in World War II. The United States Army Air Forces had won the first great battle of World War II that did not have to be fought.

June 6, 1944, witnessed the largest concentration of air, land, and sea forces in the history of the world. On, over, and along roughly 50 miles of the French coast were eight divisions of Allied ground and airborne soldiers, 5,000 ships, and 7,000 aircraft. Never in war had so much been concentrated at one point, at one time. The German Luftwaffe had been designed for just such a contingency—a tactical air force created to support the German army. So concentrated were Allied forces that conceivably any German bullet fired, any bomb dropped, would find a target of some kind. The greatest single threat to the success of Operation Overlord, besides the weather, was the Luftwaffe. Already Allied forces faced a formidable array of beach defenses, tank traps, flooded landing zones, and all the other defenses created by the German genius. Hundreds of German aircraft bombing and strafing created the potential for a true disaster of biblical proportions.

The Allies had two plans for dealing with the Luftwaffe's threat to Overlord. Air Chief Marshal Trafford Leigh-Mallory was the tactical air commander for

the invasion. Maj Gen Lewis Brereton was Leigh-Mallory's lieutenant and commanded America's Ninth Air Force. Together they argued that World War II was no different than World War I. The way to ensure air superiority over the Normandy beaches was to train and prepare for a great air battle to be fought over France on D-Day and for the ground attack and interdiction roles that would follow the invasion. They wanted to keep their forces out of combat for the months preceding Overlord to ensure adequate preparation. Leigh-Mallory and Brereton envisioned swirling clouds of fighters locked in dogfights similar to the battles fought over Verdun and the Meuse-Argonne in the previous war—thousands of Allied aircraft fighting thousands of German aircraft in a titanic struggle for air superiority on D-Day. They argued that trying to weaken the Luftwaffe prior to this battle would be unproductive because the Luftwaffe would simply refuse to fight until it had a critical reason to engage in battle. For over a year their crews had been flying into France and had not been able to get the Luftwaffe to come up and fight. Five thousand ships and eight divisions would attract the Luftwaffe.[10]

Leigh-Mallory and Brereton were also key supporters for Air Chief Marshal Sir Arthur Tedder's transportation plan, wherein all Allied air forces, including strategic bombers, would concentrate for three months on isolating Normandy, destroying bridges, railroads, and lines of communication in preparing for the invasion. This plan had no provision for winning air superiority other than the great dogfight on D-Day.[11]

The opposing plan came from Generals Carl Spaatz and Fred Anderson, respectively commander and chief of operations of United States Strategic Air Forces in Europe, and William Kepner, Eighth Air Force fighter commander. This plan countered Tedder's transportation plan by arguing that the most efficient way to prepare for the invasion was to continue bombing Germany's industrial fabric, destroying weapons at the factories rather than trying to interdict the flow of supplies to the front. More importantly here, Spaatz, Anderson, and Kepner argued a different plan to prepare for air superiority over Normandy on D-Day. They agreed with Leigh-Mallory and Brereton that they could not attract the Luftwaffe to defend the skies over France where attrition could wear it down but insisted that attrition could be achieved by continuing to strike against industrial targets in Germany.[12]

Their plan was to use B-17s and B-24s as bait. By being over Germany doing damage to critical industries, the bombers would serve as bait to attract German fighters so that American fighters could shoot them down. It was a major gamble, because in the fall of 1943 the Luftwaffe had truly bloodied Eighth Air Force. Eighth Air Force lost 60 bombers over Schweinfurt on October 14, 1943, and 88 more bombers on three other missions that same week.[13]

By the spring of 1944 the situation had changed. Dozens of fresh American bomber and fighter groups had arrived from the States. P-47 Thunderbolt and P-51 Mustang long-range fighters with drop tanks could now carry the battle for air superiority into Germany and beyond. Refined tactics placed them where they could wreak an increasing toll on German fighter defenses. A refined strategy made these German fighter defenses the primary target for destruction. A new leadership cadre, including Spaatz, Anderson, and Kepner, understood the importance of winning air superiority to permit the invasion and a continuation of the bombing offensive against Germany without heavy losses. This new leadership believed that the Luftwaffe could be made to use up all its resources trying to stop the bombers.

Attrition of the Luftwaffe over Germany would bring air superiority over Normandy. Spaatz and Anderson wanted to stop using tricks and feints to get the bombers to their targets. They knew from experience that Eighth Air Force could confuse the Luftwaffe to limit its ability to concentrate intercepting fighters near the bomber streams. Such feints reduced American losses but also reduced German losses. If the Germans could not find the bombers, they would not be there to be shot down. The American commanders therefore ordered the bomber units to fly to their targets. There would be no feints. Spaatz wanted to make sure the Luftwaffe would know where the bombers would be on a given day so that the Luftwaffe would come up in large numbers to fight and be wounded if not killed.[14]

Kepner, the fighter commander, realized that even then the Germans would try to limit their losses so that they could live to fight another day. His contribution was what he called "air guerrilla warfare." He ordered his fighter pilots to escort American bombers to their targets at 30,000 feet as before but to return to England on the deck. If the Luftwaffe would not come up and fight, he would go down and get them, strafing the wolf in its lair. When cloud cover kept the bombers in England, he would send his fighters into Germany below the cloud cover, strafing anything that could contribute to the war effort. Strategic bombing had previously meant dropping bombs from high altitude. Kepner wanted to achieve similar results by having fighters shoot bullets from tree-top level. Pilots received kill credits for aircraft destroyed on the ground. They brought "home pieces of trees from Germany as souvenirs." Mission reports told the tale: "I claim three Ju-52s," "I claim three locomotives," and even "I claim 25 cows."[15]

Spaatz, Anderson, and Kepner sent their aircraft into Germany day after day, engaging in a battle of attrition reminiscent of those fought around Petersburg in the Civil War and Verdun in World War I. February 20 through 25, 1944, they went after Germany's aircraft production in the Big Week missions. Bombing results were good but did not stop German production—it

continued to rise at an alarming rate. Losses were heavy (Eighth Air Force lost 269 aircraft), but the Luftwaffe also bled (282 aircraft written off). Clearly, however, the Luftwaffe was husbanding its resources. Waves of fighters came up every day but not enough to expose the entire force to possible destruction. The challenge was to find a target for bombing that would force the Luftwaffe to engage in battle. Some wanted to continue striking at the industrial fabric, which had not proved that effective so far. Spaatz, Anderson, and Kepner, however, decided that the air above the targets was more important at this point in the war, not the targets on the ground. The next target would have to be Berlin. How could the Luftwaffe not launch every aircraft it had to defend its capital from the embarrassment of having 2,000 American bombers and fighters appearing over Berlin in broad daylight? The Luftwaffe would have to come up and fight to the death if necessary.[16]

On March 2, 1944, just three months before D-Day, they ordered their strategic forces to attack targets in Berlin. Eighth Air Force found Berlin overcast and diverted the bombers to the clear sky over Frankfurt. Anderson was outraged. He wrote Eighth Air Force commander Jimmy Doolittle that "it doesn't matter if Berlin is overcast. The resulting air battle over Berlin would result in attrition, which makes it more important than any destruction on the ground and going to Frankfurt to find clear skies won't achieve the same result. We've got to stick at this damn thing." Doolittle objected to Anderson's plan to send B-24s to Berlin, arguing their lower ceilings would make them sitting ducks. He complained, "God, they'll just get killed in them." Anderson's response was one word: "Well?"—not a sign of callousness but rather of Anderson's absolute commitment to winning air superiority for the Normandy invasion.[17]

Eighth Air Force went to Berlin on March 4, 6, 8, and 9. March 6 cost Eighth Air Force 69 heavy bombers and 11 fighters—from the song's lyrics, "to go down in flame"—the deadliest day in American airpower history. The Luftwaffe bled also—136 lost defending Berlin on those four days. It pulled out all the stops, even using its night fighters for day missions. It threw its best pilots into the carnage and lost them to the Spaatz meat grinder: Gunther Rall with 275 kills when he was shot down, Anton Hackl with 192, Hugo Frey with 32, Gerhard Loos with 92, and Rudolf Ehrenberger with 49.[18]

On March 9, 1944, Spaatz sent every aircraft that could fly and every crew with its nerves intact to Berlin. Hundreds of American aircraft appeared over the German capital, but for the first time in the war, the Luftwaffe refused to rise up and fight. American aircraft over Berlin found "no one at home." The enemy had blinked because he was bleeding to death and needed time to rest and recover. Germany would get that time, because General Eisenhower ordered the big bombers to strike against transportation targets in France for

most of April and May but did allow them to go back to Germany on occasion to continue the attrition.[19]

Spaatz had a new target he knew the Luftwaffe could not avoid defending—oil. Just a few strikes before D-Day caused heavy and continuous attrition of the Luftwaffe as Germany's airmen fought to protect their life blood. Deeper and deeper into Germany, American bombers struck. Germany pulled its tactical aircraft farther and farther back to defend against the onslaught. Finally, on May 21, came perhaps the most propitious mission of the entire war. Eighth Air Force bombers that day were hitting transportation targets in France, so the fighters went on low-altitude strafing missions in Germany. Codenamed Chattanooga after a popular song of the time, "Chattanooga Choo Choo," it targeted locomotives all over Germany. Key to the mission, however, was not the tally of locomotives destroyed that day but the intelligence summary that resulted. Fighter pilots reported that they had not seen a single German aircraft anywhere west of Hamburg, in the air or on the ground. Every German aircraft had been pulled back more than 500 miles from the Normandy beaches—too far to interfere with the Normandy landings on June 6, 1944.[20]

The day and night before D-Day, a worried invasion commander went out among his troops to seek comfort for himself and to share soldiers' concerns. General Eisenhower did not offer false bravado nor give any pep talks about how victory was guaranteed. He made only one promise.

Tomorrow, he told them, "If you see fighting aircraft over you, they will be ours." On June 6, 1944, only two German aircraft attacked the landing, both doing no harm. That day every aspect of the Allied invasion plan was in doubt except in the sky over Normandy. There would be no battle for air superiority over the invasion front that day. Eighth Air Force had already won a battle that need not be fought.[21]

By 1944 the United States had settled on strategies for defeating Japan. The Navy favored a blockade, based on its success with submarines over the previous years. This was a classic Mahanian approach, with the Allies cutting off the flow of resources on which Japan was dependent. In 1945, the Navy hoped to pull the noose tighter and tighter, based on possible landings in China and Korea and on the mining of Japan's inland waters, until sometime in 1946 or 1947—hopefully, Japan would be starved into surrender. A component of the Navy plan was a strategic bombing campaign of Japanese economic targets, identified in the prewar Orange planning as necessary to strangle the Japanese economy. Few believed, however, that the Allies could wait that long—public opinion would not allow it, and few believed that Allied economies could continue to support the massive armies, navies, and air forces that would have to wait for this slow strangulation to take effect. Considering that

the Japanese economy had collapsed in early 1945, there were no guarantees that this strategy would work. At best, many thought, it would produce a negotiated, limited surrender, short of the unconditional surrender demanded by wartime agreements.

The Army Air Forces favored a variation of the Navy plan. Based on prewar doctrine, it believed a B-29 strategic bombing campaign launched from the Marianas could destroy the industrial sources of Japan's war-making capabilities. Japan would surrender, because it would have lost the ability to wage war. With this in mind, Twentieth Air Force began the strategic bombing of Japan from Guam, Saipan, and Tinian in November 1944. The distances were too great, the precision bombing too imprecise, and perhaps the greatest challenge of all, Twentieth Air Force was bombing largely empty factories already shut down by the Navy blockade. Airmen hoped airpower would bring defeat and surrender, but clearly it would not be enough.

The Army favored a direct, frontal invasion of the Japanese home islands as the quickest means of forcing Japanese unconditional surrender. By April 1, 1945, Japan showed no signs of surrender, encouraging the Joint Chiefs to order the invasion of Okinawa. Three months of ground, sea, and air warfare cost the United States 50,000 casualties and Japan 110,000 dead. The Okinawa experience colored all future plans for defeating Japan. An invasion force against the home islands would confront a Japanese army of possibly five million and many times more civilians receiving rudimentary training in how to oppose any landing. Japan also prepared more than 5,000 kamikaze aircraft. The Army's invasion plan called for Operation Olympic, the invasion of Kyushu, to begin November 1,1945, followed by Operation Coronet, the invasion of Honshu (specifically, the plain around Tokyo), to begin sometime in 1946. No one doubted the invasions would be successful. The question was whether the United States could withstand the American casualties that would result and whether it could stomach the millions of Japanese who would be killed in the process.[22]

Casualty figures were largely the product of the American experience on Saipan and Okinawa. Using the "Saipan ratio," staff officers predicted American casualties could reach 1.7 to 2 million, though by the spring of 1945 this number had declined to 500,000. They knew, however, that the Soviet Red Army had suffered 352,000 casualties attacking Berlin in the closing days of the European war. The Army made plans to recruit and train 720,000 soldiers to replace those injured, killed, or otherwise indisposed in the invasions. It also ordered the production of 400,000 Purple Hearts.[23]

This is what the United States faced when Gen Lauris Norstad, chief of staff for Twentieth Air Force, told his chief operational commander, Gen Curtis LeMay, that "[i]f you don't get results it will mean eventually a mass amphib-

ious invasion of Japan, to cost probably half a million more American lives." Norstad and LeMay knew that Japan had already been defeated—the Navy blockade had assured that. The task was how to get the Japanese to surrender. As early as 1932, Billy Mitchell, sent on a tour of the Far East to get him out of the United States, observed that, though he was opposed to the bombing of civilians, the best way to defeat Japan would be to attack what he called Japan's "congested and highly inflammable cities." He was there just after a fire in Tokyo had killed 100,000.[24]

Gen Haywood Hansell began the precision bombing of Japan's industries in November 1944, largely without effect. B-29s had to fly too far to carry meaningful bomb loads, but most importantly, the jet stream discovered high over Japan played havoc with the workings of the Norden bombsights that were to aim Twentieth Air Force bombs. Defeating Japan by destroying its capabilities or industries was not going to work. LeMay replaced Hansell, prompting Norstad to explain to Hansell that "LeMay is an operator, the rest of us are planners." His assignment was to firebomb Japan's paper and wood cities to weaken the ability of the Japanese to resist the impending invasion, but more importantly, to force the Japanese to surrender without an invasion.[25]

After the war, LeMay explained his intentions: "I'll tell you what war is about. You've got to kill people, and when you've killed enough they stop fighting."[26] Tokyo was the first to burn on March 9, followed by Nagoya, Osaka, Kobe, Kawasaki, and Yokohama. Hundreds of thousands were killed or injured, some incinerated and dead, some burned and scarred, some just shocked. Still the Japanese refused to surrender. Atomic bombs came on August 6 and 9 against Hiroshima and Nagasaki, targeted not so much as military weapons at the people of those cities but as psychological weapons aimed at Japan's military leaders.

In August and September 1945, 650,000 American soldiers were completing the last phases of their training for the invasion of Kyushu. Japan had concentrated its defensive forces near the beaches of Kyushu, where they would have been exposed to the concentrated firepower of 2,500 ships and 5,000 aircraft. Meanwhile B-29s, now joined by B-17s and B-24s flying from Okinawa, were preparing to burn the remaining Japanese cities. Mercifully, for both sides, the word to quit came in August, with the Japanese surrender following on September 2. The largest amphibious invasion planned in world history never happened.

The legacies of the greatest of all battles in World War II that were never fought became the foundation of an independent air force, based not in victory but in battles that did not have to be fought. Since D-Day, no American ground army has ever been threatened by attack from the air. And through the most dangerous war in human history, the Cold War, no nuclear, chemical,

nor biological exchange took place. The true greatness of a United States Air Force established 50 years ago should be measured not simply in battles won but, more importantly, in the many battles that did not have to be fought. With all the bloodshed and horrors of Korea (580,000 Allied casualties and 1.6 million Communist casualties) and Vietnam (423,000 American casualties and several million Vietnamese casualties), we only have to imagine how different the last 50 years would have been without an Air Force to prevent scores of other such wars and battles from happening.

Stephen McFarland is a leading authority on American airpower in the 1930s and 1940s. His book, *America's Pursuit of Precision Bombing, 1910–45* (Smithsonian, 1995), won the 1996 W. Stuart Symington Award from the Air Force History and Museums Program. Professor McFarland served in the United States Air Force and earned his bachelor of arts degree at the University of Kansas. He obtained his master of arts and doctoral degrees at the University of Texas. He completed his doctorate in 1981, which featured a dissertation on the "Crises in Iran, 1941–47: A Society in Change and the Peripheral Origins of the Cold War." In 1980, Professor McFarland began his teaching career at St. Edwards University but continued his career at Auburn University from 1981–2007. He was a visiting professor at the US Air Force Air War College in 1991–93. His publications include *To Command the Sky: The Battle for Air Superiority over Europe, 1942–44* (with Wesley P. Newton, Smithsonian Press, 1991), which won a 1992 Certificate of Merit from the Aviation/Space Writers Association and was revised as a second (2002) and third edition (2006); *A Concise History of the U.S. Air Force* (Air Force History and Museum Program, 1997); and *Conquering the Night: Army Air Forces Night Fighters at War* (Air Force History and Museum Program, 1997). Dr. McFarland is currently a professor at the University of North Carolina–Wilmington, where his latest research is "Fueling the Aeronautical Revolution: America's Pursuit of High Octane Gasoline, 1913-1945," which focuses on the development of aviation technology from the origins of flight to the turbojet revolution, using fuels as a unifying factor in the evolution of the various technologies that allowed aircraft to fly higher, faster, farther, and more reliably.

Notes

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The Aircraft That Decided World War II

Aeronautical Engineering and Grand Strategy, 1933–1945
The American Dimension*

John F. Guilmartin Jr.

The purpose of this essay is to connect, from an American perspective, two propositions: that airpower was critical to the conduct and outcome of the Second World War, and that aircraft design contributed the crucial role in the process. There is nothing controversial about the first proposition. Historians and theoreticians may debate the decisiveness of strategic bombing, but few would deny the decisiveness of airpower in the generic sense, if for no other reason because control of the air invariably provided an essential ingredient of victory in the battles and campaigns comprising World War II and whose cumulative effects of airpower determined its flow and eventual outcome. Indeed, the war's only campaign of major strategic consequence won without benefit of air superiority was the US Navy's submarine campaign against Japanese shipping, a fact that is in part testimony to Japanese weakness in the air.[1]

To underline airpower's importance, consider the battles and campaigns principally responsible for shaping the course of the conflict: the Battle of France, the Battle of Britain, the early German victories on the Eastern Front; the Japanese Centrifugal Offensive; Midway; Guadalcanal; Stalingrad; El Alamein; the Tunisian campaign; the Battle of the Atlantic; D-Day; the Normandy campaign, breakout, and pursuit; the destruction of Army Group Center; the New Guinea campaign; the Central Pacific campaign culminating in the Battle of the Philippine Sea and the seizure of the Marianas; the Battle of Leyte Gulf; and the bombing of Japan. In every case, victory was secured from the air, was dependent upon its control, or both.[2]

Extending our analysis to smaller engagements of strategic consequence yields a number of naval actions in which airpower played a negligible role. Significantly, most were fought at night, testimony to the vulnerability of warships to daylight air attack even early in the war.[3] Notable among them were a series of night surface engagements between Japanese and American forces during the Guadalcanal campaign.[4] These engagements took place at night precisely because the Japanese navy sought cover of darkness to negate US airpower. Note, too, that aerial reconnaissance (or the failure thereof) played

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a major role in most if not all of these engagements and that American superiority in the air was essential to Allied victory in the overall campaign.[5] The other exceptions are partial and qualified. The Royal Navy was able to fight convoys through to Malta and Murmansk under heavy air assault and with little or no air cover, but at great cost. Indeed, Japanese successes in the Guadalcanal campaign aside, the only naval victory of consequence won by surface forces unaided by air and fought within range of enemy airfields was the 26 December 1943 Battle of North Cape in which the Royal Navy sunk the German battle cruiser *Scharnhorst*: confined to its Norwegian airfields by abominable weather, the Luftwaffe failed to intervene.[6]

Army Air Forces flight officers brief the target of the day in this undated photo. Courtesy of the Capt Joseph J. Merhar Jr. Collection, AFHRA.

We should also note that a number of the war's most important campaigns were fought entirely in the air, notably the Battle of Britain, the Combined Bomber Offensive, and the strategic bombing campaign of Japan. I would argue that all three were strategically decisive, an assertion that raises the question of strategic bombing's effectiveness in World War II. I will address that question later, but first let me make a fundamental point: that war in the air is inherently different from other forms of warfare and that we do not truly understand it, even today, over a half century after VJ Day. A key problem is that we approach strategic bombing with the implicit assumption that air

campaigns and battles can be judged using the vocabulary, criteria for success or failure, and analytical framework used to evaluate warfare on land and at sea. I contend that the appropriate criteria for judging strategic air campaigns, at least, are quite different and that in consequence the results of the debate so far are of dubious validity.

As evidence of our incomplete understanding of the nature of aerial warfare, consider the general lack of consensus—or even awareness—of what constitutes an air campaign. To illustrate the point, consider the last major Axis campaign victory of World War II. When asked to name the campaign in question, most draw a momentary blank and then think of the Battle of the Bulge before recalling that it ended in German defeat. It was, in fact, the Battle of Berlin, the effort by Royal Air Force Bomber Command between November 1943 and March 1944 to destroy Berlin, repeating Hamburg's destruction the previous summer.[7] In the process, the British inflicted considerable damage on Germany to be sure, but the result was unequivocally a German victory: Bomber Command called off its offensive after an accumulative loss of nearly 1,100 aircraft, almost all of them four-engine bombers.[8] Indeed, the final battle of the campaign, the 30 March Nuremberg raid, was one of the largest air battles of the war, if not *the* largest, and a signal German victory.[9] There is no denying the strategic importance of the British defeat in terms of expenditure of resources and in lives lost, a cost made all the more painful by the fact that the lives in question were those of highly trained and strategically important elite aircrews, yet it was not a typical battle or campaign.

To expand on the point, consider the nature of the Combined Bomber Offensive. We ordinarily think of it as a campaign, but it was in fact something larger, for it contained within it operations that clearly qualify as campaigns in their own right: RAF Bomber Command's area bombing of German cities; the United States Army Air Forces' (USAAF) unescorted daylight strategic bombardment campaign of 1943; the 1944 campaign against German sources of oil and fuel production; and Big Week, the USAAF effort in February 1944 that forced the Luftwaffe fighter force to accept battle and, ultimately, defeat. The lesson is evident. Not only does the terminology that we have inherited from land and naval warfare fit war in the air poorly, it carries with it analytical baggage that distorts analysis.

To further underline the inherent difference between war in the air and war on the surface, one can argue—and I do—that World War II in the air comprised a unitary global conflict in ways that the war on land and at sea did not. On land and at sea, the war can be usefully divided into theaters and fronts: the European Theater; the Eastern Front; and the Mediterranean, China-Burma-India, Southwest Pacific, and Central Pacific Theaters, and so on. By and large, there was little movement of ground forces from one to an-

other. With the partial exception of the Germans, who used interior lines to transfer their strategic reserves, once ground forces were committed to a theater or front they stayed there. The same general point applies to naval forces to an only slightly lesser degree. But what about air forces? Air forces *were* transferred from theater to theater with some frequency. The USAAF transferred much of its deployed force structure from Britain to North Africa in the autumn of 1942. The Germans shifted air units from front to front far more frequently than their ground reserves. The Japanese Army Air Force transferred much of its strength from the Home Islands and Manchuria to the Southwest Pacific in 1942–43. The manner in which air reserves were deployed in certain critical instances leads me to the conclusion that at least senior Allied leaders implicitly understood that the air war was indivisible by theater. Let me make the point by example.

For the US Navy, the series of actions in May and June of 1942 that culminated in the Battle of Midway was the most critical of the war, a fact of which senior commanders were keenly aware well before the fact. As they were also keenly aware, fleet carriers were *the* critical operational asset. At the beginning of May 1942, the US Navy had five fleet carriers capable of flight operations: *Lexington, Enterprise*, *Hornet*, *Yorktown*, and *Wasp*.[10] Of these, *Lexington* was sunk at the Coral Sea and *Enterprise*, *Hornet*, and *Yorktown* fought at Midway. Where was *Wasp*? More precisely, why was *Wasp* not at Midway? Because she was delivering Spitfires to Malta! Those responsible for sending *Wasp* to the Mediterranean clearly understood the global nature of airpower, and it is worth noting that American forces began to establish ascendancy in the air in the Pacific shortly thereafter, at the same time the British were taking the Luftwaffe's measure in North Africa and the Mediterranean.

Returning to the definitional problem, the argument that strategic bombing failed in World War II is generally made by evaluating the results of individual campaigns in isolation. Most often cited are the USAAF efforts in the summer and autumn of 1943 to collapse the German war economy by unescorted daylight bombardment and RAF Bomber Command's night area bombing of German cities. While it is true that neither succeeded in achieving its stated objectives, both forced major reallocations of German resources that might have been more profitably used elsewhere. Of far greater importance to the subsequent course of the war, both campaigns—and in particular the American effort—depleted vital German resources that could not be replaced within available time constraints, most critically, skilled fighter pilots. Thus while they may not have been victories within the analytical framework borrowed from warfare on land and at sea, both had long-term consequences that contributed powerfully not only to Allied victory in the air, but to the defeat of Nazi Germany.

So with an understanding that there is much that we do not understand about the nature of air warfare, let us turn to my second proposition, that aircraft design was a key variable in determining the strategic effect of airpower. This proposition, like my first one, is uncontroversial, although here the lack of controversy is mostly due to a lack of systematic examination of the problem. Almost by definition, well-designed aircraft have superior performance and should thus bestow to their possessors tactical, and therefore strategic, advantages, or so logic would dictate. But there is a danger in this assumption, for it easy to conclude that strategic advantage obtained in the air must have flowed from superior design, and that is not always the case.

In fact, the seemingly straightforward relationship between quality of design and tactical advantage on the one hand and strategic effect on the other turns out to be anything but. As a multitude of cases demonstrate, superiority in numbers or employment tactics, acting together or independently, can do much to offset performance disadvantages. That part of the puzzle is generally understood. Not so well understood or systematically explored is the fact that design determines much more than performance in the narrow sense: speed, maneuverability, range, offensive capabilities, resistance to battle damage, and the other factors that influence tactical effectiveness. By predicting cost and ease of production, design sets limits on how many of a given design can be built with the fiscal and human resources available. In controlling reliability and ease of maintenance, design has a major influence on in-commission rates. In establishing handling characteristics—in simple terms, how easy or difficult an aircraft is to fly—design exercises a powerful influence on operational wastage. Finally, the design must be suited for the particular circumstances under which the aircraft is to be employed, and here a single performance parameter may be critical. To cite an obvious example, a bomber which is a superior design in every other respect but which lacks the range to reach its targets is strategically useless.

We are not helped much in our inquiry by the secondary literature, for little attention has been paid in detail to the connection between aeronautical design, tactical operation, and strategic impact. A great deal has been written about the impact of airpower on World War II by theater, campaign, and battle, but few general accounts pay much attention to aircraft performance, let alone design. Similarly, much has been written about the aircraft with which the war was fought, their design histories, what they were like to fly, and how successful they were in combat, much of it for a buff audience. But while capturing an enormous amount of valuable information, this literature rarely addresses strategic issues. As a result of this divide in the literature, attempts to relate aircraft design to strategic effect are rare and generally limited to a single

campaign or battle. The Battle of Britain is well served in this regard but is very much the exception to the rule.[11]

The intersection between aircraft design and strategic effect is an enormous topic, and in addressing it I confronted major problems. The key question was which aircraft to analyze, and it struck me that it might be useful to begin by ranking World War II aircraft according to their strategic importance. Such a rank ordering would not only reduce the scope of the inquiry to manageable proportions, it would, or so I hoped, provide an analytical lens through which to selectively identify and evaluate those performance characteristics that were strategically most important. Having identified the critical performance parameters, I could then examine the design processes that produced them. In fact, this approach proved to be productive, yielding results that were often unexpected and counterintuitive.

That approach is not without its difficulties. Comparing the strategic importance of aircraft that performed different missions in different theaters at different times poses obvious problems. The fact that aviation technology changed enormously during the period of our concern further complicates matters. In addition, we must consider counterfactuals if the inquiry is to make sense. My rankings are thus indicative rather than definitive. Still, I am satisfied that the rank ordering reflects strategic reality. I could easily justify moving many of the aircraft on the list up or down several places, but I am confident that the ranking is an accurate—albeit inexact—measure of relative strategic importance. To establish the ranking, I approached aircraft that played a major operational role in the Second World War with two questions: How did the aircraft in question strategically affect the conduct and outcome of the war? How would the conduct and outcome of the war have changed if the aircraft in question had not been developed and produced?

Neither question can be answered in any definitive sense. This is particularly true of the second question, which requires us to consider the responses of historical actors to events that did not, in fact, transpire. But while the answers may not be definitive, asking the questions enhances our understanding of both the design process and the nature of World War II. You, the reader, must judge the value of the project.

To keep this work to a reasonable length, I truncated my analysis, focusing on the American experience. That proved to have value in its own right, highlighting the relationship of the American aviation industry to the armed forces and government of the United States and how that relationship differed from those prevailing among the European powers and in Japan.

Before presenting the list, a few points about the ranking process are in order. First, the rankings are heavily—though not exclusively—dependent on chronology. The circumstances of each successive campaign and battle were

determined by those that went before, so aircraft whose strategic importance was manifested early in the war generally rank ahead of those that appeared later. German victory in the Battle of France determined that the war would be a long one if it did not end in outright Nazi victory, so the aircraft instrumental in the defeat of British and French forces in May and June of 1940, the Messerschmitt Bf 109 and the Junkers Ju 87, go to the top of the list. That those same aircraft were instrumental in the early German victories on the Eastern Front reinforces their position; so does the fact that the Bf 109 in its later versions played a preponderant role in defending the Reich against daylight attack. Victory in the Battle of Britain was an essential precondition for eventual Allied victory, so the fighters responsible for turning back the Luftwaffe in the summer and autumn of 1940, the Hurricane and Spitfire, come next, and so on.

Next, to say that the course of the war would have differed significantly had a particular aircraft not been designed or produced implies that there was no available substitute. The Focke-Wulf Fw 190 does not make the list for this reason, reinforced by the fact it did not enter service in significant numbers until early 1942. As good a fighter as it was, most of the strategic benefits it bestowed on the Reich could have been obtained by increasing Bf 109 production. Conversely, in the strategically decisive struggle for air supremacy over Germany from late 1943 on the Bf 109 *could* do one essential thing that the Fw 190 could not: survive in air-to-air combat against P-47s, P-38s, and P-51s at altitudes of 25,000–30,000 feet. I applied the logic of this example throughout in determining which aircraft to include or exclude from my short list.

In a few cases, the strategic impact of a given aircraft was so great as to justify moving it higher than the timing of its operational debut would indicate. The B-17 is the salient example of both this point and the previous one. The rationale behind my decision to rank the B-17 as I did, fifth on the list, is thus worth examining in detail as an illustration of the process.

It is difficult to imagine the effective destruction of the Luftwaffe fighter arm prior to D-Day without the threat that high-altitude daylight precision bombardment posed to the German war economy. The German high command could concede control of the air on the Eastern Front, albeit selectively, and did so following the failed July 1943 Kursk offensive.[12] It could concede control of the air in the Mediterranean and did so following the Anzio invasion. It could not concede control of the daylight skies over the Reich without courting disaster. Forced to give battle over the Reich, the accumulative and synergistic effects of the Eighth Air Force bomber and fighter commands' combined combat effort reduced the Luftwaffe fighter arm to ruin.

A direct product of the B-17's ability to penetrate German airspace in massed formations, hit its targets with useful accuracy, and do so without prohibitive losses forced the Luftwaffe to meet that fatal challenge. Ultimately the provision of long-range fighter escort enabled strategic bombers to accomplish their designed mission—high-altitude daylight precision bombing. The only available substitute, the B-24, was a useful supplement to the B-17 but had to be employed with circumspection in a high-threat environment. With a service ceiling some 5,000 feet lower than that of the B-17,[13] the B-24 was considerably more exposed to antiaircraft artillery, a liability multiplied by the B-24's greater vulnerability to battle damage.[14] Moreover, the B-24 was significantly more difficult to fly. The problem was particularly acute in the earlier versions and made the assembly of large formations above the undercast after individual instrument takeoffs difficult and at times impossible. As a concrete example, the B-24–equipped 2nd Bombardment Division tasked to participate in the 14 October 1943 Schweinfurt raid managed to assemble only 21 of 58 bombers launched, too small a formation to be tactically viable, and the force diverted to a diversionary raid.[15] In short, the B-17 could have done the job alone. The B-24 could not have.

At this point I will present my rank ordering accompanied by a skeletal rationale for each aircraft's place within it followed by a brief discussion of the way in which the design of the aircraft in question contributed to its strategic significance. These discussions must be preceded by the caveat that in many cases we know little about the design process beyond what we can infer from physical characteristics, performance data, and the operational record. I do not pretend that the ranking is definitive and have no doubt that it will be controversial. It does, however, raise important questions concerning aircraft design and how it was turned to strategic advantage—or disadvantage—that we will address in concluding.

World War II Aircraft in Order of Strategic Importance

Messerschmitt Bf 109

Courtesy of National Museum of the Air Force, Don Popp

The Messerschmitt Bf 109 provided the battlefield air superiority essential to German victory in the Battle of France and the initial successes on the Eastern Front that inflicted horrendous losses on Soviet forces and materially lengthened the war. With Germany on the defensive, the Bf 109 was the Luft-

waffe's most important daylight interceptor and the only one capable of contesting the high-altitude daylight skies over *Festung Europa*[*] with the long-range USAAF fighters that began penetrating German airspace from the end of 1943.[16]

While aircraft were not designed to ideological specifications, the Bf 109 fit Hitler's strategic vision like a hand in a glove. The smallest airframe that could be built around the most powerful engine available, the Bf 109 owed its early success largely to the excellence of its Daimler-Benz 601 engine. While the DB 601's closest equivalent, the British Rolls-Royce Merlin, offered better performance at high altitudes, the German engine held a progressively greater advantage as combat altitudes dropped below 15,000 feet. This was a product of the DB 601's hydraulically driven, variable-speed supercharger. The Merlin's supercharger had a mechanical clutch; it therefore ran full speed or not at all, and engaging it at too low an altitude would overboost the engine. By contrast, the Bf 109's supercharger gradually throttled back as altitude decreased and continued to yield the maximum boost that the engine could absorb right down to the deck. Moreover, the Bf 109E, the principal version employed in the Battle of France and the Battle of Britain, had the most effective armament of any contemporary operational fighter in the form of two wing-mounted high velocity 20 mm cannon, supplemented by two 7.92 mm machine guns mounted in the engine cowling. The Bf 109's cannon yielded major tactical advantages over machine-gun armed opponents, particularly in fighter-versus-fighter combat. Not only did each round inflict far more damage, the destructive effect did not diminish with range. Of considerable operational importance to the early German victories, ground crews easily maintained the Bf 109 in the field: an engine change could be accomplished in 15 minutes. Finally, the simple and efficient design was well suited to mass production.

The only putative alternative to the Bf 109, the Heinkel He 112, had a heavier airframe and, in its initial versions, inferior flight characteristics. It would have been more difficult to maintain in the field. Finally, its more complex structure would have been more difficult to produce, the factor that ultimately led to its rejection. Significantly, the decision to reject the He 112 in favor of the Bf 109 was made in 1936 within the inner circles of the Nazi Party under the pressure of Hitler's strategic agenda.[17]

An important component of the Bf 109's early successes was the development in the Spanish Civil War of tactics based on the use of air-to-air voice radios that enabled element leaders to rely on wingmen to cover their tails and gave formation leaders a means of coordinating attacks. Called "finger four"

[*] "Fortress Europe."

because the spacing of the four fighters in the basic *schwarm* formation resembled that of the tips of the fingers of an outstretched hand, these tactics were later widely imitated but gave the Luftwaffe an enormous initial advantage.

On the down side, a light and simple design gave the Bf 109 exceptional performance at the expense of a restricted radius of action and entailed compromises in handling characteristics. The Bf 109 lacked a rudder trim that could be adjusted in flight, placing significant demands on pilot strength and skill. The main landing gear, attached to the fuselage rather than the wing, permitted a lighter structure but was inherently weak and placed the main wheels close together near the center of gravity. As a result, unless in the hands of an experienced pilot, the Bf 109 was susceptible to ground looping during takeoff or landing roll. In such an event, the landing gear was prone to collapse with the aircraft rotating horizontally around the landing gear. This was a significant cause of operational losses, particularly when operating from unprepared grass strips.

The net result was an aircraft capable of controlling the airspace over fast-moving armored columns, albeit at a considerable cost in operational wastage. The underlying technological strategy—implicit, but integral to the Nazi ethos—assumed that the ensuing victories would be quick and decisive, making high loss rates acceptable since they would only be sustained for brief periods. Except for the Battle of Britain, that logic remained operationally valid through the summer of 1942. Then, with the turn of the tide of the air war, first in the Mediterranean, then in the east, and finally in the west, high losses in the absence of quick victories plagued the Luftwaffe. Although handicapped by short range, later versions of the Bf 109 remained tactically viable until war's end, and German aircraft industry produced it in greater numbers than any other World War II aircraft, more than 33,000, with the sole exception of the Soviet Il 2 *Shturmovik*.[18]

In the final analysis, the Luftwaffe lost the war in the air by virtue of its inability to make good the loss of skilled pilots, particularly fighter pilots. While aircraft production outpaced losses almost to the bitter end, the Luftwaffe's shortsightedness in fielding a robust and dynamic pilot-training establishment kept it from absorbing operational pilot losses. Shortages of aviation fuel caused by Allied bombing likewise contributed to a reduction in training tempo. As a consequence, by 1945 the Luftwaffe defended German skies with a reduced number of fighter pilots with less experience and inadequate flight training. Pilot losses incurred as a direct product of the Bf 109's design flaws were a major factor as well. Both the failure to create a capable training establishment and the Bf 109's design deficiencies accurately reflected the *Wehrmacht's*—and Hitler's—strategic mindset.

Junkers Ju 87

The Junkers Ju 87's combination of bombing accuracy and psychological shock effect —an effect magnified by wind-driven sirens mounted on the landing gear and "screamers" on the bombs—made essential contributions to German victory in the Battle of France and to German ground offensives on the Eastern Front through the summer of 1942. Although not employed in a true close air support role, it provided the mobile heavy artillery that the Panzer divisions lacked. It proved highly effective in attacks on ships, inflicting major losses on the Royal Navy in the Battle of Crete and on convoys on the Murmansk run. The *Stuka* performed as a divisional organic mobile artillery reserve—stacked at altitude over the armored *schwerpunkt** through the French lines—formations of *Stukas* rendered timely close air support and interdiction through the equivalent of the modern USAF JFACC, using a senior Luftwaffe officer at corps level [*Koluft*] and air-liaison officers [*Flivos*] assigned at the division level, which permitted the armored thrusts to exploit the timely breakthroughs.†

Bundesarchiv (Bild 183-J16050 / CC-BY-SA)

As with the Bf 109, the Ju 87 *Stuka*—from *Sturzkampfflugzeug*, "dive-bomber"—was tailored for Hitler's strategic vision. Doctrinally, the *Stuka* exaggerated the blitzkrieg tempo of an armored paralysis by adding flexible and organic firepower to the German mechanized ground maneuver force. Supremely effective in placing heavy ordnance precisely on target, it was the only World War II bomber capable of attacking in a true vertical dive with all the advantages in accuracy that entailed. That ability played large in the Battle

*Focal point of an attack.

†Joint Forces Air Component Commander (JFACC) is a modern term, certainly not used in the German military during World War II. However, the JFACC is the combat theater's leading air component commander responsible for air assets. The modern JFACC uses an air operations center to command and control air assets in theater. In this case, the *Koluft* (*Kommandeure der Luftwaffe*—commander of the air forces) was subordinated to the army and also liaised through *Flivos* (*Fliegerverbindungsoffiziere*—air liaison officers) to coordinate close air support and interdiction operations. *See* James S. Corum, *The Luftwaffe: Creating the Operational Air War, 1918–1940* (Lawrence: University Press of Kansas, 1997), 245–49. Thanks to Brig Gen (retired) Mark Wells, former permanent professor and department head, Department of History, US Air Force Academy (2000–2015), for helping to clarify Dr. Guilmartin's original description.

of France and German victories on the Eastern Front through the summer of 1942. But a true vertical attack and the high g-forces sustained in recovery called for an exceptionally robust and heavy airframe and that, in turn, compromised maneuverability and speed. The *Stuka*'s exceptional accuracy and bomb-carrying capability thus came at a price: it was horribly vulnerable to fighter attack, a lesson the Luftwaffe learned to its chagrin in the Battle of Britain, when Göring elected to take it out of action after devastating losses. Although no longer viable in the west, the Ju 87 continued to play a useful role on the Eastern Front to the end of the war both as a dive-bomber and as a "tank buster" with a pair of 37 mm cannon mounted beneath the wings.

Hawker Hurricane

Designed as part of an integrated, radar-controlled, air defense system, the Hawker Hurricane was essential to British victory in the Battle of Britain. Intended to bring firepower to bear against bomber formations, the Hurricane area interceptor acted in concert with its Spitfire sister, the better air superiority interceptor of the two.

US Air Force Photo

A competent, workmanlike design, the Hurricane was a straightforward development of the Hawker Fury biplane fighter, built with a traditional structure (in the early models only the fuselage from the cockpit forward had an aluminum skin) that lent itself to mass production and easy repair. It derived its tactical effectiveness from the excellence of its Rolls-Royce Merlin engine, about which an additional word is in order. A product of the Rolls-Royce company's systematic development of high-performance liquid-cooled V-12 engines that went back to World War I, the Merlin was a scaled-up development of the Kestrel that powered the Fury. The Merlin's design was also influenced by the Rolls-Royce "R" racing engine of 1931, the product of a government-subsidized program to compete in the Schneider Trophy seaplane races. The Merlin's debt to the "R" included the adoption of American-developed 100-octane fuel (about which more below) and a mechanical supercharger of unprecedented efficiency that give the Merlin exceptional performance at altitudes from 15,000 feet up.[19] The firepower of the Hurricane's massed battery of eight, and in later versions 12, wing-mounted .303-caliber machine guns contributed to its aerial successes against Luftwaffe medium bomber formations.

The Hurricane's strategic effect as an interceptor was a product of its design specification, one that called for a high rate of climb and heavy firepower at the expense of loiter time and radius of action.[20] Integral to the Hurricane's design and to its success as an interceptor was its use in ground-controlled radar intercepts directed by voice radio. Serendipitously, the peculiar circumstances of the Battle of Britain, fought at altitudes of 20,000 feet and above where the Merlin outperformed the DB 601, mitigated the Hurricane's tactical liabilities vis-à-vis the Bf 109. Moreover, the Hurricane's .303-caliber armament, inferior to the Bf 109's cannon in fighter-versus-fighter combat, proved brutally effective at close range against lightly armed and armored Luftwaffe bombers. Finally, as already noted, the Hurricane was eminently producible. In addition to its key role in the Battle of Britain, the Hurricane performed yeoman duty as a fighter-bomber in North Africa, and, when deployed aboard merchant ships as expendable catapult-launched interceptors, Hurricanes helped counter the depredations on Allied shipping inflicted by Focke-Wulf Fw 200 reconnaissance bombers that reached epidemic proportions in the final months of 1940. Carrier-based Sea Hurricanes played a small, but significant, role in the war at sea.

While the Hurricane's usefulness as a ground attack fighter-bomber was mitigated by a short radius of action and the inherent vulnerability of liquid-cooled engines to battle damage—a single hole in the coolant system can drain the engine, leading quickly to seizure—it was the best the RAF had until the advent of the Hawker Typhoon, which shared the same liability. Fitted with intake filters to protect the engine from sand particle erosion and armed with a variety of wing- and underwing-mounted cannon, the Hurricane was effective in the ground attack role in North Africa. The Supermarine Spitfire had significantly better performance and would in principle have been available as a substitute but was significantly harder to produce and repair. In consequence, it is doubtful that enough Spitfires could have been built and kept in commission to defeat the Luftwaffe in the Hurricane's absence. The figures bear this out: during the Battle of Britain the number of Hurricane squadrons increased from 25 to 33 while the number of Spitfire squadrons remained constant at 19.[21] Given inspired leadership—which Fighter Command had—Britain could probably have prevailed in the Battle of Britain without the Spitfire. British victory is difficult to imagine without the Hurricane.

Supermarine Spitfire

Like the Hurricane, the Supermarine Spitfire was procured as part of an integrated, radar-controlled air defense system. Capable of meeting the Bf 109E on an even footing at 15,000 feet and with an increasing advantage as altitudes rose, it made a vital contribution to British victory in the Battle of Britain.

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Fighter Command employed Spitfires to defeat the Luftwaffe fighter escorts while Hurricanes attacked and shot down the Luftwaffe bombers. From the end of the Battle of Britain until late 1943, it was the only Allied day fighter available in numbers in the European Theater that could match the performance of first-line German fighters and remained in frontline service until the end of the war. During 1941–42, Spitfires played a major role in wresting air superiority over North Africa and the Mediterranean from the Luftwaffe and the Italian *Regia Aeronautica*, a matter of no small strategic importance. In addition, specially modified Spitfires were the most important Allied strategic photoreconnaissance aircraft at the outbreak of hostilities in 1939—and the *only* ones capable of deep penetrations of Axis territory—and so remained until the debut of reconnaissance versions of the Mosquito in the autumn of 1941.[22] The Spitfire remained effective and important in that role until war's end. As with the Sea Hurricane, Seafires, as the carrier-based Spitfire was called, played a small but significant role in the war at sea.

Designed to a specification that called for a high rate of climb and heavy firepower at the expense of range and loiter time, the Spitfire, like the Hurricane, owed its tactical success to its Rolls-Royce Merlin engine fueled with 100-octane aviation gas. The Spitfire too was a lineal descendant of the Rolls-Royce "R" powered Supermarine S6 racer that won the Schneider Trophy in 1931. To an even greater extent than the Hurricane, the peculiar circumstances of the Battle of Britain negated the Spitfire's tactical liabilities. More aerodynamically refined than the Hurricane, its elliptical wing planform increased aerodynamic efficiency by some 2 to 3 percent.[23] Inferior to the Bf 109E at low altitudes, the Spitfire Mark II enjoyed appreciable advantages in maximum speed and turn radius at the altitudes at which the combatant pilots fought the critical engagements of the Battle of Britain. As the war progressed, the Spitfire was given remarkable longevity as a first-line air-to-air fighter by progressive improvement of its Merlin engine, but the Spitfire was more difficult to produce and repair.

Comparison with the Daimler-Benz–powered Bf 109 is instructive in this regard. While early versions of the DB 601 were superior to contemporary Merlins in power-to-weight ratio and in performance at medium and low altitudes, the DB 601 proved unable to accept increases in compression ratio that the more solidly built Merlin absorbed with ease. In consequence, the G

model of the Bf 109, fielded from the summer of 1942 and the most important variant in numbers produced, required an entirely new engine, the DB 605.[24] Moreover, while engineers increased the Spitfire's armament from late 1940 to include two wing-mounted 20 mm cannon, and later four, wing-mounted cannon had to be abandoned on Bf 109s beginning with the F model in 1941 to avoid fatally compromising performance in air-to-air combat. The final production versions of the Bf 109 had only a single cannon firing through the propeller hub supplemented by two 12.7 mm machine guns in the engine cowling. The British parallel to the DB 605 was the Rolls-Royce Griffon, a development of the "R" racing engine that was begun in 1933, then set aside until 1939.[25] Like the DB 605, the Griffon developed more power than its predecessor in the same space, 2,035 to 1,700-horsepower in late 1943 versions. Unlike the DB 605, the Griffon was strategic insurance rather than a necessity. While Griffon-powered Spitfires and Seafires were tactically superior to Merlin-powered versions, the latter remained tactically viable. Only in photo-reconnaissance Spitfires did the Griffon's added power and efficiency yield strategically important dividends.

The Griffon-powered Spitfire PR XIX (PR for photoreconnaissance), which entered service in the spring of 1944, provides a final commentary on the Spitfire's importance. The Griffon's superior high-altitude performance and a pressurized cockpit combined with the Spitfire's refined aerodynamics to give the PR XIX a service ceiling of no less than 48,000 feet—the highest of any operational piston-engined aircraft—rendering it effectively immune from interception. At that point photoreconnaissance versions of the P-38 were horribly vulnerable to interception by later versions of the Bf 109, and the PR XIX, though produced only in small numbers, satisfied a vital strategic requirement at a critical time. The aerial edge in battle early shifted between Allied air forces and the Luftwaffe as the Spitfire underwent growth in engine power, aeronautical performance, and increased firepower.

Boeing B-17 Flying Fortress

The Boeing B-17 Flying Fortress was the anvil against which the USAAF fighter force hammered the Luftwaffe fighter arm to destruction in the skies over Germany. That was of immense strategic importance above and beyond the destruction that B-17s visited on military and industrial targets, threatening a level of damage to key industries that the Third Reich's leaders could not tolerate. The B-17 was a singular design for which there would have been no viable substitute until the B-29 became available in quantity . . . if Boeing could have designed the B-29 without the experience gained from the B-17. Even before long-range fighters were available to escort deep penetrations, massed formations of B-17s took a significant toll on the Luftwaffe fighter

arm, both physically and psychologically, helping to make subsequent the German air arm's recovery impossible.

The B-17 was an uncompromising 1934 design intended to produce the fastest, highest-flying heavy bombardment aircraft extant. Boeing's design team adopted those objectives in response to stated Army Air Corps requirements but pushed them to the limit as a conscious high-risk, high-gain strategy to deliver blows against an industrial enemy. For a variety of reasons involving internal Army politics and blind luck—the loss of the first prototype to a pilot-error accident—that strategy nearly failed and most of the initial Army bomber contract went to the mediocre twin-engine B-18, a derivative of the DC 3 civilian transport. That having been said, Boeing's boldness reaped huge strategic dividends in range, bomb load, and ability to absorb battle damage.

Courtesy of the USAF Collection, AFHRA (519.08, IRIS no. 214678)

The excellent Wright R-1820 nine-cylinder engine, re-engineered at the Air Corps' insistence to burn 100-octane gasoline, was an essential cornerstone of the B-17's success.[26] Another was the development of the turbosupercharger by General Electric on an Air Corps contract, the only discrete Army research and development program to receive funding through the Great Depression. The importance of the turbosupercharger lies in the fact that the War and Navy departments stopped subsidizing the development of military aero engines during the Great Depression. American military aircraft would henceforth be powered by engines designed for civilian use, and while high-altitude performance had obvious military importance, it had little civilian value. The European solution, gear-driven superchargers designed as an integral part of the engine, was an obvious nonstarter for economic reasons.[27] The military market was simply too small. American superchargers therefore would be add-on accessories, and the only evident way to power such a supercharger was a turbine driven by engine exhaust gases. The extremely high temperatures and rotational speeds to which the turbines were subjected posed obvious problems. A further complicating factor was the lack of full-sized high-altitude wind tunnels: turbosuperchargers could only be tested in actual flight with the obvious risks that entailed. Beginning work in 1919, General Electric eventually surmounted these problems and by the mid-1930s

was fielding increasingly reliable turbosuperchargers.[28] The B-17 was slated for them from the beginning.

The result was a bomber capable of delivering a two-ton bomb load over a thousand miles from its base—the figures are approximate, based on data from missions flown over Germany in 1943–44—penetrating enemy air defenses *in formation* at altitudes of 25,000 to 29,000 feet.[29] The emphasis in the preceding sentence is warranted since a formation's speed and ceiling are dictated by its most poorly performing aircraft. Such performance, unprecedented in the mid- to late 1930s, speaks volumes both for the soundness of the B-17's design and for the excellence of Wright, General Electric, and Boeing production line quality control. The excellence of the B-17's design is highlighted by comparing it to that of the Consolidated B-24 Liberator, the closest thing to an available substitute. A newer design by five years and similarly powered, the B-24 was nonetheless inferior to the B-17 in every critical performance parameter that counted in the European Theater of Operations (ETO) save maximum range.[30]

A final factor contributing to the B-17's success was the decision by the Air Corps during the 1920s to adopt the .50-caliber machine gun as its standard aircraft weapon. Designed toward the end of World War I as a heavy infantry machine gun, the Browning .50-caliber was an uncompromising design with exceptional ballistic performance.[31] Not only was its projectile nearly four times as massive as that of .30-caliber weapons, its superior ballistic coefficient and streamlined shape gave it the best velocity over distance characteristics of any commonly used aerial machine gun of World War II.[32] As a result, the Fortress's effective defensive fire ranged well beyond the practical hitting distance of any Axis air-to-air gun. While unescorted B-17 formations proved unable to sustain deep penetrations of German airspace without incurring prohibitively heavy losses, they inflicted serious losses on the German fighter arm in the process. To be sure, the Air Corps initially underestimated the need for defensive armament and Boeing engineers resisted the addition of turrets that spoiled the aircraft's aerodynamic shape. Ultimately, however, tactical logic and superior engineering prevailed, and from early 1942 on B-17s were well provided with heavy defensive armament, much of it mounted in power-operated turrets.

Facilitated by intercom and radio connections, the Fortress's aircrew arrangement throughout the cockpit, crew compartment, and fuselage ensured that the dispersed crewmen retained their group cohesion in air-to-air combat. Compartmentalized responsibilities and specialized training demanded aircrew discipline in coordinating defensive fire and fighting battle damage to the airframe, engines, and subsystems. This dispersed crew arrangement provided for more defensive armament that could protect the bomber from all

flight attitudes of fighter attack, especially with the B-17G modified "chin" turret model giving frontal attack defense. The size of the airframe and engineering capacity enabled the Fortress to grow in defensive firepower from 10 .50-caliber machine guns aboard the "E" model to the "G" model with 13 machine guns providing all around defense. The porcupine firepower gave large formations of B-17s overlapping fields of fire that enabled adjacent elements and squadrons to cover one another. The result was the 54-aircraft combat box formation that dealt severe blows against the industrial strength of Nazi Germany.

The final analysis, bombers exist to drop bombs, and a late war USAAF study showed that the B-17 was the most accurate Army bomber (the second most accurate being the B-29), enjoying a small, but significant, advantage over the B-24 despite the fact that B-24s bombed from lower altitudes.[33] In *ex post facto* validation of the Air Force's preference for heavy bombers, the study showed that four-engine bombers were significantly more accurate than twin-engine bombers across the board.[34] That the B-17, a 1934 design, was still in frontline service in 1945 speaks volumes for the quality of its design.

AVRO Lancaster

US Air Force photo

The AVRO Lancaster was the backbone of RAF Bomber Command's night area bombardment campaign, and while that campaign failed to defeat the Third Reich in isolation, it wrought immense destruction, forced strategically important diversions of resources, and—a critical point often forgotten—was Britain's only means of taking the war directly to Germany until D-Day. Without the Lancaster, it is unlikely that the night area bombardment campaign could have been sustained during 1943–44 without unbearable losses. The only available substitute, the Handley Page Halifax, was a far less capable aircraft with a much lower service ceiling and a significantly higher loss rate: Lancasters

dropped 107 tons of bombs for every one lost in combat, Halifaxes only 48. Moreover, the Halifax was more difficult to produce and maintain, consuming 11,000 man-hours of labor per ton of bombs dropped to 4,000 for the Lancaster.[35] Lancasters also made major contributions to the preparations for D-Day and to the destruction of the German oil production in 1944 and German rail transportation net during the winter of 1944–45. In addition to its positive contributions to Allied victory, the Lancaster program absorbed an immense quantity of vital resources, a matter of considerable strategic significance.

The Lancaster was a derivative of the AVRO Manchester, a heavy night bomber designed to a 1936 contract and powered by two Rolls-Royce Vulture engines.[36] By mating two V-12 Merlin equivalents belly-to-belly around a common crankshaft, the Vulture doubled the engine power output while halving the number of engine nacelles, thus reducing aerodynamic drag.[37] As with virtually all liquid-cooled, in-line engines having more than 12 cylinders, the Vulture suffered extensive development problems,[38] and, though these were eventually technically solved, it still suffered from being badly overweight.[39] RAF Bomber Command consequently withdrew the Manchester from operations after a brief career, but the airframe showed promise and a substantial investment had been made in production facilities. In an inspired decision to salvage the investment, four Merlin engines, mounted on a larger wing; a redesigned empennage; and a name change to Lancaster produced a strategic bomber capable of carrying the largest possible bomb load at medium altitudes better than any other World War II bomber. Beyond gross bomb carriage capacity, the Lancaster was designed and modified to carry an unprecedented variety of bombs, ranging from 4 lb. incendiaries through conventional high explosive 500 lb. and 1,000 lb. bombs, and the 4,000 lb. light case "blockbuster" to the 12,000 lb. Tallboy and 22,000 lb. Grand Slam. The small incendiaries were particularly effective in attacks on oil refineries when used in combination with high explosive bombs and played a significant role in the strategically decisive 1944 campaign against German oil. The Tallboy and Grand Slam, though not available until 1944, proved devastatingly effective in the 1944–45 campaign against German transportation. The Lancaster's effectiveness as a bombing platform was multiplied from 1942 by the development of effective blind-bombing aids to penetrate to the German heartland.

Against the Lancaster's unparalleled ordnance carriage capabilities, the design tradeoff was a modest service ceiling of around 24,000 feet that made daylight operations infeasible except in the most permissive of environments and calls into question the prewar Royal Air Force's appreciation of the lethality of German antiaircraft artillery. The Royal Air Force's reliance on .303-caliber machine guns for defensive armament further constrained the

Lancaster's effectiveness. These were badly outranged by the high velocity 20 mm cannon carried by Luftwaffe night fighters, all but reducing British gunners to lookouts. To compound matters, the British did not field an effective belly turret and Bomber Command decided to eliminate downward firing armament altogether on the mistaken assumption that Luftwaffe night fighters would not attack from that quarter. In fact, the Luftwaffe installed upward-firing cannon in its night fighters, mounted in the fuselage and firing forward at a 10°–20° angle from the vertical so that the pilot could aim by means of a sight mounted in the top of the canopy. These went undiscovered for an extended period and inflicted heavy losses on Bomber Command. In combination with American long-range daylight bombers the Lancaster forced dispersal of the German armaments factories, forced Germany to deploy a million-man air defense force to protect the homeland, diverted German industrial production from offensive weapons, and contributed to the effects of attrition on the Eastern Front.

Mitsubishi A6M Zero

US Air Force photo

The Mitsubishi A6M Zero was the linchpin of early Japanese strategic success. Without the Zero's range and effectiveness in air-to-air combat, the Pearl Harbor attack and the conquest of the Philippines and Netherlands East Indies would have been problematic at best. The Zero was an improbably good design and one for which there was no available substitute. On the negative side of the strategic ledger, the Zero's remarkable performance was gained at the expense of vulnerability to battle damage. Its tactical effectiveness was thus heavily dependent upon pilot skill, magnifying the strategic impact of the loss of the Japanese navy's cadre of experienced aviators in the Solomons campaign.

A combat aircraft designed to a tight and seemingly impossible specification calling for unprecedented range and maneuverability in a carrier fighter, the Mitsubishi A6M Zero is the rare example of a first-rate combat aircraft powered by a mediocre engine. Indeed, Japanese engineers consciously compensated for the fact that Japanese aero engines were, quoting the Zero's designer Horikoshi Hiro, "20 to 30 percent less powerful than those of the more advanced countries."[40] That notwithstanding, the Zero was the first carrier-based fighter capable of besting its land-based equivalents. This is remarkable

in light of the fact that the design of carrier-based aircraft is inherently more difficult than that of the land-based equivalents. Not only do arrested carrier landings call for a considerably stronger, and hence heavier, structure, final approach speeds must be low by land-based standards and handling characteristics must be exceptionally good if high operational losses are to be avoided. The Zero's range, an essential precondition to early Japanese victories in the Pacific, was the compromise of an extremely light, yet strong, structure and the provision of a jettisonable centerline external fuel tank. The Zero's remarkable maneuverability in air-to-air combat combined a low wing loading and excellent power-to-weight ratio with a potent armament of two wing-mounted 20 mm cannon plus two 7.7 mm machine guns in the engine cowling, mainly to help the pilot aim the cannon. In order to obtain the remarkable wing loading and power-to-weight ratio that made the Zero formidable, designer Horikoshi dispensed with protective armor and self-sealing fuel tanks and Zero pilots wore no parachutes.[41] This was not, as is commonly imputed, because the Japanese navy placed a low value on the lives of its pilots or because of a "kamikaze mentality" but due to a rational assessment of pilot survival factors. Unlike its main Allied opponents, the Zero, with flotation bags in the wings, had excellent ditching characteristics.[42]

The Zero's critical dependence upon pilot skill was its Achilles heel. Once the Japanese navy had expended its cadre of skilled aviators in the Solomons campaign, the Zero's prime liability, extreme vulnerability to battle damage, made it a death trap.

Grumman F4F Wildcat

US Air Force photo

The only battle-worthy American fighter in operational service in 1941, the Grumman F4F Wildcat assumed strategic importance by virtue of its ability to take the Zero's measure. This had two principal strategic effects, one intangible, the other attritional, and both of great importance. Though the evidence is circumstantial, it is clear that confidence in the Wildcat and the men who flew it emboldened our naval commanders to challenge the Japanese aggressively in the early days of the war. This led to victory at the Coral Sea and Midway. Second, the Wildcat played a dominant role in the destruction of the flower of the Japanese naval air arm in the Solomons campaign, particularly in the critical early stages. That the Wildcat's

tactical effectiveness was largely due to remarkable prewar tactical innovation within the US Navy fighter community in no way lessens its strategic importance. The Brewster F2A Buffalo, the only putative substitute until the operational debut of the Grumman F6F Hellcat in August 1943, was a deathtrap.[43] A superior design, the Hellcat added significantly to Japanese losses and lessened American casualties but entered service only after the Japanese naval air arm had been effectively destroyed.

Like the Hurricane, the Wildcat was the lineal development of a biplane precursor, the F3F, and was a conservative design structurally. The Wildcat owed its robust performance to its Pratt and Whitney R-1830 14-cylinder twin-row radial engine, fitted with a two-stage, two-speed mechanical supercharger in the initial operational versions. So powered, the Wildcat was inferior to the Zero in turn radius, rate of climb, and climb angle, deficiencies that should have placed it at a severe tactical disadvantage. It could match the Zero in service ceiling and—almost—in maximum speed in level flight. It could easily outstrip the Zero in a dive. Given the Japanese fighter's vulnerability to battle damage, the Wildcat's four .50-caliber machine guns were a match for the Zero's comparatively low-velocity 20 mm cannon. With shorter wings, the Wildcat also had a higher initial roll rate, essential for breaking contact with an enemy on your tail. Finally, with self-sealing tanks and armor protection for the pilot, it was far more resistant to battle damage and lessened pilot combat attrition, meaning more American pilots survived lost engagements to become battle hardened and experienced for their next aerial combat.

The Wildcat's performance might have gone for naught had the US Navy's fighter community not developed remarkably innovative tactics during the late 1930s. First, the US Navy's air service was effectively alone among the world's air forces in systematically training its fighter pilots in wide off-angle deflection shooting, meaning that they were trained to lead their targets by as much as 60°.[44] Second, eschewing the then–*de rigueur* three-ship "Vee" and echelon formations prevalent in every air force but the Luftwaffe, the Navy embraced a system of mutually supporting two-ship, two-element formation tactics developed by Cdr John "Jimmy" Thach, in which each pilot in the four-ship formation continually checked one another's blind spots astern, the so-called beam defense position or Thach weave.[45] The Wildcat's design serendipitously enhanced its tactical effectiveness in that the pilot sat high in the cockpit above the wing and engine, primarily for better visibility in carrier landings, and downward visibility over the nose, already good by design, was enhanced by the R-1830's small diameter. The result was an important tactical advantage: when "pulling lead" in attacking a turning enemy from astern, Wildcat pilots could maintain visual contact at closer ranges and thus press

home their attacks more aggressively than could their Japanese opposites, seated low behind the Zero's larger engine.

Douglas SBD Dauntless

US Air Force photo

The Douglas SBD Dauntless's strategic importance derives first and foremost from the destruction of the heart of the Japanese fast carrier force in the Battle of Midway. Victory at Midway precluded a massive redeployment of American resources to the Pacific that would have undercut the Allied "Europe First" strategy and lengthened the war by six months to a year. The Dauntless also played a pivotal role in the Guadalcanal campaign, blunting the power of the Japanese navy when it still enjoyed a measure of operational freedom, wreaking havoc on Japanese warships and shipping. The Dauntless remained the Navy's principal dive-bomber until well into 1944 and accounted for a greater tonnage of Japanese warships sunk than any other American aircraft.

Designed for one thing and one thing only, the destruction of enemy warships, the Douglas Dauntless was a less efficient dive-bombing platform than the Ju 87 but a far superior aircraft in every other regard. Edward Heinemann, although not formally trained as an aeronautical engineer, conceived of a light, strong airframe, first incorporating it into the wing for the Douglas DC 3 and then into the Northrop A-17 attack aircraft. He extrapolated this sturdy and light design into the SBD. Underpowered, the SBD had a low rate of climb with a full bomb load and was not particularly fast but had sterling flight characteristics in all other respects and was an excellent instrument platform. Of considerable importance, its carrier landing characteristics were excellent, a fact that reduced operational wastage.

Republic P-47 Thunderbolt

The Republic P-47 Thunderbolt was the first American fighter available in significant numbers in the European Theater that was capable of reaching German airspace and outperforming first-line Luftwaffe fighters at high altitudes. That made it possible for USAAF heavy bomber formations to attack targets inside Germany without prohibitive losses and forced the Luftwaffe fighter arm to accept battle on unfavorable terms, leading ultimately to its

US Air Force photo

defeat. The Lockheed P-38, with a significantly greater radius of action than the P-47, entered operational service earlier and could have done the job in principle, but was never wholeheartedly embraced by the USAAF and was not available in quantity at the critical time. The North American P-51 could have done the job as well and ultimately did, but became available in numbers only after the P-47 had turned the tide. Produced in larger numbers than any other American fighter, 15,579, the P-47 was a highly effective as a fighter-bomber in the European Theater and played a major role in interdicting German lines of communication and in supporting friendly ground forces.

The P-47 was the end product of an evolutionary series of fighter designs by Russian émigré designer Alexander Kartveli that combined a powerful radial engine, an all-metal structure, and an elliptical wing in the smallest airframe feasible. Starting with the P-35 of 1935, Kartveli's fighters became progressively larger and more aerodynamically refined, acquiring a turbosupercharger in 1939 with the R-1830–powered P-43. Within the parameters of his basic design, Kartveli perceived that the full benefits of turbosupercharging could only be realized with an engine in the 2,000 horsepower range. In 1940, he turned to the 18-cylinder twin-row radial Pratt and Whitney R-2800 just entering production to harness the raw power of a turbosupercharger. The Pratt and Whitney was engineered, like all high-performance US aero engines, to exploit the properties of high-octane gasoline. The integration resulted in the P-47, the largest single-engine, piston-powered fighter ever built. Remarkably clean and sophisticated, the P-47 was one of the few successful mid-wing fighters of the war and, like the Spitfire, benefited from the greater efficiency of an elliptical wing.[46]

In fighter installations, the turbosupercharger offered advantages similar to those of a variable clutch mechanical supercharger that could be progressively disengaged to obtain maximum power at lower altitudes without overboosting the engine. Achieving the benefits of the turbo's inherent characteristics required superior thermodynamic-mechanical and aerodynamic engineering, and the P-47's supercharger installation, although necessarily complex, was remarkably efficient and reliable. Taking full advantage of the R-2800's power, Kartveli gave the P-47 an armament of no less than eight wing-mounted .50-caliber machine guns.

The P-47 could carry a significant bomb load, and that, combined with its heavy firepower and the remarkable ability of the R-2800 to absorb battle

damage, made it one of the most effective fighter-bombers of the war. Of greater strategic importance, the P-47 could also carry over 200 gallons of fuel in jettisonable external tanks. In late 1943 when the USAAF came belatedly to an appreciation of the value of long-range fighter penetrations of *Festung Europa* in support of heavy bomber operations, the P-47 was the only US fighter available in significant numbers that possessed the requisite capabilities. At that point, P-47s based in southeast England could penetrate only as far as an arc running through Lübeck and Frankfurt. P-38s could penetrate as far as Leipzig from the beginning and, by February 1944, were equipped with larger external tanks, enabling them to reach Berlin, but USAAF production and deployment decisions limited their availability to small numbers. P-51s, capable of reaching well beyond Berlin to as far as Prague and, eventually, Vienna, only became available in significant numbers from March 1944.[47] In the meantime, the P-47 filled the gap. Had Air Force leaders appreciated the importance of long-range escort fighters sooner than they did, the P-47 could have been readily modified to match the radius of action of the P-38 and P-51. The longer-ranged Thunderbolt, in the form of the P-47N, saw action in the Pacific in the final days of the war.

Yakovlev Yak 1–9

Photo by Bernard Spragg (CC0 1.0)

The first Soviet fighters capable of meeting the Bf 109 and Fw 190 on even terms, Yak fighters were produced in large numbers and played a major strategic role in denying the Luftwaffe the unimpeded exploitation of the air it had enjoyed to great effect until Stalingrad. The Soviet Union possessed only 94 Yak-1s on the eve of Barbarossa, but by the end of the war, the rejuvenated Soviet aircraft industry had manufactured over 16,700 Yakovlev fighters, some 58 percent of all Soviet single-seat fighters, distributed among many *Protivovozdushnaya Oborona*[*] air defense units. The Lavochkin La 5-7 series could have done the job but entered service later, offered no tactical advantages over contemporary Yak fighters and was not, in the final analysis, essential.

The Yak-1 was an unremarkable, straightforward, and competent design, in many ways reminiscent of the Hurricane, which it superficially resembled. The circumstances of aerial combat on the Eastern Front dictated that it

*"Air defense forces."

would fight only at low to medium altitudes, for which its liquid-cooled Klimov V-12 engine, developed from a French Hispano-Suiza original, was more than adequate. Indeed, the Yak-3, with a reduced wingspan for greater low-altitude maneuverability, was one of the best low-altitude dogfighters of the war, a fact attested to by Luftwaffe flight evaluations of captured examples. The Yaks' armament, typically a 20 mm cannon firing through the propeller hub and two synchronized 12.7 mm machine guns in the engine cowling, was somewhat lighter than that of its principal Luftwaffe opponents but was adequate. Better than they needed to be, Yak fighters contributed to the aerial battle by providing an environment of air superiority that permitted the Il-2 *Shturmoviks* ground attack units to support the highly mobile Soviet armored forces in their counteroffensives from Stalingrad to Berlin.

De Havilland Mosquito

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The de Havilland Mosquito's strategic importance derives in the first instance from its effectiveness as a photoreconnaissance aircraft. Effectively immune to interception by virtue of its speed and service ceiling and with a significantly greater radius of action than any competing design, the Mosquito provided Allied intelligence staffs and operational planners with information of immense value, almost all of which could have been obtained in no other way. In addition, the Mosquito made important contributions to the Combined Bomber Offensive as a bomber, particularly marking targets in the pathfinder role.[48] The Mosquito also enjoyed significant success as a low-altitude precision daylight bomber, as a night fighter, as a daylight intruder fighter, and in the maritime strike role.

The Mosquito's genesis lay in a 1935 RAF specification stimulated by reports that the Germans were building an extremely fast twin-engined bomber. It called for a bomber powered by two Rolls-Royce Merlins with a defensive armament of three .303-caliber machine guns in streamlined mounts. Geoffrey de Havilland's interest in the project and his firm's experience in building high-performance multi-engined aircraft with wood structures resulted in the Mosquito. The decision to delete all defensive armament—de Havilland's preference from the start—was made by Air Vice Marshal Wilfred Freeman,

the Air Ministry official in charge of production and development, in August 1939.[49] That decision was central to the Mosquito's success.

The Mosquito was a rarity: a genuinely successful multi-role combat aircraft. Although the Mosquito excelled in its intended role (it had the lowest loss rate over Germany of any British bomber), it played a significant part in the multiple roles mentioned above. Rendered safe from interception by speed, photoreconnaissance Mosquitoes had sufficient range to cover most of Germany from bases in the United Kingdom and, after the capture of the Foggia airfield complex in Italy in September 1943, provided coverage of the entire Third Reich. Progressive development of the Mosquito and its Merlin engines kept a step ahead of German defenses, particularly for photoreconnaissance. The Mosquito PR XIV, which entered service in late 1943, had a fully pressurized crew compartment and a service ceiling above 35,000 feet that rendered it effectively immune to interception. Only 432 PR XIVs were produced, but they rendered strategically vital intelligence.[50] Despite the need for exotic glues and highly skilled workers, de Havilland manufactured nearly 8,000 Mosquitoes. The Mosquito's drawbacks included short airframe life in tropical conditions and the difficulty of exiting a damaged aircraft in flight.

Consolidated PBY Catalina

US Navy photo

The Consolidated PBY was ubiquitous as a patrol aircraft for the US and Royal navies, entering service with the latter in early 1941, well before America's entry into the war. PBY crews located the *Bismarck*, gave the Royal Navy warning of the April 1942 Japanese incursion into the Indian Ocean, located the Japanese carrier force before Midway, were omnipresent in tracking Japanese task forces and convoys in the Solomons campaign, and played a major role in the Battle of the Atlantic. Allied effectiveness in dealing with Axis naval surface forces owed much to US and Royal Navy emphasis on patrol operations in which the PBY excelled and played a disproportionately important role.

A twin-engine flying boat of conservative design, the Consolidated PBY (Catalina in British service) entered service in 1936 and possessed unremarkable performance except in range, endurance, and handling qualities. A competent design, it was the right aircraft for the job at the right time and was procured in adequate numbers by the US Navy and for British and Canadian

forces. That the PBY's strategic significance was due as much to the US and Royal Navy's emphasis on reconnaissance in support of the battle fleet as to the excellence of its design takes nothing away from the PBY's luster. It was slow, with a cruise speed of only 179 mph, but had a radius of action of nearly 2,000 miles and an endurance of no less than 17.6 hours.[51] Less effective as an antisubmarine patrol aircraft than the B-24 by virtue of the latter's greater speed and the ease with which it could be modified to carry electronic equipment and offensive ordnance, it was still useful in that role. Later versions were amphibians, fitted with retractable landing gear. In addition to reconnaissance, it was used for air-sea rescue by US Army Air Forces in the later stages of the Pacific war.

Douglas C-47 Skytrain

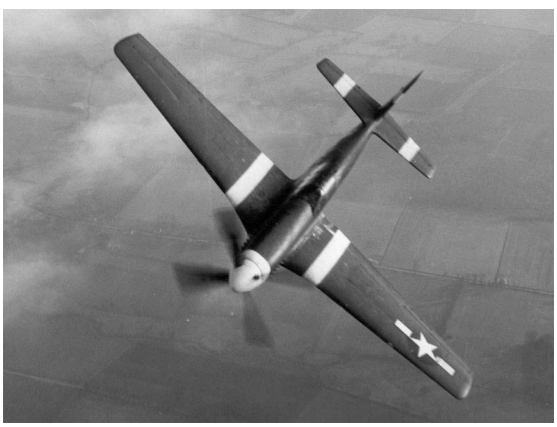
US Air Force photo

The Douglas C-47 Skytrain (Dakota in British service) was far and away the most important, and best, tactical transport and paratroop deployment aircraft of the war. Produced in large numbers, it provided the bulk of the airlift that dropped two American and one British airborne divisions behind the D-Day invasion beaches and would make the list on that basis alone. In fact, the C-47 did a great deal more, hauling key personnel, spare parts, supplies, and fuel. Provided in significant numbers to the British and Soviets, it was used most innovatively and in the largest numbers by US forces but served as a potent Allied logistical force multiplier in all theaters.[52]

The military version of the 1937 Douglas DC 3, the first commercially successful airliner, the C-47 was beyond doubt the most successful tactical transport of World War II.[53] A scaled-up extrapolation of the DC 2 of 1934 (itself developed from the prototype DC 1 of 1933), the DC 3 varied from its predecessors in the provision of a cabin sufficiently spacious to permit passengers to stand up and walk around. The DC (for Douglas Commercial) series of transports extracted the full benefit of stressed skin aluminum construction, the wings being particularly efficient. Designed in response to a Trans World Airlines specification that stipulated that a safe takeoff at design weight following the loss of an engine could be completed from the highest airfield served by TWA following loss of an engine, the DC 3 had adequate reserves

of power and was inherently safe. Modifications for military use were minimal, the most important being the provision of easily removable (and spartan) passenger accommodations, provisions for securing heavy cargo inside the cabin, and a spacious loading door. Powered by two 1,200-horsepower R-1830 engines, the C-47 was fast for a transport with a cruise speed of 185 mph; it had a useful load of as much as 14,000 pounds and a radius of action of over 700 miles.[54] It had excellent flight characteristics and was easily maintained in the field. The rear cargo door could be opened in flight, making it far and away the best mass-produced paratroop deployment aircraft of the war. Total US production reached 10,926, of which 10,123 were specifically manufactured as military transports; to this we can add 6,157 built under license in the Soviet Union.[55] As a tribute to the C-47's efficiency and durability, it formed the backbone of the Soviet internal air transport network into the 1960s.

North American P-51 Mustang



Courtesy of the Capt Joseph J. Merhar Jr. Collection, AFHRA (VIRIN 080306-F-3927A-032.JPG)

Entering service after the P-38 and P-47, the North American P-51 had greater range and, partly in consequence, enjoyed a better kill ratio than either of the other two fighters. It was also the most agile of the three, a fact that its pilots exploited to great effect. From March of 1944 the P-51 broke the back of the Luftwaffe fighter arm, probably shortening the war and surely reducing the cost to the United States.[56] The P-38 *could* have done the job—the P-47's range was inadequate—and given time would have, albeit at greater cost in blood and treasure. The P-51 *did* it. Finally, the photo-reconnaissance version of the P-51, the F-6, was the most successful low-altitude photographic imagery collector of the war.

The most successful long-range piston-engine air-to-air fighter of the war, the North American P-51 was one of a handful of strategically significant aircraft to be designed after the commencement of hostilities in 1939. Ironically, the P-51's designer, Edgar Schmued, was Austrian by birth and did his engineering apprenticeship in Germany.[57] Designed in response to a request by the British purchasing commission in 1940, the North American P-51 (Apache in British service) benefited from the most recent NACA drag reduction and

airfoil data, a fact that put it in a class by itself. The efficiency of the P-51's laminar flow wing and engine installation resulted not only in an excellent turn of speed but in dramatically greater range than existing single-engine fighters. The exceptionally compact engine installation and associated engine cooling resulted in remarkably low drag. The P-51's principal liability in its early production versions stemmed from the altitude limitations of its Allison engine. Virtually identical to the Rolls-Royce Merlin in configuration, size, and development potential, the Allison was anemic by comparison due to the low rated altitude of its mechanical supercharger, the product of an Air Corps decision to rely on turbosupercharging for high-altitude performance. In the event, shortages of the high-temperature alloys needed for turbosupercharger turbine blades initially limited production to little more than that required for heavy bombers, and the P-38 was the only fighter powered by turbosupercharged Allisons.

The RAF began taking delivery of Apaches in November 1941 and used them for long-range low-altitude operations from July of 1942 with considerable success.[58] Impressed by the aircraft's performance, the British experimentally re-engined an Apache with a Rolls-Royce Merlin in the spring of 1942. The results were spectacular, yielding outstanding high-altitude speed and range but might have led to nothing had not USAAF Maj Thomas Hitchcock, assigned to the American Embassy as an attaché, been invited to fly the aircraft.[59] An instant convert, Hitchcock was both persuasive and well connected. Re-engined with the Merlin, providentially produced in the United States under license by Packard, the Mustang became the best long-range, high-altitude fighter of the war to be manufactured in large numbers, 14,819 by the end of the war. The P-51 was not without vices. The vulnerability of its liquid coolant system limited its usefulness in the ground attack role, and careful management of the fuel system was necessary to avoid exceeding the rearward center of gravity limit with a full fuel load. On balance, however, it was a remarkably well-designed aircraft that exceeded all expectations.

Lockheed P-38 Lightning

The Lockheed P-38 Lightning rendered US air superiority in the Pacific unassailable from the autumn of 1942 and made significant contributions to the defeat of the Luftwaffe in the skies over *Festung Europa* in the spring of 1944. The first USAAF—or any other—fighter capable of high-altitude escort operations deep within enemy territory, the P-38 was not used effectively in that role until the P-47 was available in larger numbers and was then superseded by the faster, more maneuverable, and longer-ranging P-51. For the USAAF, the P-38 was the greatest missed strategic opportunity of the war. Because it entered operational service nine months later than it should have,

US Air Force photo

because it was produced in smaller numbers than any other battle-worthy USAAF fighter, because few pilots in the European Theater learned to exploit its peculiar strengths, and because it was belatedly employed in the long-range escort role, the P-38's strategic impact was substantially less than it might have been. The photoreconnaissance version of the P-38, the F-5, though inferior to the Mosquito in range, speed, and service ceiling, made significant contributions to Allied victory.

Lockheed's Clarence "Kelly" Johnson designed the P-38 in response to a January 1937 Army Air Corps' specification for a long-range interceptor so demanding as to deter other would-be contractors.[60] Perceiving that the required speed, climb, and service ceiling could not be met by orthodox means, Johnson turned to a radical twin-engine design powered by a pair of turbosupercharged 12-cylinder, liquid-cooled Allison V-1710 engines. A central fuselage pod housed the cockpit situated between the engines mounted in midwing booms that supported the tail surfaces. This configuration offered the significant ancillary benefit of grouping the armament of four .50-caliber machine guns and a 20 mm cannon closely together in the nose. Unlike wing-mounted guns that were "harmonized" so that their fire converged at a predetermined distance and dispersed thereafter, the P-38 delivered a concentrated stream of fire regardless of range. Johnson and his team were the only prewar designers to fully exploit the notion that powering a single-seat fighter with two engines had the advantage of halving the per-engine weight penalty of pilot, armament, instrumentation, and flight controls, though the Lightning's success owed at least as much to Johnson's unorthodox approach as to the inherent advantages of the scheme.[61]

The XP-38 (X for experimental) first flew in January 1939 and proved to have spectacular performance, but mismanagement at Lockheed delayed development. Battle-worthy versions of the P-38 did not enter service until the summer of 1942, over nine months behind schedule.[62] The source of the problem was cash-and-carry orders from Britain for patrol bomber versions of the twin-engine Electra transport, desperately needed to stem the U-boat menace. These produced immediate profits for a cash-starved Lockheed but stripped the YP-38 (Y for service test) program of first-line engineers, draftsmen, and machinists. The resultant delay had the doubly adverse effect of

depriving the USAAF of a world-class fighter at the outbreak of hostilities and of souring the Army Air Forces on Lockheed as a contractor, a fact that no doubt played a role in restricting P-38 procurement. Moreover, the AAF initially misused the P-38 as a low-altitude battlefield air superiority aircraft in North Africa, where it was outclassed by the Bf 109 and Fw 190, suffering a taint to its reputation that was never completely erased.

The P-38's tactical profile was utterly unlike that of any other World War II fighter: it had a good rate of climb and excellent speed, a high service ceiling, a spectacular zoom climb, a good turn radius, and heavy firepower. Equipped from the start with jettisonable drop tanks for range extension, it had by far the longest radius of action of any US fighter until the debut of the P-51. A slow initial roll rate, the product of the mass of its two in-line engines mounted well outboard of the center of gravity, handicapped the P-38's air-to-air capability. These characteristics called for tactics that were quite different from those that worked well with other US fighters. P-38 pilots in the Pacific generally adapted well—getting into a turning dogfight with the lighter Japanese fighters was a critical mistake for *all* US fighters, not just the P-38—but only a minority of pilots in the European Theater learned to exploit the P-38's capabilities effectively. Complicating matters, the P-38's size and complexity intimidated many pilots, and its high wing loading called for initial climb speeds higher than those to which neophyte pilots were accustomed if loss of an engine on takeoff were to be survived.

In addition, technical problems—all fixable—reduced the P-38's effectiveness over Europe: Its cockpit heater was inadequate for winter operations over Germany, and its intercoolers, the ducting that cooled the outflow from the turbosuperchargers, were *too* efficient, reducing the air/fuel mixture to sludge in frigid, moist winter air at high altitudes. This led to blown engines deep in enemy territory when they were most needed, and twin-engined redundancy had little value in a dogfight. In consequence, the P-38 fought over northern Europe at a serious disadvantage: in 90 days of combat beginning 28 December 1943, the 20th Fighter Group, the most highly decorated P-38 group in the European Theater, suffered 54 pilots lost to 52 kills awarded.[63] There is bitter irony in the consideration that if the two groups of P-38s operating over Germany in December of 1943 had been deployed six months earlier, something entirely within the realm of the feasible, they would have been available for both Schweinfurt missions and would have fought in the warm skies of summer and early autumn. The problem was one of vision, not design.

The P-38's slow initial roll rate was partially ameliorated by the provision of hydraulically boosted aileron control. Used aggressively in larger numbers and with appropriate tactics, the P-38 had the potential to have done in mid- to late 1943 what the P-47 did and more. In the event, the P-38 played a sig-

nificant, albeit subsidiary, role in the defeat of the Luftwaffe fighter arm. Under the designation F-5, the P-38 was the USAAF's most important American-produced photo reconnaissance aircraft.

Ilyushin Il-2 *Shturmovik*

Photo by Dmitry Terekhov (CC BY-SA 2.0)

Produced in huge numbers, the heavily armored, single-engine Ilyushin Il-2 *Shturmovik* was the most important Soviet ground attack aircraft of the war and inflicted serious losses on the Wehrmacht from the summer of 1944 to the end of the war.

A 1938 design powered by a liquid-cooled Mikulin V-12 engine in the 1,700-horsepower range, the result of progressive development of a late 1920s BMW original, the Il-2 entered service in the summer of 1941 and was built for one thing and one thing only: low-altitude ground attack.[64] A straightforward design, the Il-2 incorporated little that was novel beyond the extensive structural use of hardened steel to provide armor protection to the engine, cooling system, and crew. It was armed with two unsynchronized, wing-mounted 23 mm cannon and, in two-seat versions, with a flexible 7.62 mm or 12.7 mm machine gun fired by the rearward-facing observer. The Il-2's bomb load was not particularly impressive: 600 kg (1,321 lbs.) of bombs and rockets carried externally on underwing mounts—the P-47 carried a heavier weight of ground attack ordnance by some 12 percent. This was more than compensated for by its resistance to battle damage and the numbers in which it was produced, more than 36,000 by war's end.[65]

Consolidated B-24 Liberator

The strategic importance of the Consolidated B-24 Liberator derives in the first instance from its success as an antisubmarine patrol aircraft in the Battle of the Atlantic and in the second instance from the immense amount of resources the B-24 program absorbed, both in absolute terms and relative to the aircraft's operational effectiveness as a bomber. The B-24 had many technical and tactical deficiencies but possessed one critically important virtue, range, that was of critical importance in antisubmarine patrols, particularly in combination with a relatively high cruise speed. Small numbers of VLR (for very long-range) Liberators were deployed in this role by the British from

US Air Force photo

June of 1941. Progressively upgraded in capabilities, they were procured in modest numbers but to decisive effect; a mere two squadrons of later VLR versions of the Liberators closed the mid-Atlantic "air gap" south of Greenland in the spring of 1943, sounding the death knell of the U-boat force.[66] Early versions of the Liberator, though not battle worthy, were the premier Allied long-range VIP transport and served in this role in small numbers throughout the war. Though substantially less effective as a high-altitude daylight bomber than the B-17, the B-24 made a significant contribution to the Combined Bomber Offensive. From late 1942 until the operational debut of the B-29, the B-24 was the principal USAAF heavy bomber in the Pacific where its superior radius of action conferred important benefits and where its vulnerability to battle damage could be tolerated.

Produced in larger numbers than any other US aircraft of World War II—over 18,000 were built[67]—the B-24 was designed to a March 1939 contract and first flew that December but was not fielded as a battle-worthy bomber until mid-1942. Procured by the USAAF to supplement the B-17 with a more modern aircraft, the B-24 was powered by four Pratt and Whitney R-1830s, a hedge against demands on production of the Wright R-1820. A large part of the B-24's appeal lay in the supposed efficiency of its wing's Davis airfoil. Designed by California entrepreneur David Davis in a pseudoscientific process of inspired guesswork, the airfoil did not differ appreciably in performance from similar NACA airfoils. That, however, was not appreciated at the time, and Convair's decision to give the B-24 a wing of unusually high aspect ratio, that is a wing that was long as a function of its span, resulted in a wing that was uncommonly efficient at low and medium altitudes and was largely responsible for the aircraft's superior range.[68] The B-24 proved amenable to modifications that enhanced its effectiveness in the antisubmarine role, notably radar installations and a variety of forward-firing ordnance, ranging from 20 mm cannon to stub wing-mounted 5-inch high-velocity rockets.

Early models of the B-24 had neither turbosupercharged engines, self-sealing fuel tanks, nor effective defensive armament, and extensive modifications were required to make the aircraft battle worthy, a threshold reached in mid-1942 with the B-24D.[69] At that point, the B-24 was armed with power-operated twin .50-cal. dorsal and tail turrets but unlike contemporary B-17s

had no belly turret. Later models were fitted with a retractable belly turret and were as heavily armed as the B-17. Not until the J model of 1944 were problems with the flight controls largely worked out, and problems with the leaky fuel system were never completely resolved.

As noted earlier, the B-24 was inferior to the B-17 as a high altitude daylight bomber in every tactically meaningful parameter except range. That, however, became apparent only with accumulated combat experience, by which time the USAAF had committed itself to procuring the B-24 in large numbers. That decision in itself produced problems, notably in efforts by the Ford Motor Company to mass-produce the B-24 using automotive production methods at the enormous Willow Run facility built specifically for the purpose. In fact, automotive and aircraft production methods were fundamentally different, and by the time Ford engineers had mastered the new medium, the B-24 was approaching obsolescence.

Messerschmitt Bf 110

Bundesarchiv (Bild 101I-377-2801-013/Jakobsen [Jacobsen] CC-BY-SA 3.0)

The Bf 110's strategic importance lies first and foremost in its failure as a heavy day fighter, a major reason for German defeat in the Battle of Britain. Fitted with air intercept radar, the Bf 110 proved to be an excellent night fighter and exacted a heavy toll on RAF Bomber Command from 1942 on, a matter of lesser, but still considerable, strategic importance. In addition, rocket-armed Bf 110s were effective against American heavy bombers during the USAAF unescorted daylight precision bombardment campaign of 1943.

Designed to a 1934 specification calling for a long-range heavy fighter, the twin-engine Bf 110 first flew in 1936, powered by two DB 600s. The DB 601 engine and, later, the DB 605 powered the operational versions. Fast for the time, well-armed, and with excellent handling characteristics, the Bf 110 was handicapped by the fact that it was a multi-place aircraft with provisions for a gunner and radio operator, provisions that meant greater size and weight. In consequence, the Bf 110 had insufficient maneuverability to survive in combat against single-engine fighters, although this did not become apparent until the Battle of Britain. The Bf 110 turned out to be a superior night fighter since it had sufficient power and payload capacity to carry the requisite air intercept radar and specialized receivers, a radar operator, and heavy arma-

ment. Of equal importance, it was an excellent instrument platform. The provision of upward-firing, fuselage-mounted 20 mm cannon from August 1943 gave Bf 110 night fighters an unprecedented lethality that the RAF recognized only belatedly. That the installation was developed in the field by an enlisted armorer speaks volumes for low-level German initiative and the basic soundness of the Bf 110's construction.[70]

The same power and payload capacity that made the Bf 110 a superior night fighter supported the provision of two underwing launchers for 210 mm bombardment rockets for daylight use against USAAF heavy bomber formations. This was the Luftwaffe's only air-to-air weapon that outranged the American bombers' .50-caliber defensive armament and the only one capable of degrading the integrity of B-17 defensive formations. Brutally effective when employed in combination with single-engine fighters, the rocket-armed Bf 110 enjoyed a brief heyday before it was put out of business by drop tank–equipped US fighters.

Boeing B-29 Superfortress

US Air Force photo

Boeing B-29s reduced the major Japanese cities to ashes in firebombing attacks from March of 1945 and dropped the two nuclear bombs that ended the war. Also of considerable strategic significance, the B-29 program absorbed immense quantities of resources, outspending the Manhattan Project that produced the A-Bomb by some $3.75 billion to $2 billion in 1945 dollars.[71] Finally, B-29s played a major role in cutting off Japanese maritime commerce by means of aerial mines.

Power plants aside—a point that is debatable—the B-29 was far and away the most technologically advanced production aircraft of World War II. Indeed, save for its piston engines and unswept wings, it had more in common with the jet bombers of the 1960s than with contemporary designs. In addition to an unprecedented radius of action in excess of 2,000 miles and a service ceiling above 30,000 feet, the B-29 was the first mass-produced operational bomber with a fully pressurized crew compartment and effective, remotely controlled, defensive armament. The power plants, four R-3350 four-row radial engines, each with two turbosuperchargers, were an impressive technological achievement in their own right and posed major developmental problems stemming

partly from sheer complexity and partly from the altitudes at which they had to operate. The B-29 was the USAAF's second most accurate bombing platform next to the B-17.[72] Ironically, Hiroshima and Nagasaki aside, it had its greatest strategic impact dropping incendiaries at low altitudes, a mission where many of its advanced design features were irrelevant.

Junkers Ju 52

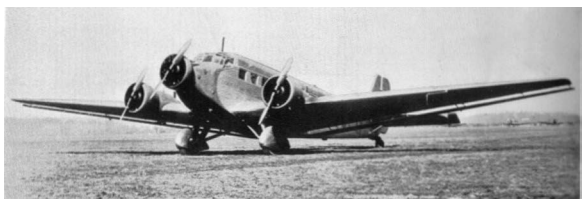


Image originally appeared in H. J. Cooper and O. G. Thetford, Aircraft of the Fighting Powers, vol. I, ed. D. A. Russell (Leicester, England: Harborough Publishing Co., 1940).

A handful of Ju 52 transports forwarded to Spain by Hitler in the early days of the 1936–39 Spanish Civil War provided the critical increment of support that prevented the collapse of the Nationalist cause by ferrying elements of the regular Army of Africa from Morocco to Seville. Although the subsequent drive on Madrid stalled in November 1936, the Nationalists ultimately prevailed, keeping Spain out of World War II and placing the diplomatic tenacity of Spanish dictator Francisco Franco between Hitler's armies and Gibraltar. In addition, German paratroops dropped from Ju 52s or descending in gliders towed by them played a major role in the May 1940 conquest of the Low Countries and the preeminent role in the April 1941 capture of Crete. Finally, the success of the Luftwaffe transport arm in supplying the Demjansk pocket, cut off by the Soviet 1941–42 winter offensive, encouraged Luftwaffe chief Hermann Göring to believe that he could similarly supply Stalingrad the following winter. Perversely, the Ju 52's successes, all functions of its sound design, led Göring and the Third Reich into disaster.

A late 1920s design with corrugated aluminum skin, three engines, and fixed landing gear, the Ju 52 had modest performance in comparison with its principal Allied counterpart, the C-47. Its maximum and cruising speeds were 168 mph and 124 mph to the C-47's 230 mph and 185 mph, and it carried a payload amounting to about 38 percent of its maximum takeoff weight in comparison to the C-47's 45 percent.[73] On the plus side, it was exceptionally rugged, possessed excellent handling characteristics, and was easily maintained in the field under the most primitive of conditions, virtues that kept it in production well after the termination of hostilities in 1945. Among mass-produced World War II transports, it was second only to the C-47 as a parachute deployment aircraft and was capable of handling surprisingly bulky loads.

Conclusions

What conclusions can we draw from the preceding analysis? First, our exercise in rank ordering supports and gives substance to the proposition that aircraft design *was* a major driving factor in the conduct and outcome of World War II. How many aircraft a country produced was important, but which aircraft it fielded and how well suited they were to their respective nations' grand strategies was crucial. Timing was also a critical factor, which is another way of saying that those establishments which accurately anticipated their strategic needs and allocated their resources accordingly were able to deploy the aircraft they needed in time to have strategic effect. Numbers were important, but it had to be the right aircraft at the right time. To be sure, talented designers were essential to the process, but as we have seen the availability of first-rate aero engines was more likely to be the limiting factor than airframe design talent, a point we shall expand on below. To anticipate another point to be expanded upon, Nazi Germany and the Imperial Japanese Navy did a brilliant job of anticipating their short-term aircraft needs, taking full advantage of the fact that the strategic initiative was theirs to begin with. By contrast, Britain and the United States, more precisely the Royal Air Force, US Army Air Forces, and US Navy, did a far superior job of planning and preparing for a long war. That is particularly impressive in light of the fact that, as our exercise makes clear, the design of aircraft for strategic applications was inherently more demanding than that for tactical applications and much of the prewar RAF and USAAF effort was directed toward strategic applications, both defensively and offensively on the part of the RAF and offensively by the USAAF.*

At a lower level of abstraction, a breakdown of aircraft by nationality underlines just how important American airpower was to World War II and how much of that importance was directly dependent on the quality of power plant and airframe design. It also underlines the importance of America's massive commitment of engineering skill and economic resources to the air war. No less than 10 of the 21 aircraft on the list are American, followed by four British, four German, two Soviet, and one Japanese. Note, however, that six of the 10 American aircraft are in the bottom half of the list and the seventh, the P-47, is at the middle, an accurate reflection of the time needed to mobilize American resources, intellectual as well as productive. Conversely,

*Williamson Murray notes that decisions by Luftwaffe leadership in 1939—Göring, Udet, Milch, and Jeschonnek in particular—slowed down experimentation in the Luftwaffe. So much so, he notes, that "when the Germans awoke to the danger in 1942, it was already too late; they would fight the great air battles of 1943 and 1944 with basically the same equipment that they had used against Poland." *See* Murray, *Strategy for Defeat: The Luftwaffe, 1933–1945* (Maxwell Air Force Base: Air University Press, 1983), 20.

the fact that the top two aircraft on the list are German provides eloquent testimony to the operational benefits accruing to an aggressor who attacks at the time and place of his choosing. That the second, the Ju 87 *Stuka*, was operationally effective *only* at the time and place of the aggressor's choosing further underlines the point. That the other two German aircraft on the list are near the bottom, and that both make the list largely because of their contribution to strategic failure, testifies to the incoherence of Nazi strategy and resource allocation when applied to a prolonged war. The location of the only Japanese aircraft on the list, the A6M Zero, makes the same point with regard to Japan. By contrast, the fact that three of the four British aircraft are in the top third of the list provides eloquent testimony to the remarkable prescience of those responsible for Britain's technical preparations for war in the air. So, too, does the fact that one of the American aircraft, the P-51 Mustang, was designed in response to a British requirement and achieved tactical success and strategic importance by virtue of its British engine.

In functional terms, the list includes two transports, one specialized patrol aircraft, and 18 combat aircraft. Of the 18 combat aircraft, no less than 11 were designed as day fighters, including three of the top four and eight of the top 11, although one of the 18, the Bf 110, makes the list primarily because it failed in its primary role. The preeminence of day fighters confirms conventional wisdom concerning the importance of air superiority, both as perceived before the war and as things played out, but with an interesting twist: the importance of long-range fighters was almost entirely unanticipated during the interwar years and only the Luftwaffe entered the war with an aircraft, the Bf 110, designed for that role. From the standpoint of those who wrote the specifications, the long-range capabilities of the P-38, P-47, and P-51 were entirely serendipitous. From the standpoint of those who designed them, they were anything but, if only because they took full advantage of their remarkable engineering skills and the impressive power plants available to them to build in a great deal of payload reserve.

Interestingly, four of the remaining eight combat aircraft are four-engine bombers, B-17, Lancaster, B-24, and B-29, although one of the four, the B-24, was included in large part because of its success in an ancillary role. That, too, is more or less in accordance with conventional wisdom, at least as promulgated by the USAAF and RAF. Three of the remaining four combat aircraft are single-engine attack aircraft, the Ju 87 *Stuka*, SBD Dauntless, and Il-2 *Shturmovik*, all designed to tight specifications written with specific mission requirements in mind and all outstandingly successful in terms of those specifications . . . and not much else. No surprises there.

What *is* surprising is the relative absence of twin-engine combat aircraft. The only two to make the list by virtue of operational success, the P-38 and

the Mosquito, were remarkably radical and uncommonly successful designs. Particularly striking is the absence of twin-engine bombers. One reason for this phenomenon lies in the fact that certain essential items of equipment, notably defensive armament installations and the gunners who manned them, were of a fixed size and weight and could not be scaled down. Each such installation thus comprised a greater proportion of the gross weight of a smaller aircraft than a larger one. Every bomber on the list except for the Mosquito was defended by powered gun turrets, and turrets could only be made so small, so the same point applies to drag as well.[74] Another reason is that structural materials, notably the rolled aluminum sheet of which most aircraft on the list were constructed, were made to a standard thickness.[75] Although the point needs to be investigated more thoroughly, the skin on a four-engine bomber would thus be thinner and lighter relative to the total weight of the aircraft than that of a twin-engine bomber. To exploit these realities in the design process clearly posed major engineering challenges—only Britain and America fielded operationally successful four-engine bombers—but the payoff in greater range, bomb load, service ceiling, or some combination thereof clearly had great strategic importance. That is not to say that twin-engine bombers were unimportant strategically. Rather it is to say that such aircraft had substantially more modest operational capabilities and thus less strategic importance. They were also more or less interchangeable. Light and medium bombers performed useful work, but they did not and could not carry the fight to the enemy as did their larger brethren.

Progressing from the general to the specific, engines were the critical limiting factor in aircraft design where extreme performance was required. With the sole exception of the Zero, every aircraft on the list with outstanding high-altitude performance and/or with exceptional range and payload characteristics was powered by an exceptionally capable engine. In concrete terms, the aircraft in question were powered by the Daimler-Benz 601 or Daimler-Benz 605 (Bf 109); by the Rolls-Royce Merlin (Hurricane, Spitfire, Lancaster, Mosquito, and P-51); or by turbosupercharged American engines (B-17, P-47, P-38, B-24, and B-29). To this short list we can add the Rolls-Royce Griffon-powered Spitfire PR XVI, mentioned earlier. Going beyond our list, mediocre aircraft powered by first-class engines were numerous: to cite two prominent examples, the Handley Page Halifax and some versions of the Curtiss P-40 were powered by Merlins. With the sole exception of the Zero, the converse was not true: insofar as combat aircraft were concerned mediocre engines powered mediocre aircraft.

Moreover, the strategic importance of high-performance aero engines was magnified by the time required for their development—a minimum of three years by the beginning of World War II[76]—and it is in this context that the

remarkable farsightedness of British preparations for war becomes manifest. Government subsidies for the development of high-performance aero engines with military potential were maintained throughout the 1920s and '30s, although, ironically, development of the Rolls-Royce R was financed with a private contribution of £100,000.[77] Nor was Rolls-Royce Britain's only producer of high-performance aero engines. Bristol developed and fielded a family of high-performance air-cooled radial engines that powered some versions of the Lancaster and Halifax and by 1944 could have provided a capable substitute for Rolls-Royce engines in fighter applications had one been needed.[78] In addition, Napier developed the liquid-cooled, 24-cylinder "H" Sabre, the most powerful aero engine to see operational service until the debut of the Wright R-3350, and if the strategic impact of the Sabre-powered Hawker Typhoon and Tempest was comparatively modest, it was not because of the inadequacies of their power plants.[79] Finally, Rolls-Royce developed a more powerful successor to the Merlin, the Griffon, in time to see operational service in later versions of the Spitfire. As noted earlier, it was insurance that was not needed.

The American achievement was equally farsighted and more innovative, much of it the product of Army Air Corps initiatives. Considering the United States safe behind its ocean frontiers, Congress stopped subsidizing the development of high-performance aero engines with the onset of the Great Depression, forcing the Army and Navy to depend on engines developed for the civilian market.[80] That meant air-cooled radial engines designed for maximum cruise efficiency at low and medium altitudes, a path down which the Navy had already started as a result of the air-cooled engines' superior power-to-weight ratios, reliability, and ease of maintenance. For likely Navy missions, attack and defense of ships and maritime patrol—none of them requiring a particularly high service ceiling—that made perfect sense. But Army airmen, looking ahead to a European war, with their utter unpreparedness for World War I clearly in mind and with an eye on developments abroad, saw the need for higher speeds and service ceilings than any conceivable civilian requirement would demand. As already related, their response was on two fronts: contracting with General Electric to develop the turbosupercharger and working aggressively in cooperation with the oil industry to develop aviation gasolines that would support higher compression ratios without preignition "knock." Despite strong resistance on the part of the Army Staff—high-octane gasoline was considerably more expensive than that in common use—the Air Service prevailed* and by the 1930s had managed to obtain sup-

*US Army Air Service, 1918–1926, replaced the Army Signal Corps, Aviation Service in 1918; US Army Air Corps replaced the Army Air Service.

plies of 100-octane aviation gasoline and engines modified to take full advantage of the higher compression ratios it permitted. Integral to this achievement was success in convincing the airlines that greater speed meant more profits, thus providing a civilian market for high-octane fuels, a market ensured by the surprisingly robust health of the American aviation industry during the Depression.[81] A final factor in the triumph of 100-octane aviation gasoline was America's position as a major producer of crude oil, for the reason that the production of a barrel of 100-octane fuel required many more barrels of crude oil than the production of a barrel of 87-octane gasoline, the standard aviation fuel for the oil-starved Third Reich and Japanese empire.

Meanwhile, to hedge its bets, the Army, understanding that high-performance liquid-cooled engines offered higher maximum speeds in fighter applications given the state of the art in the mid-1930s, was able to provide the Allison division of General Motors with a modest subsidy to develop its 12-cylinder V-1710. For reasons already addressed, the V-1710 never achieved its full potential except in the P-38 and then only when turbosupercharged.

In the greater scheme of things, the V-1710 was a minor chord in a great symphony. The major chords were struck by 100-octane aviation gas and the turbosupercharger. Not least among the Army's achievements lay in apprising the Royal Air Force of the benefits of 100-octane gasoline, benefits that perfectly fit the tactical demands that would fall on Fighter Command's Hurricanes and Spitfires in the Battle of Britain. The responsible British authorities saw their opportunity clearly, arranged for the appropriate modifications to their engines, and 100-octane fuel played large in the Battle of Britain. It was to play large in the subsequent successes of the Allied air forces in general.

As for the turbosupercharger, the high-altitude skies above Western Europe were the critical theater of the air war, and until the P-51's operational debut at the very end of 1943 the only US aircraft capable of engaging in combat there were powered by turbosupercharged engines. Simply put, without the turbosupercharger, the application of America's aerial might against the Allies's most dangerous opponent would have been delayed by at least a year. Good as it was at low and medium altitudes, the F4F was outclassed in service ceiling and high-altitude speed by contemporary versions of the Bf 109 and Fw 190. Even the second generation of US Navy fighters that entered service from the late summer of 1943, the Grumman F6F Hellcat and the Vought F4U Corsair, would have been outclassed at high altitudes by later versions of the Bf 109 and Fw 190 and at low altitudes would have fought at little better than at par.[82] More crucially, the United States would have had no bomber with the service ceiling needed to survive in daylight over Europe. Would the USAAF and American industry have found other avenues to high altitude

performance? Perhaps, though it is difficult to see how they could have been deployed quickly or that they would have worked as well.

What lessons can we distill from our exercise? First and most basic, technological competence and strategic vision are essential, but only if applied in conjunction with one another. The Allies won World War II in the air largely because the leaders of the Royal Air Force, the US Army Air Forces, and the US Navy's aviation establishment had a clear strategic vision and a good sense of what was feasible in terms of the aircraft performance needed to make their respective visions reality. That their strategic visions were imperfect in important particulars was inevitable. What was important was that they *did* have a vision and that it drove technology in positive directions. Technological cleverness in isolation is not enough, as the Luftwaffe and Nazi Germany's aviation industry clearly demonstrated. Indeed, it can be counterproductive.

In the case of World War II, the combination of strategic vision with technological competence was rendered particularly important by the considerable amount of time needed to develop certain critical technologies. One-hundred-octane aviation gas and the turbosupercharger are salient examples with British development of high-performance aero engines not far behind. The development of high-performance engines in the United States is a special case since they were developed for civilian applications, but it only adds to the luster of the Army Air Forces planners that they were able not only to effectively harness a civilian technology to their needs but advance the civilian technology in the process.

That having been said, it is important to remember that our exercise underlined the considerable advantages accruing to the strategic aggressor. In being able to determine the time and place of their attack, and in obtaining aircraft suitable for their chosen operational methods, the Third Reich and Imperial Japan came closer to success than we commonly admit today or was comfortable then. The fact that it is easier to design for tactical than for strategic advantage—and this applies to technologies other than aircraft—renders ideologically motivated aggressors all the more dangerous, however unbalanced their world views may be. In that there is surely a lesson for today.

And what of aircraft design proper? It was, as I hope I have demonstrated, strategically pivotal, though in the final aggregate not as important as the underlying factors just enumerated. It is worth noting in this respect that much of America's success was attributable to the sheer depth, breadth, and vitality of America's aviation industry. In hindsight, it is easy to see that in the aftermath of World War I looking forward to what most competent military professionals saw as an upcoming global conflict, aircraft technology was a critical variable, perhaps *the* critical variable. It was not so apparent at the time, and airpower advocates in Great Britain and the United States had a difficult

time selling their case. Today, to many aviation technology does not seem to have the same strategic primacy that it did in the interwar period, but we say this with full wisdom of hindsight and are defining aviation technology narrowly in the process. Broadly defined to include information gathering and electronic warfare capabilities across the entire aerospace spectrum, it surely retains its importance and demands the same clear vision for the future in the aftermath of the Cold War that it did in the aftermath of World War I.

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Professor Guilmartin was an authority on military history, maritime history, and the history of technology. He was an early modern Europeanist whose research focused primarily on the sixteenth and seventeenth centuries. He also was interested in aerospace history and wrote about the Vietnam War and the Gulf War. He authored *America in Vietnam: The Fifteen Year War* in 1991 and *Galleons and Galleys* in 2002. Dr. Guilmartin passed away on 10 March 2016.

Notes

1. In contrast, airpower made major contributions to the defeat of the U-boat menace in the Battle of the Atlantic. Note, too, that the destruction of Japanese shipping was powerfully assisted in the final stages by B-29–dropped mines and that carrier aviation made significant contributions as well, notably in sinking eight of the 12 large rail ferries that connected Hokkaido to Honshu and rendering the other four unusable; Richard B. Frank, *Downfall: The End of the Imperial Japanese Empire* (New York: Penguin, 2001), 154–59. That having been said, submarine attacks were well on the way to reducing the size of the Japanese merchant marine below that needed to sustain the war economy before aerial mining or carrier aviation became significant factors.

2. Of the examples cited, all except Stalingrad are unequivocal. The Luftwaffe controlled the skies above Stalingrad during the early stages of the battle, but Soviet strength in the air grew apace, and, by the time the Soviets launched their November 1942 counterattack, the Red Air Force had achieved rough parity. Although the Red Air Force lacked the strength to drive the Luftwaffe from its bases, neither was the Luftwaffe able to contain the depredations of marauding Soviet fighters, which wrought havoc on German aerial resupply operations with decisive effect. By German admission, over 320 Luftwaffe transports were shot down, representing a major loss in trained aircrew that had strategic implications well beyond the battle's outcome; Von Hardesty, *Red Phoenix: The Rise of Soviet Airpower, 1941–1945* (Washington, DC: Smithsonian Institution Press, 1991), 91–120, esp. 110.

3. The only daylight actions among these were the 13 December 1939 Battle of the River Plate in which the German pocket battleship *Graf Spee* was defeated by British cruisers *Ajax, Achilles*, and *Exeter*; the 13 April 1940 Second Battle of Narvik, in which a British destroyer force led by the battleship *Warspite* destroyed a German destroyer flotilla; and the inconclusive engagement on 26 March 1943 between US and Japanese cruiser forces off the Komandorski Islands in the Bering Sea.

4. The most important of these were the 8–9 August 1942 Battle of Savo Island, a Japanese tactical victory; the 11 October Battle of Cape Esperance, an American tactical victory; and the two-phase Battle of Guadalcanal, 13 November (a Japanese tactical victory) and 14–15 November (an American tactical and strategic victory); and, finally, the 30 November Battle of Tassafaronga, a Japanese tactical victory, the last of the war.

5. As the Solomons campaign progressed, Allied aerial reconnaissance became progressively more effective and ultimately constituted a major operational advantage. That having been said, particularly in the early stages of the campaign, Japanese skill in avoiding or deceiving Allied aerial reconnaissance yielded major tactical advantages, most notably in the Battle of Savo Island, where catapult-launched Japanese spotting aircraft rendered useful service by illuminating the American and Australian battle line with parachute flares.

6. Geoffrey Bennett, *Naval Battles of World War II* (New York: David McKay, 1975), 161–66.

7. Martin Middlebrook, *The Berlin Raids: Bomber Command, Winter 1943–44* (London: Cassell, 1988), 6–9, for a useful overview of objectives and forces committed.

8. Middlebrook, Appendix 3, Bomber Command Statistics, for British losses.

9. *See* James Campbell, *The Bombing of Nuremberg* (New York: Doubleday, 1974), 142–45. Seven hundred and ninety-five Lancasters and Halifaxes were sent against Nuremberg, of which 94 failed to return, a loss rate of 11.8 percent. Of the total, 14 were downed by flak and two lost to a midair collision over the target.

10. *Ranger*, older and smaller than the rest, was deemed unsuited for fleet operations. *Saratoga* was in dry dock undergoing repair for torpedo damage.

11. This is no doubt due to the British reading public's seemingly inexhaustible appetite for accounts of the Battle of Britain and to the historical bent of the British technical aviation press. Interestingly, however, the best general account of the Battle of Britain in my view, and one of the few air campaign histories to systematically and effectively connect aircraft design to strategic consequences, is by a novelist: Len Deighton, *Fighter: The True Story of the Battle of Britain* (London: Jonathan Cape, 1977). T. C. G. James, *The Battle of Britain*: *RAF Official Histories*, Sebastian Cox, ed. (London: Frank Cass, 2000), the official RAF account written in 1943–44, is the best and most complete historical narrative but says little about aircraft design and was published only in 2000.

12. This point is effectively made by attritional data presented in Williamson Murray, *Strategy for Defeat: The Luftwaffe, 1933–1945* (Maxwell Air Force Base, AL: Air University Press, January 1983), esp. Table XXX, "German Losses by Theater, Jan–Nov 1943," and Table XXXI, "German Fighter Losses, 1943 (Number of Aircraft)," 148–49.

13. *Service ceiling* is the highest altitude at which an aircraft can sustain a rate of climb of 100 feet per minute; John D. Anderson Jr., *Introduction to Flight*, 2nd ed. (New York: McGraw-Hill, 1985), 285–88. The B-17G had a service ceiling of 35,000 feet and the B-24J a service ceiling of 28,000 feet; William Green, *Famous Bombers of the Second World War* (Garden City, NY: Hanover House, 1959). While these figures apply to individual aircraft, USAAF heavy bombers penetrated in massed formations. Formation flying involves considerable jockeying around, and formation performance is dictated by the poorest-performing aircraft in the formation. In consequence, actual penetration altitudes were typically in the 25,000–27,000-foot range for B-17s, although occasionally as high as 29,000 feet, and around 22,000–23,000 for B-24s. These figures are based on examination of the records of the 2nd Bombardment Division, cited below, a B-24 unit; and the 95th Bombardment Group (Heavy), a B-17 unit, e.g., the records of 95 BG Mission #41, the 14 October 1943 Schweinfurt raid, National Archives II, College Park, Maryland, Record Group 18, Stack Area 190, Row 58, Compartments 4–5, Shelves 7-3, Box 333 (henceforth given in the format NAII/RG18/190/58/4-5/7-3/333).

14. The B-24's notoriously leak-prone fuel system was a particular problem; structural weakness was a factor as well.

15. Headquarters 2nd Bombardment Division, "Summary of Mission Number 138" and "Minutes of Critique, Mission 14 October 1943," NAII/RG18/190/59/16/5-6/2621.

16. The Bf 109 was designed by Willy Messerschmitt in his capacity as chief designer of the *Bayerische Flugzeugwerke* (Bavarian Aircraft Works), from whence the designation "Bf." The name of the company was changed to Messerschmitt AG (*Messerschmitt Aktiengesellschaft*) in July 1938 and designs subsequent to the Bf 110 received the "Me" prefix; J. R. Smith and Antony Kay, *German Aircraft of the Second World War* (London: Putnam, 1972), 472.

17. Dénes Bernád, *Heinkel He 112*, Aircraft Number 159 (Carrollton, TX: Squadron/Signal Publications, 1996), 4–5.

18. William Green, *Famous Fighters of the Second World War* (London: McDonald, 1957), 16; some 36,000 *Shturmoviks* were produced, note 57, below.

19. L. J. K. Setright, *The Power to Fly: The Development of the Piston Engine in Aviation* (London, George Allen and Unwin, 1971), 101–2. So efficient was the design of the Merlin's centrifugal flow compressor that it was incorporated into the Whittle turbojet, progenitor of the Rolls-Royce Nene of the late 1940s. Nenes produced under license in the Soviet Union powered the MiG 15 and later versions powered the MiG 17, still a competitive air-to-air fighter in the 1970s, eloquent testimony to the efficiency of the Merlin's compressor!

20. The genesis of the Hurricane and Spitfire lay in a 1930 specification for an eight-gun fighter issued by the Royal Aircraft Establishment (RAE), the section of the Air Ministry responsible for aircraft requirements and specifications. The RAE issued a further specification

for a Hawker experimental fighter in October 1934 with no further stipulations. The performance specification that led directly to the Hurricane and Spitfire was issued in April 1935; Colin Sinnott, *The Royal Air Force and Aircraft Design, 1923–1939* (London: Frank Cass, 2001), 77, 86–87. Inasmuch as the RAE's technical expertise and operational authority were resident in its senior RAF members and worked closely with the Air Staff, I have referred to its specifications as RAF specifications for simplicity.

21. James, *The Battle of Britain,* 332, 338, and 368, Appendices 2, 5, 14, and 18, addressing Fighter Command sector organization and order of battle on 7 July, 8 August, 7 September, and 30 September 1940. Eight Hurricane squadrons were added between 8 August and 7 September, including one Canadian, one Czech, and two Polish squadrons.

22. Owen Thetford, *Aircraft of the Royal Air Force, 1918–1957* (London: Putnam, 1957), 154–58.

23. Information to the author from John D. Anderson, Smithsonian Institution, spring 2002.

24. Smith and Kay, *German Aircraft*, 486.

25. Victor Bingham, *Major Piston Aero Engines of World War II* (London: Airlife Publishing, 1998), 115.

26. The R-1820 was originally designed to burn aviation gasoline with octane ratings in the mid- to high 80s. The Air Corps persuaded Curtiss Wright to produce a version for the Martin B-10 designed to operate at higher compression ratios, exploiting the greater resistance to "knock" provided by 100-octane gasoline. The twin-engine B-10, which entered service in 1932, proved to be substantially faster than existing bombers—and fighters—demonstrating the value of high-octane gas and engines designed for it. A significant problem was the greater cost of high-octane gasoline, a problem solved by persuading the airlines that the increased speeds that the new engine-fuel combinations made possible would more than pay for the more costly fuel. A commercial market for high-octane aviation gasoline ensured a ready supply for the military. The Army Air Corps' technical development branch was the driving spirit behind these developments, powerfully assisted by reserve Air Corps Capt James Doolittle acting in his capacity as a Shell Oil Corporation executive.

27. By the late 1930s, all but the smallest aero engines had integral mechanical superchargers to atomize the fuel charge and to provide a modest increase in boost. My reference here is the provision of additional supercharging to increase power at high altitudes.

28. Daniel D. Whitney, "Getting High in the Sky," *Skyways*, no. 38 (April 1996), 16–26, for a competent summary of the General Electric turbosupercharger's development.

29. See note 13, above.

30. The B-24 was powered by four turbosupercharged Pratt and Whitney R-1830s. The power output of the nine-cylinder R-1820 and the twin-row 14-cylinder R-1830 varied slightly from model to model and increased somewhat over the course of the war but was similar from start to finish. Both were excellent engines. The R-1830 had a smaller external diameter and in a well-designed installation produced less drag; the R-1820 had a better power-to-weight ratio.

31. Ian Hogg and John Weeks, *Military Small Arms of the Twentieth Century* (Chicago: Follette Publishing Company, 1973), 5–72; and David R. Mets, *Nonnuclear Aircraft Armament: The Evolution of Aircraft Guns (1912–1945)* (Eglin AFB, FL: Office of History, Armament Division, Air Force Systems Command, 1987), 60–68.

32. The ballistic coefficient is determined by the relationship between a projectile's mass and its aerodynamic drag and is generally proportional to the diameter squared. Since mass increases with the diameter cubed whereas drag increases with the diameter squared, effective range increases as a function of bore diameter given the same muzzle velocities, as was the case here. In addition, the US .50-caliber round had a "boat-tailed" bullet with exceptional aerodynamic qualities.

33. *AAF Bombing Accuracy: Continental [and] Overseas, Report No. 1* and *Report No. 2* (declassified from SECRET), not further identified as to origin and undated, though exploiting data from January through December 1944, NAII, RG 18, 190/61/24/2-5, Entry 10. Based on analysis of a mass of training and combat data, this study is analytically sound and mathematically sophisticated.

34. *Op. cit*. *Report No. 2*.

35. Brereton Greenhaus, Stephen J. Harris, William C. Johnson, and William G. P. Rawling, *The Official History of the Royal Canadian Air Force*, vol. III, *The Crucible of War, 1939–1945* (Toronto: University of Toronto Press with the Ministry of Supply and Services Canada, 1994), 754.

36. Sinnott, *Aircraft Design,* 142, 158–59.

37. In fact, the Vulture was based on the earlier Rolls-Royce V-12 Kestrel engine, but with the blocks rebored to yield the same cylinder diameter as the Merlin; Victor Bingham, *Major Piston Aero Engines of World War II* (Shrewsbury, UK: Airlife Publishing, Ltd., 1998), 134–35.

38. The principal Axis examples were the German Junkers Jumo 222 and Daimler-Benz 604, both 24-cylinder X engines; and the DB 606, consisting of two DB 601s mounted side by side and driving a single propeller through a common reduction gear. The DB 606 was the only one of these to achieve operation status, powering the He 177 heavy bomber, but was unreliable and prone to engine fires. The only successful World War II liquid-cooled aero engine with more than 12 cylinders was the 24-cylinder Napier Sabre that powered the Hawker Typhoon and Hawker Tempest.

39. Anthony Furse, *Wilfred Freeman: The Genius Behind Allied Survival and Air Supremacy, 1939 to 1945* (Staplehurst, Kent, UK: Spellmount, 2000), 143; and Bingham, *Major Piston Aero Engines*, 136–39.

40. Takashi Nishiyama, "Aeronautical Technology for Pilot Safety: Reexamining Deck-landing Aircraft in Great Britain, Japan, and the United States," *Historia Scientiarum*, 13, no. 1 (2003): 13–32, esp. 16.

41. The empty weight of the A6M2 Zero was less than 4,000 pounds to 6,500 pounds for the Spitfire IX, the most capable version of the Spitfire in operational service in 1943. Both were powered by engines of about 1,300 horsepower. *See* Pierre Closterman, *Flames in the Sky* (London: Chatto and Windus, 1956), 49–58, for a clinical evaluation by a top-scoring Allied World War II ace of the reasons for the Zero's effectiveness.

42. Takashi Nishiyama, "Technology for Flight Safety in Japan: The Case of the Mitsubishi Zero Fighter" (thesis, The Ohio State University, 19 July 1995).

43. William Green, *War Planes of the Second World War*, *Fighters*, vol. 4 (Garden City, NY: Doubleday, 1961), 102–3.

44. Ironically, the only exception, and that a partial one, was the Imperial Japanese naval air arm. John B. Lundstrom, *The First Team: Pacific Naval Air Combat from Pearl Harbor to Midway* (Annapolis, MD: Naval Institute Press, 1984), 486–89. Japanese navy fighter pilots were taught off-angle deflection shooting but were unable to take full advantage of their training in fighter-versus-fighter combat because of poor downward visibility over the nose of the A6M Zero.

45. Lundstrom, *First Team*, 458–68, 477–85, for a comprehensive discussion of US Navy gunnery and tactics.

46. In principle, the drag created by aerodynamic interference at the junction of wing and fuselage is minimized by mounting the wing near the midsection of a fuselage of circular or elliptical cross-section. This, however, required longer landing gear to ensure propeller clearance during takeoff and landing, and longer landing gear entailed greater weight, greater mechanical complexity, or both. Kartveli solved the problem with telescoping main landing gear

struts that shortened before folding upward into the wing. To the best of my knowledge, this was the only telescoping landing gear of World War II to be essentially trouble free, a tribute to Republic's second-tier engineering.

47. John F. Kries, ed., *Piercing the Fog: Intelligence and Army Air Forces Operations in World War II* (Bolling AFB, DC: Air Force History and Museums Program, 1996), 190–213.

48. The principal RAF electronic target marking aids, GEE (from early 1942) and Oboe (from early 1943), established a bomber's location by reference to ground-based radio transmissions. Their maximum range was thus limited by the curvature of the earth, and the Mosquito's greater service ceiling, 39,000 feet to 24,500 feet for the Lancaster, meant that it could receive the guidance signals considerably further from the transmitter, thus extending Bomber Command's reach into Germany; "Electronic Navigation Systems," I. C. B. Dear and M. R. D. Foot, *The Oxford Companion to World War II* (Oxford and New York: Oxford University Press, 1995).

49. Sinnott, *Aircraft Design*, 203–08.

50. Thetford, *Aircraft of the Royal Air Force*, 156. I am indebted to Lt Col Robert Ehlers, USAF, for pointing out to me the superior performance of the Mosquito PR XIV and its strategic importance.

51. Thetford, *Aircraft of the Royal Air Force*, 130–31.

52. Ironically, the best Axis tactical transport of the war was the Japanese LD2, a DC-3 built under license by Nakajima and Showa as the Imperial Navy's standard land-based transport, R. J. Francillon, *Japanese Aircraft of the Pacific War* (New York: Funk and Wagnalls, 1970), 499–503. Some 485 were produced by Showa and 70 by Nakajima.

53. The designation C-53 was applied to the initial military conversions without the large rear door and provisions for carrying heavy cargo. For convenience and reflecting common usage, I have referred to all military versions as C-47s.

54. Thetford, *Aircraft of the Royal Air Force*, 190–91. The payload figure represents a maximum overload and the radius of action is a conservative estimate based on a stated range of 1,500 miles.

55. Thetford, 190–91; and R. E. G. Davis, *TWA: An Airline and Its Aircraft* (McLean, VA: Paladwr Press, 2000), 38.

56. Stephen L. McFarland and Wesley Phillips Newton, *To Command the Sky: The Battle for Air Superiority over Germany, 1942–1944* (Washington, DC: Smithsonian Institution Press, 1991), 246–47.

57. Ray Wagner, *Mustang Designer: Edgar Schmued and the P-51* (Washington, DC: Smithsonian Institution Press, 1990), 26–29.

58. Thetford, *Aircraft of the Royal Air Force*, 344.

59. Wagner, *Mustang Designer*, 104.

60. The specification called for a maximum speed of 400 mph at 20,000 feet and stipulated that the aircraft be able to climb to 20,000 feet in six minutes; Le Roy Weber Jr., "The Lockheed XP-38," *Skyways* 69 (January 2004), 9–17.

61. A partial exception was the British Westland Whirlwind, the only other twin-engine, single-seat fighter to see operational service in World War II. A 1936 design of orthodox configuration, the Whirlwind was powered by two 885-horsepower Rolls-Royce V-12 liquid-cooled Peregrine engines and had an impressive armament of four nose-mounted 20 mm cannon. The Whirlwind first flew in October 1938, but development problems with the Peregrine delayed operational deployment until mid-1941. Faster than contemporary single-engine fighters at low altitudes, the Whirlwind proved to be an effective low-altitude escort and ground-attack fighter, but its operational virtues were not sufficiently compelling to justify

large-scale production, the more so as it was the only operational aircraft powered by the Peregrine; Green, *Fighters*, vol. 2, 123–25.

62. David W. Ostrowski, "Early P-38 Problems," *Skyways* 40 (October 1996), 54–64.

63. The 20th Fighter Group Association, *King's Cliffe*, rev. ed. (Moore, PA: The Sheridan Press, 2004), 112. This account is particularly valuable for documenting the P-38's strengths and weaknesses from the viewpoint of the men who flew and maintained it. The 20th was dispatched to England in late August 1943 and mounted its first operations in November. The P-38 was available in the European theater in significant numbers only from late December.

64. Bingham, *Major Piston Aero-Engines*, 166–70.

65. Dear and Foot, *Oxford Companion*, "bombers," 143–50, esp. 146, and "fighters," 354–63, esp. 359.

66. The first of these were 20 Liberator Is built to British specifications and supplied to the Royal Canadian Air Force for operations from Northern Ireland; Thetford, *Aircraft of the Royal Air Force*, 132–37. These were followed by 139 Liberator IIs from August 1941 and 260 Liberator IIIs, equivalent to a B-24D, from mid-1942; Green, *Famous Bombers*, 85–90; and Dear and Foot, *Oxford Companion,* "air gap, mid-Atlantic," 12–13.

67. Dear and Foot, *Oxford Companion*, "bombers," 146.

68. Walter G. Vincenti, *What Engineers Know and How They Know It: Analytical Studies from Aeronautical History* (Baltimore: Johns Hopkins University Press, 1990), ch. 2 "Design and the Growth of Knowledge: The Davis Wing and the Problem of Airfoil Design, 1908–1945," 16–50. The B-24's wing had an aspect ratio of 11.55; that of the B-17 had an aspect ratio of 7.58.

69. Green, *Famous Bombers*, 89–90.

70. Smith and Kay, *German Aircraft*, 501.

71. Kenneth P. Werrell, *Blankets of Fire: U.S. Bombers over Japan during World War II* (Washington, DC: Smithsonian Institution Press, 1966), 238, 238n29. A 1945 dollar was worth over 20 times as much as a 2004 dollar.

72. *AAF Bombing Accuracy: Continental [and] Overseas, Report No. 1*; see note 29, above.

73. Smith and Kay, *German Aircraft*, 358, 370; Thetford, *Aircraft of the Royal Air Force*, 190–91. The figures for useful load as a percentage of maximum takeoff weight may be a bit high (my sources do not specify what constitutes empty weight) but should be accurately indicative of the difference in efficiency between the two aircraft.

74. In principle, remotely controlled turrets could be made that were substantially lighter and produced less drag than their manned equivalents, but this proved to be far more difficult than anticipated. The Luftwaffe, RAF, and USAAF all attempted to develop remotely controlled turrets, but only the USAAF succeeded. The first successful such installation was the twin .50-caliber chin turret installed in B-17s from late 1943. The B-29 had the first effective remotely controlled defensive armament system.

75. The exceptions include the Yak fighters and early versions of the Hurricane that made significant use of wood and fabric; the Mosquito with its stressed plywood structure; the IL-2 with important structural elements of hardened steel; and the Ju 52 with corrugated aluminum skin.

76. Setright, *Power to Fly*, 110.

77. Setright, 97.

78. And, in fact, did so in the Hawker Tempest II, a design that entered operational service shortly after the war, powered by a massive four-row Bristol Centaurus radial engine; Thetford, *Aircraft of the Royal Air Force*, 308–9. The Tempest II and its naval version, the Sea Fury, were among the fastest and most-capable piston-engine fighters ever built.

79. To be sure, the Sabre was more temperamental than the Merlin, but the main factor behind its limited impact on the war lay in the aerodynamic limitations of the Hawker Typhoon, limited to low altitudes by its thick wing section. This problem was solved in the Tempest V, the fastest Allied piston-engine fighter of the war, but the Tempest did not enter squadron service until July of 1944; Thetford, *Aircraft of the Royal Air Force*, 306–7.

80. Herschel Smith, *A History of Aircraft Piston Engines* (Manhattan, KS: Sunflower University Press, 1981), 70–76, 103–8.

81. America was becoming a motorized society, and demand for gasoline engines and fuel remained strong. During 1930–38, average personal income declined by 25 percent in the United States, but the demand for gasoline declined during only two years during that period, and then by only about 5 percent. While only a minority of the demand was for aviation fuel, the benefits of higher octane were appreciated for automotive fuel as well. The maximum octane rating of automobile gasoline increased from 65 to 87 during this period; William David Compton, "Internal-Combustion Engines and Their Fuel: a Preliminary Exploration of Technological Interplay," in *History of Technology*, vol. 7, ed. A. R. Hall and Norman Smith (London: Mansell Publishing, 1982), 23–36, esp. 34.

82. Eric N. Brown, *Duels in the Sky: World War II and Naval Aircraft in Combat* (Annapolis, MD: Naval Institute Press, 1988). Written by a highly experienced Royal Navy test pilot who flew the aircraft about which he writes, some in combat, this work is invaluable. Brown's strategic judgments inspire little confidence, but his tactical assessments are as close to definitive as we will ever get.

Airpower and Warfare, 1950–Present

Success, Failures, and Enduring Challenges*

Jeremy Black

Ladies and gentlemen, thank you very much for the honor of this invitation. I'd first like to say to the cadets, congratulations: you've chosen a career that is well worth following. You've chosen a career in which your potential can be developed, and you've chosen a career which is important to your country and the world. Somebody not much older than you, in January 1904, was sitting listening to a seminar in London. It was a cold afternoon, and the seminar was being given by the leading geopolitician of the age, a man called Halford Mackinder. And Mackinder was arguing that with transcontinental railways—the Russians were just finishing their transcontinental railway to the Pacific—the nature of military power had totally changed. That armies would be able to move rapidly across continental landmasses, and that armies would therefore be more influential than navies. Leo Amery, the young man sitting there—and we're talking about January 1904—turned to Mackinder at the end and said, "Well what about aircraft?" He'd read about two men trying out an aircraft on a beach in North Carolina. At that time that seemed a remarkable suggestion. Amery argued that with aircraft, the nature of power was already changing, that the world would not, and no longer be dominated by whoever could move troops most rapidly across continental land masses.

Now initially, Amery's observation did not seem well proven. If you go through the 1900s or early nineteen-teens, you could see that aircraft were relatively primitive, very simple, extraordinarily vulnerable; the pilots, obviously, were extraordinarily vulnerable as well. And in the First World War, although aircraft were important, they were essentially ancillary to the armies. The majority of aircraft in World War I, in fact, were used for reconnaissance—very important, to be able to see over the battlefield, to see where your opponent's front lines were—but essentially a supporting tool to the army.

But after that, the situation started to change. And in the 1920s and 1930s, at a relatively rapid rate, the potential of aircraft to change the existing relationships of space and time, to move more rapidly than any other way possible across large bodies of space, and to do so much more speedily than had seemed even possible to imagine 20 years earlier, was already being realized. By the 1930s, there were long-distance air links for domestic passengers and mail. You could go, for example, from London to Adelaide or London to Hong

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Kong. You had to stop several times, but at least the capacity was being created to reimagine the world from the perspective of airpower. And airpower theorists were persuading governments to experiment at a time when governments were short of money. The Great Depression of the 1930s meant there really wasn't much money, but they were persuading governments that airpower offered a way to leap over the existing limitations in weapons systems.

What had followed World War I and the incredibly high casualties of trench warfare would be a determination of "never again." Never again to fight in that fashion and the determination and the search for a magic bullet that would enable people to circumvent that. Now as we know, all magic bullets have their limitations. The history of war is littered with people imagining that they can completely transform weaponry and completely transform the situation. But nevertheless, even if you are aware of the limitations, it is still what you can do with new weapons systems that is impressive. Gunpowder might not have produced always the impact that people anticipated, but gunpowder did transform war. The steam engine, whether the steam engine in warships or the steam engine in locomotives to move troops around, might, again, not have had completely the impact envisaged, but nevertheless, it again transformed war. You just imagine what the American Civil War would have been like without locomotives, for example. And so, also with airpower.

The ideas developed in the 1930s focused on the possibility of using bombers in order to circumvent—to literally overfly—front lines and to weaken the industrial potential of other societies and to persuade their civilians to stop fighting. The usual line, as you may be aware, is to be skeptical about the effectiveness of bombing, but I have to tell you that in the aftermath of what happened as a result of dropping just two bombs on Nagasaki and Hiroshima, it's a little difficult to understand why people felt that bombing had obviously the limitations that people always say that it seems to have.

A pilot of the XIX Tactical Air Command recorded a dramatic photo of air destruction in World War II, exact date and location unknown. Courtesy of USAF Collection, AFHRA (VIRIN 080311-F-3927P-004.JPG).

As far as naval warfare was concerned, in World War II, we must remember if we are interested in airpower, airpower is not only a matter of what airpower can achieve on land. What

airpower can achieve at sea is also important. It's not as though aircraft suddenly lose their potential when they cross the coastline. Airpower at sea was very, very influential in World War II. In the Pacific, aircraft carriers played an absolutely crucial role in speeding the advance of American forces. Aircraft were incredibly important in defeating German submarines in the Battle of the Atlantic. And in more conventional bombing and fighter campaigns in the war against both Germany and Japan, aircraft repeatedly were able to help deliver tactical, operational, and strategic results. So it wasn't surprising that in the period I have to talk about, which is the period after 1950, it wasn't surprising that people imagined that aircraft would dominate the military environment. And indeed it's worth bearing in mind that Air Force commanders in the 1950s and 1960s were commanders who had served in World War II, and they took forward their reading of World War II into what appeared to be the possible breakout of World War III.

Now if you look at the situation, you can draw attention to both the strengths and the drawbacks of airpower. You will be aware that people often focus on those drawbacks. They talk about, for example, that Vietnam became the most-bombed country in the history of the world without the people doing the bombing achieving their results. They would draw attention to the way in which airpower may actually be lethal and destructive, but that doesn't necessarily affect what goes on—on the ground. And we can note those points, and those points are valid. It is pertinent to note that there are limitations. But much of the limitation of airpower during the Cold War reflected the fact that the Cold War was being fought as a limited war. And if you fight as a limited war, there are always limits to what you can achieve.

If you actually take the situation from, shall we say, 1945 to 1970 as our first unit, you will be aware that it was the United States that did most of the work (with the British following suit). It's precisely because the United States developed an aerial-borne nuclear deterrent that the West—NATO as it was formed in 1949—had some counter to the fact that the Soviet Union absolutely outnumbered what the Western forces had on land.

The Soviet army had shown its astonishing potency in 1943, 1944, and 1945. Soviet forces had advanced from the river Volga to the river Elbe, an advance greater than any other advance in European history. Soviet forces had smashed the Japanese army in Manchuria. The communists themselves, Chinese but with Soviet assistance, had then gone on to win in the Chinese Civil War. It was not surprising that Western policy makers and Western strategists—aware that their public did not want high rates of conscription, or necessarily any conscription, and aware that they didn't want to actually live on a permanent war footing—sought to use aerial deterrence in order to make sure that the Soviet Union did not mount another attack.

Now, as I've said, limited warfare has its limitations. Having this potential didn't mean that one uses it. In fact, usually having weapons of great lethality, it's often sensible not to use them, because they tend to be wasting an asset. And you might say that America had this cutting-edge technology, the first with the atom bomb but nevertheless losing the Chinese Civil War, the first with the hydrogen bomb, but nevertheless not being able to use it before the Soviets came.

But that wasn't the point. What they were trying to do was to stage deterrence without war, and aircraft proved tremendously important to that. It gave a range to American power that could not be matched by land forces. But that, of course, was not the limit of American military capability at all. Although it is true that the so-called bomber barons, the Strategic Air Command, dominated a lot of American thinking in the 1950s and 1960s, it was nevertheless also the case that there was a realization that other branches of airpower had to be kept fit for purpose. Part of that was naval, and indeed aircraft carriers really come into their own in the 1950s. They become capable of operating at night, they develop trip wires,* they develop better systems of launching planes, and aircraft carriers show much more potential. Indeed, by 1955, American aircraft carriers were carrying planes that could drop nuclear bombs. They're actually able to be part of the deterrence.

But the Air Force itself also had part of a major attempt to mount and increase its effectiveness in a field which it had allowed to, as it were, run down. And that was tactical aircraft. And the Vietnam War proved a key lesson there. Now when we look at the Vietnam War, we usually look at the limitations of airpower.† We usually look at the fact that the North fought on. That is indeed true. But if you're looking at the war in the South, what is very instructive is what airpower allowed the Americans to do and the contrast between what the Americans could do in the South, when fighting the communists, and what the French had been unable to do in Vietnam in the late forties, early fifties when they, unsuccessfully, were fighting the communists. Essentially airpower provides one with a substitute for artillery. It is more flexible in that account. Airpower also, both helicopters and transport aircraft, enables you to supply isolated fortress positions without having to rely on convoys that could be ambushed on the ground. And ultimately after the Vietcong was essentially wiped out in 1968, and after that the war was largely the North Vietnamese units, the North Vietnamese, when they staged their conventional offensive, the Spring Offensive in 1972, and used large quanti-

*Arresting gear.

†As a case in point, consider Mark Clodfelter's *The Limits of Air Power: The American Bombing of North Vietnam* (New York: Free Press, 1989).

ties of tanks, and advanced from North Vietnam to South Vietnam, it was aircraft that played the key role in stopping the Spring Offensive.

So by the early seventies, it was clear that whatever the effectiveness of strategic bombing as a deterrent, it was also necessary and possible to use tactical aircraft to achieve immediate effects on ground operations. That had also been demonstrated very clearly in the sixties and almost more dramatically with the astonishing success of the Israeli Air Force in the Six-Day War in destroying the military potential of both Egypt and Syria. Now what the Israeli Air Force did, of course, was show the double nature of airpower in this respect.

In order to attack the Egyptian and Syrian forces on the ground, the Israelis first had to gain air dominance. And air dominance meant wiping out the opposing air forces. That was a lesson that was very much driven home in one morning. We're not talking about attrition. In one morning, the Egyptian Air Force—which was a very large air force, largely equipped with Soviet planes—was destroyed, and after that the Israeli Air Force could turn to tank busting, which they were good at. And, of course, the point about tank busting by air is tank busting by air is something you can do a long way in advance of wherever your tanks or your own antitank guns could get. The American Air Force, and indeed other air forces, looked carefully at what the Israelis had done. The lesson running forward from that was that tactical airpower was still crucially important, but it rested its effectiveness on an ability to gain total air superiority.

The next big war between Israel and its neighbors sent a warning. In the next big war, the so called Yom Kippur War of 1973, when the Egyptians and the Syrians launched surprise attacks, the Egyptians tried, with new Soviet-provided equipment—in fact both the Soviets and the Americans were trying out their equipment through their allies—the Egyptians tried very much to level the playing field by using shoulder-mounted surface-to-air missiles (SAM). And these SAMs, in fact, proved pretty deadly. Israeli planes flying low, in order to attack Egyptian tanks, could be taken out of the sky at minimum cost with a SAM. And what that then did was in a sense launch an arms race in the Middle East in the 1970s and 1980s, as the respective powers sought to work out how to make their aircraft successful against SAMs.

In the end of course, as you're probably aware, the Israelis developed, with American assistance, methods of jamming the Soviet SAMs. Those methods were subsequently used in the Gulf War against other branches of Soviet equipment that had been supplied, in this case to the Iraqis. But what the point of that campaigning showed is that the very necessity for a quick victory meant that you had to rely heavily on airpower. These were wars that were literally over in a matter of days—the one in the sixties, as I've said, was six

days, and the Yom Kippur War, at least the key fighting in the Yom Kippur War, was over in two days. The war went on a little longer, but the key fighting was over in two days, and you cannot achieve results in just two days if you rely simply on moving forces by land or sea.

The Yom Kippur War also showed another very major potential of airpower. As I've mentioned, on the first day of the war, the Israelis took heavy casualties; they lost about a fifth of their air force. And they took very heavy casualties and some of the rest of it was in a bit of a mess, and the American government decided that they would rearm Israel, and they decided to fly new planes straight to Israel inside big transport aircraft. That again was an aspect of the capacity of airpower in that period. Another aspect of that capacity, very differently, had been shown a few years earlier when the Soviet Union had pretty much done the same thing in reverse in using its massive planes, its Antonov planes, very large planes, which could carry tanks, in order to intervene against the Czechoslovak government and stage a coup in Czechoslovakia and actually fly into Prague airport with these enormous planes, disgorging tanks. So the capacity of airpower to provide a logistical lift, which was simply far more rapid than any such capacity was possible by sea, let alone land, very much was a qualification of Mackinder's arguments about the true technologies dominating war.

Now I've taken us up to the 1970s. In the 1970s, it briefly looked as though the Cold War was going to all be over. There was an attempt to settle it by a process of diplomacy known as détente, and during that period in the late 1970s, airpower was not at the center of military thought, nor was anything very much. The States were recovering from the economic depression that had been linked to the oil crisis following the Yom Kippur War, governments were poor, and they were not investing heavily in new equipment.* But détente broke down, and in the early 1980s the Cold War resumed with great intensity. The West became very fearful that the Soviet Union was going to mount an attack on it and, in particular, that the Soviets would use their still crushing, overwhelming superiority in ground forces, particularly tanks, in order to stage an invasion of Western Europe. We now know from material that's been accessed from the Eastern Bloc since the fall of communism that the Soviets did indeed plan to do so as late as 1983.

The West became interested—Western military planners became very interested—in the idea of trying to win a subnuclear war. There was always the understanding—the original understanding had been—if the Soviets attacked, the West would go nuclear at once. That had been the basis of 1950s and 1960s

*This is a reference to the economic difficulties experienced in the United States, and elsewhere, from about 1973 to 1975, when real GDP was falling and inflation and unemployment were rising.

defense planning, and that was the logic of having aircraft permanently ready with atom bombs in order to attack the Soviet Union. Well, that remained an interest in the eighties, but on top of that, Western military planners looked at how best to try and engage Soviet forces in a war that might be begun with neither side initially using nuclear weapons. To try and keep it below that level. The West decided to focus its military planning in the 1980s on what it called "maneuverist warfare."* In other words, instead of having straight lines of defenses, which they would try and hold against Soviets attacks, they would rely on mobile forces in defense. And in that planning, a central role was given to airpower, because of course, the ultimate maneuverist weapon is an aircraft. There was maneuverist warfare intended on land, but as you will appreciate, units on land can only move so fast with their firepower at any period of time. So in practical terms, ideas of airpower effectiveness and the application of using airpower against, in particular, Soviet tank advances developed very much in Western thinking in the 1980s, particularly American thinking, though the Brits were also following along as per usual.

It was those ideas that were to be applied against Iraq in 1991 in the First Gulf War, the Gulf War that broke out as a result of Iraq's invasion and conquest of Kuwait the previous year. In effect, the real battle of the Cold War, other than the ones between the Israelis and their opponents, was actually the use of the Cold War technology, the use of Cold War weaponry, was actually the one seen in 1991, and this involved a very heavy usage of airpower. Airpower was necessary in order to drive away the Iraqi Air Force. Airpower was necessary in order to suppress Iraqi air defenses. As a result of both of those, the allied forces had complete air superiority over the battlespace, and on top of that they had the capacity to attack Iraqi mobile missiles, the Scuds.† And then of course, airpower was used with deadly effectiveness in advance of, and in support of, allied advances, particularly allied tank advances. Again, as had been demonstrated by the Israelis, but now on a much greater scale, the capacity of aircraft to act as tank killers was very brutally and clearly shown.

In the rest of the 1990s, the principal conflicts in which airpower played a major role were the NATO interventions against Serbia in the Bosnia crisis, which culminated in 1995, and the Kosovo crisis in 1999. The terrain there was far harder than the terrain in the deserts of the Middle East. In Kosovo, for example, there are steeply wooded valleys in which it is very difficult to identify targets and acquire them in time to hit them. And on top of that,

*For a succinct discussion on this idea, see Harold Winton, "An Ambivalent Partnership: U.S. Army and Air Force Perspectives on Air-Ground Operations, 1973–90" in *The Paths of Heaven: The Evolution of Airpower Theory*, ed. Phillip S. Meilinger (Maxwell AFB, AL: Air University Press, 1997), 399–441.

†The name given to a series of tactical ballistic missiles produced in the Soviet Union and widely exported during the Cold War.

there were high levels of political concern about engaging with targets that might involve civilian casualties or that might be perceived as sending a message which somebody else wouldn't like. On the other hand, the very ability for the allies to decide what they chose to attack and what they chose not to attack, which bridge to blow up and which bridge not to blow up, which power station to destroy and which power station not to destroy, was in fact a very abrupt and complete demonstration of airpower. Airpower is a matter like any other military system of potential. You don't always use it. As you may have noticed the atom bomb hasn't been used since 1945. You may not always use your range of weaponry; you might not always use your intensity of attack—increasingly these days in the world people try to fight limited wars—but the very potential to make the choice is a product of a capability that enables you to deny your opponent the luxury of being certain what the limits of the actions you are likely to take will be. And that proved to be a crucial factor of airpower. It enabled, as it were, the prospect of choice, one which the allies existed and controlled and which they did not need to fear from their opponents.

The 2000s, of course, have seen two less-successful interventions—both in Iraq and in Afghanistan. Less successful despite it having proved possible to deploy troops, to support troops, and to achieve important objectives. After all, Saddam Hussein is not exactly running the government of Iraq at the moment, nor are the Taliban in charge in Kabul at the moment. So there have been many successes, but what is not proved so successful is ending the war in the sense of forcing one's will on one's opponent. That is true; that is a limitation.

But that is not so much a limitation specifically of airpower. That in fact is a limitation caused by, in many senses, rather poorly conceived strategies and also engaging with the societies where it is very difficult to get people to stop fighting and to press the switches of forcing them to pay attention to what one wants to do. In other words, to move from military profile, military potential, and lethality to actually achieving a set of political results. That of course is not new. That is in no way new. That is a classic product of any weapon system and will go on being a product of weapons systems, however they are determined. Because as you are well aware, war is a matter not so much of killing your opponent or capturing territory; war is a matter of forcing your will on your opponent. Of making them accept your point of view in a coercive fashion. Now doing so cannot always be achieved. It will not always be possible to achieve the outcome one wants politically. But obviously, the ability to try and do so is crucial to the maintenance of national security and the furtherance of national interests. And in doing so, one wants to do it with the minimum of

costs to one's own country in people and with the maximum of possible disruption to one's opponent or potential opponent.

And as I mentioned right at the outset, the ability because of equations of time and space to do that with airpower have risen dramatically. That, in a sense, if anything, has become more important to the United States at the present moment, because the United States is moving from the dominant position which it had in the 1940s, '50s, and '60s. It's moving to a more complex world, where there are other powers, principally China, but also to a certain extent Russia, which may not be as powerful but which are clearly able to follow policies that defy the wishes of the United States. So to a certain extent we're moving from a unipolar world to a multipolar world.* In that context, it is very important to have weapon systems that convey a threat without necessarily having to be used. That balance is a very, very significant one. It's also important in a world where confrontation is an issue. Whether that confrontation is, as it increasingly is at the moment, in the East or South China Sea, or whether it may follow more frequently on the borderlands of Russia, we don't know.

But the great advantage of airpower is it enables one to stage one's own half of the confrontational equation. People obviously don't want war, but they want to be able to threaten war, to stage one's own half of the confrontational equation much more readily and rapidly than if one was reliant simply on other means—and also much more readily and rapidly than if there was a threat that one's opponent could gain control of the airspace and therefore deny it to one's own power and one's own allies. And from that point of view, as long as the United States believes that it is necessary, as it surely is, for its security and interests to be able at least to confront foes and to make foes aware that there may well be risks in mounting assaults, then clearly one needs airpower. For one obvious instance of this in the modern world, nobody knows quite what to do about the North Koreans. And it may well be that their boasts become slightly foolish. It's going to be a while before their missiles can reach the main continental United States as they're threatening. But to the best of my knowledge, Hawaii is still a state in the union, and Honolulu is, I think, America's tenth most-populous city. And the capacity of the North Koreans to fire their missiles further and further in the Pacific should be, as it indeed is, troubling for American military planners.

And yet again, it is the capacity at least to be able to deploy power rapidly to the area, what one does with it is far less clear at the present moment, but it's the ability to deploy power that at least offers one the potential for deter-

*Most historians would describe the Cold War period as a bipolar world, with the rise of an American-dominated unipolar world that emerged upon the end of the Cold War around 1989–1991.

rence. Now looking ahead is always difficult. My own personal view, and I was discussing it with colleagues here today, is that it is important because we don't have the data set for the future. We need to think about history when we're looking ahead. And the historical point I would make is a simple one. If you turn back over the last 50 to 60 years, you will see marked discontinuities in world politics, in great-power confrontations, in technological development. We're a world away now from the metal-bashing industries being dominant as they were in the sixties and seventies, and will obviously also see major developments in military doctrine, strategy, and technology. The wars that you as cadets will be going into, the one thing you should know if you have any sense of history, is that the past shows us that change is not linear. What happens tomorrow has not necessarily anything much to do with what happened yesterday. Change occurs in a discontinuous fashion. And because of that, it is crucially important that your country invests in your talents, your talents being not simply those of your ability to use existing weapons systems, important as that is, but your ultimate talent is your ability to think flexibly about the world in which you live, and about what force can achieve within it, and about what is necessary to do to pursue the interests and security of your nation through the means of military confrontation and, if necessary, war. In doing so you will face a rapidly changing environment.

But I think that the equation change that we saw, through airpower to time and space, the ability to, as it were, have troops take off from North Carolina and to be able to parachute into Central Asia not all that many hours later. The ability to get into a troop transporter in west Russia, near Belarus, and actually then land supplies in, for example, West Africa. The ability to actually overfly a great distance, potential trouble areas, and to provide at least a degree of intimidation and to remind those there that you are a presence. All of those are factors and features which are likely to continue. The weapon you are using will probably change, almost certainly will change. Your opponent may well change. But what will go on being the case is, unless you believe that there is some utopian future in which human beings totally change the nature and, as it were, never have acrimonious thoughts towards each other—and I have to tell you I think that would be highly implausible—unless you believe that, it is necessary for any government to be able, ultimately, to protect its own citizenry and to do that through relying on a trained and professional military. That is your task, it is an important task, and I'm confident you can do it well.

Professor Jeremy Black was born in London in 1955. After graduating with a starred First from Cambridge, he undertook research at Oxford and has subsequently been professor of history at the universities of Durham and (since 1996) Exeter. Editor of *Archives* and a council member of the Royal Historical Association, Black is a prolific lecturer and writer, the author of (to date) some 100 books and more than a dozen edited volumes. He is an authority on early modern British and continental European history, with a special interest in international relations, military history, the press, and historical atlases. He has also broadened his perspective, both temporally and geographically, and published on the history of cartography, warfare, culture, and the nature and uses of history itself. Perhaps Professor Black can be considered the most prolific military historian of our day. A list of his most-recent military-focused publications includes *Air Power: A Global History* (2016); *Insurgency and Counterinsurgency* (2016); *The Cold War* (2015); *Rethinking World War Two: The Conflict and its Legacy* (2015); *War in Europe* (2015); *War in the Modern World, 1990–2014* (2014); *The Great War* (2011); *The Politics of World War Two* (2009); *The Curse of War* (2008); *War in European History, 1494–1660* (2006), and *The Age of Total War, 1860–1945* (2006).

Making Experience Count

American POW Narratives from the Colonial Wars to Vietnam*

Robert C. Doyle

Narratives of Americans in captivity began with the tribal captivities during the colonial past but did not end there. Some wars were popular; others were not, and many, like the Vietnam War for example, left serious political questions in their wake. Regardless of any particular war's political, ideological, legal, moral, or even propaganda value, war breeds captivity for some soldiers. There can be little doubt that the experience itself acts as a watershed event in the life of an individual prisoner of war (POW), and from the time of America's earliest colonial conflicts, former prisoners have narrated the minutest details about it. I wish to address several issues: captivity data and where one discovers it; significant meanings; and, lastly, some discussion of the broad range of materials that have been useful to the understanding of the personal captivity experience.

Origins

Beginning in the sixteenth century with the chronicles of European adventurers captured by Indians, early colonial captivity narratives were relatively simple documents. Narrators specialized in creating ethnological reportage. Such was the case with Alvar de Vaca's *The Journey of Alvar Nunez Cabeza de Vaca and His Companions from Florida to the Pacific, 1528-1536* (1542) that described Vaca's adventures in Florida and Juan Ortiz's *True Relation of the Gentleman of Elvas* (1557) that narrated his adventures among the Indians of the American Southeast.[1] In 1549, Hans Staden sailed from Seville with the expedition of Don Diego de Senabria for Rio de la Plata, but the ship was later wrecked off the coast of Brazil and Staden was captured by the Tupi Indians. After a French ship rescued him, Staden returned to Germany and published *Wahrhaftige Historia* (1557) in Marburg, the first published autobiographical captivity narrative of the New World. In English, the first popular captivity narrative chronicled Captain John Smith's adventures in Virginia and appeared in his *General History of Virginia* (1624).

Unlike military prisoners in later national wars, most English and German settlers captured by the eastern Woodland tribes were civilians entangled in

*Harmon Memorial Lecture #43, 2000.

the wars fought between the European settlers and the neighboring tribes over the land. The tribes had little understanding of the European meaning of restrictive land ownership, and many, upon seeing the process of unlimited European expansion, fought the settlers unsuccessfully. Indeed, the tribes formed alliances, first among themselves, later with the French, and then with the British in order to put a halt to it. Beginning with the war in Virginia in 1622, then in New England with the Puritan–Pequot War in 1637, and ending finally with the Massacre at Wounded Knee in 1890, there would be continuous series of wars between the Native American Indian tribes and the encroaching settlers supported by the army. The captivity experience on both sides was integral to the entire historical epoch, and the amount of research material is nothing short of massive.[2]

The American Revolution

For America's European settlers, international war would take new and somewhat unfamiliar pathways for its prisoners. During and after the American Revolution (1775–1783), the British replaced the French as the public enemies in colonial America. Three major types of captivity narratives result from this experience: soldier narratives of resistance and escape, sailor prisonship narratives, and narratives (also letters and diaries) of life in British prisons in England. Focusing on physical harshness and political confrontation, the soldier narrative previewed the kind of POW narrative that was to attain acceptance and popularity in nineteenth- and twentieth-century America. The first of its kind to appear during and following the Revolution was Ethan Allen's *A Narrative of Colonel Ethan Allen's Captivity Containing His Voyages and Travels*. Covering the period of his captivity from May 1775 until his release in May 1778, it was the first distinctly American POW narrative of the Revolution to become a bestseller. In 1779, it appeared as a magazine serial and then was reprinted as a book in 1780, 1805, 1807, 1814, 1834, 1838, 1845, 1846, 1849, 1852, 1854, and 1930. Imprisoned by the English for three years until his exchange, Allen makes it clear that he was a soldier rather than a simple, unprotected captive. When he resisted his captor's mockery and derision, Allen tested his patriotism more than his religious faith for strength and endurance.

American prisoners captured at sea near North American shores endured a seriously difficult captivity in the British prison ships anchored near the British-controlled coastal cities of America. The British Navy converted former warships no longer capable of any further active service into prison hulks and then towed them to safe spots offshore. Since New York City was a Tory town from the beginning of the war until the end, the Hudson and East Rivers served dutifully as a place for the *Whitby*, the first prison ship moored at Wal-

labout Bay (Brooklyn), the *Hunter*, *Good Hope*, *Scorpion*, *Prince of Wales*, *John*, *Falmouth*, *Stromboli* (a "hospital" ship destroyed by fire), and the infamous *"Old" Jersey*.[3] Among the prison-hulk accounts that have been preserved, those written by Christopher Hawkins, Andrew Sherburne, Thomas Dring, Thomas Andros, and William Burke became standard fare of the period. One can find Dring, Andros, and Ethan Allen represented in anthologies like Richard Dorson's *America Rebels: Narratives of the Patriots* (1953). William Burke noted that the guards were forbidden to show any humanity to their charges under pain of severe punishment, and after 14 months in the *Jersey*, he damns his captors for neglecting the needs of the distressed and, in particular, for answering the petitions of the suffering and sick with a foot or the bayonet.[4] Andrew Sherburne's memoir, written and published in 1782, chronicles his life aboard the *Jersey* and in the hospital ships, which he calls "death ships." Other POW narratives discuss the effort made by the British to enlist captured Americans into the British Navy. As in subsequent wars, especially during the Civil War, life in someone else's army or navy seemed to be a reasonable alternative to a high probability of death in captivity.

Civilians captured aboard armed ships received similar treatment to the privateers who sailed them. Such was the case for Philip Freneau, the "poet of the Revolution." Captured in May 1780 as a civilian passenger in the armed ship *Aurora*, Freneau was incarcerated in the prison ship *Scorpion*. From his experience, he authored and published the bitter poem, "The British Prison Ship" while the Revolution raged in 1781, and, without a doubt, the poem served as excellent propaganda for the American cause to the end of hostilities.

Sailors in captured American privateers taken on the high seas were regularly incarcerated in English naval prisons: Mill, Forton, Deal Prison in Scotland, and Kinsale Prison in County Cork, Ireland. As a response, Benjamin Franklin maneuvered his political contacts in France and England to negotiate releases or exchanges for Americans in the British prison system. William James Morgan's *Naval Documents of the Revolution* (1986) includes many diplomatic and personal letters to and from Franklin concerning American privateersmen in English jails. One man whose release Franklin continually sought was the privateer Captain Gustavus Conyngham. Unsuccessful in gaining his release through diplomacy, Conyngham escaped with 30 men from Old Mill Prison in the spring 1779.[5]

The Barbary Wars and the War of 1812

After the Revolution ended, American sailors found themselves in captivity more from acts of piracy than from war. Instead of being in the hands of the British, who treated them as pirates or rebels, American sailors found themselves now in the hands of North African rulers who practiced a long

tradition of hostage taking for ransom. More civilian than military, the corresponding narratives reflected the experiences of merchant seamen taken into captivity off the coast of North Africa during this volatile period, when few naval vessels were available to protect the merchant fleet. There were two ways to become a prisoner in North Africa at the turn of the nineteenth century: capture at sea or shipwreck. The *Maria* was the first of many American merchant ships taken captive on the high seas by the Barbary powers—Algeria, Morocco, Tunisia, and Tripoli. In Algiers, the *Maria* would be accompanied by officers and crews of the *Hope* from New York, the *Minerva* from Philadelphia, the *President of Philadelphia* from Philadelphia, the *George* from Rhode Island, the *Olive Branch* from Portsmouth, New Hampshire, the schooner *Jay* of Colchester, the *Jane* of Haven Hill, and the *Polly* of Newbury Port.

H. G. Barnby published a diplomatic history of the American–Algerian captivity experience of 1785–1797 in *The Prisoners of Algiers* (1966). Barnby leaned heavily on Joel Barlow's papers and James Leander Cathcart's memoirs and notes that were transcribed later by his daughter, N. B. Newkirk, and published as *The Captives* (1899). The adventures of numerous military captives taken in Tripoli and held during this period appear in six volumes of *Naval Documents Related to the United States Wars with the Barbary Powers* (1942) in which excerpts of one captured American naval officer, the USS *Philadelphia*'s surgeon Jonathan Cowdery, appear from his *Captives in Tripoli or Dr. Cowdery's Journal* (1806). The most recent book on the subject is Paul Baepler, *White Slaves, African Masters: An Anthology of American Barbary Captivity Narratives* (1999), which treats these stories more as propaganda literature than personal histories.

Early in the War of 1812, the United States House of Representatives commissioned the *Report on the Spirit and Manner in Which the War Has Been Waged by the Enemy* (1813). Based on letters and sworn affidavits from participants and witnesses of British and Indian atrocities, the *Report* charged the British with improper treatment of prisoners.[6] On land, the War of 1812 might also be remembered more accurately as a failed attempt to bring Canada into the American Union. The United States all but gave up its claims on Canada after the American Army suffered two major defeats on the Canadian frontier: Hull's surrender at Detroit and the Battle of Queenston. Winfield Scott, then a very young lieutenant colonel in the American regulars, recalled his participation in the battle and his captivity after it as a "Queenston Prisoner" in his personal *Memoir* (1864), and his biographer, Charles W. Elliot, recorded the captivity in *Winfield Scott: The Soldier and the Man* (1937).

The most dispassionate British history of American prisoners in England was Francis Abell's *Prisoners of War in Britain 1756 to 1815: A Record of Their Lives, Their Romance and Their Sufferings* (1914). In America, the work of

professor and retired Navy captain Ira Dye of the University of Virginia cannot go without mention. Cooperating with the British Records Office, he developed two working papers for the HM Dartmoor Staff, "The American Prisoners of War at Dartmoor" and "Deaths of American Prisoners of War at Dartmoor Prison during the War of 1812." His published works on the Dartmoor prisoners include his *Introduction to Records Relating to American Prisoners of War 1812–1815* (1980); "American Maritime Prisoners of War 1812–1815" (1987), and "Physical and Social Profiles of American Seafarers, 1812–1815" (1991).

Without a doubt, the most anti-British POW narrative from the period is Charles Andrews, *The Prisoners' Memoirs, or Dartmoor Prison* (1815). He described Dartmoor in great detail and concentrated on American resistance against the prison warden, Captain Thomas George Shortland, RN. With hatred and contempt for the American agent in London, Reuben Beasley, Andrews made it very clear that the Americans in Dartmoor believed that Beasley neglected POW interests deliberately by ignoring numerous petitions for help, especially after a POW revolt in 1815, months after the war's end, that cost 11 American lives. With fewer anti-British sentiments, Benjamin Waterhouse, MD, described life in captivity for American sailors imprisoned in England in *The Journal of a Young Man Captured by the British* (1815). Waterhouse chronicled his adventures as the young privateer surgeon who was captured at sea, kept first in the Halifax prison in Nova Scotia, and later sent to Dartmoor Prison in Devonshire, England. Waterhouse noted the presence of about 300 black prisoners, mostly American privateers. Robin F. A. Fabel's "Self-Help in Dartmoor: Black and White Prisoners in the War of 1812" (1989) tells a similar story in historic rather than narrative terms. First among these prisoners was a man who called himself "King Dick." The King, whose real name was Richard Crafus, was a seaman on board the American privateer *Requin* when it was captured on March 6, 1814. He spent some time in the hulks at Chatham before being sent to the dreaded Dartmoor, where he spent 249 days.[7] Not only did Crafus hold sway over all the other black prisoners, he acted more like a monarch than a prisoner of war. What remains curious about Waterhouse's description of King Dick is the close resemblance it has to James Clavell's fictional American, Sam King, in *King Rat* (1962). Although the two prisoners, one real and one imaginary, were separated by 150 years and several wars, both men defied rank and used their cunning and natural leadership abilities in combination with basic survival techniques to direct the activities of their peers against their captors.

On April 20, 1815, 263 Americans left Dartmoor; 5,193 prisoners followed a few days later. By December 1815, Dartmoor military prison was empty, and the naval component of the War of 1812 was over. Soon, numbers of

POW histories and narratives appeared in the popular press: Josiah Cobb's *A Greenhorn's First Cruise…Together with a Residence of Five Months in Dartmoor* (1841); James Fenimore Cooper's *Ned Myers; or, A Life Before the Mast* (1843), and Nathaniel Hawthorne's "Papers of an Old Dartmoor Prisoner" published in the *U.S. Democratic Review* (1846) that became the seeds of *Yarn of a Yankee Privateer* (1926) later. With a strong shift from narrative to melodrama, other stories appeared in popular, more fiction than fact, "thrilling adventure" anthologies published in the middle of the nineteenth century, which set the literary stage for the bloody civil war on the immediate horizon.

The Mexican War

The American military superiority in successive battles of the Mexican War (1846–1848) created great numbers of Mexican prisoners, so many that about 10,000 were simply released in the field. General Antonio Lopez de Santa Anna, of Alamo fame (February 23–March 6, 1836) and the Goliad massacre of 400 volunteer American soldiers shortly thereafter, declared that any captured Texans were guilty of insurrection and would be executed on the spot. The invading Americans of the 1846–48 war, however, when taken prisoner were treated well. One regiment of volunteers, the Louisville Cavalry, became the war's hard-luck unit and suffered enough embarrassing captures for an anonymous prisoner-author to pen *Encarnacion Prisoners* (1848) after the war. The most significant event of the Mexican War relative to American prisoners was the formation of the renegade Brigade of Saint Patrick. General Santa Anna aimed a significant amount of proselytizing effort against the anti-immigrant, anti-Catholic sentiments rampant in the United States Army at the time. He offered 320 acres of land and Mexican citizenship to all privates deserting, with higher offers for men holding higher rank. General Santa Anna was successful in recruiting two infantry units and one full artillery battery. Most of the readily available materials concerning the Saint Patrick Brigade appeared in issues of the American Star, a newspaper prepared and published in Mexico City from October 1847 to April 1848 by American occupation forces. Written in English and Spanish, issues of the *American Star* include eyewitness accounts of imprisonment, sentiments of the time, and news of the ceremonial executions of members of the Saint Patrick's Brigade.[8]

The American Civil War

Captivity in the Civil War (1861–1865) reflected rising military technology, uncertain political status, lack of international or national law on the subject of prisoners, neglect, and an escalating hatred for the enemy on both

sides. Beginning with the capture of the Confederate ship *Savannah* at sea; the surrender of the Federal garrison at Fort Sumter in Charleston, South Carolina; the First Battle of Bull Run; and other early engagements, the combat of the Civil War placed over 400,000 Union and Confederate men, and some women, into military captivity from 1861 to 1865. This number alone accounts for the relatively high volume of military prison narrative accounts. Official reports and testimonies of captivity are readily available in government publications including eight volumes of *The Congressional Globe* (1861–1866); the United States War Department's *War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies* (1880–1901), and a House of Representatives' *Report on the Treatment of Prisoners of War by the Rebel Authorities During the War of Rebellion* (1869), full of firsthand Union soldiers' affidavits and testimonies. According to William Best Hesseltine's *Civil War Prisons* (1930), popular newspapers were the first print media to exploit military prison memoirs both in the North and the South. Exaggerated, sometimes fictional, accounts of prison life appeared in the prestigious *New York Times*, *Philadelphia Inquirer*, *New York Tribune*, *Richmond Dispatch and Inquirer*, *Atlanta Constitution*, *Harper's Weekly*, *National Intelligencer*, and innumerable smaller local newspapers. While the war was fought on the battlefields, newspapers used the structure and often the content of the popular "penny dreadfuls" of colonial Indian captivity as models to describe starvation, torture, and cruel treatment. Not to be confused with prison-camp newspapers like the *Libby Chronicle* and others that were written, printed, and read by the prisoners themselves, popular newspapers raised the level of war psychosis, waved the "bloody shirt," and added a new dimension to an already existing, familiar body of popular thriller literature.

Confederate accounts are fewer in number than those written by repatriated Union soldiers. One example is Decimus et Ultimus Barziza's book, *The Adventures of a Prisoner of War and Life and Scenes in Federal Prisons: Johnson's Island, Fort Delaware, and Point Lookout by an Escaped Prisoner of Hood's Texas Brigade* published in Houston, Texas, in 1865 before the war ended. Colonel Buehring H. Jones, CSA, a prisoner of war at Johnson's Island, Ohio, published *The Sunny Land* (1868) as a collection of prison-camp narratives, poetry, and prose shortly after the war ended. Sir Henry Morton Stanley's captivity appeared in his extremely bitter *Autobiography* (1913). Former Confederate officers and enlisted men also wrote large numbers of short captivity vignettes. Some appeared in the *Southern Historical Papers*; others appeared in *Confederate Veteran*, the popular newsletter of the United Confederate Veterans. There was never any lack of bitterness.

Regional archives and historical societies throughout the South hold large numbers of personal diaries and memoirs that show how the defenders of the

South returned home to tell their stories for a Southern rather than a national audience. Repeatedly, they insisted that the starvation and medical neglect inflicted on Union POWs in the South was the direct result of the Union's sea blockade, Confederate military reverses in the field, and, most importantly, of General Grant's decision to halt prisoner exchanges in 1864. Southern apologists have consistently disputed charges made by former Union prisoners that Confederate POW policy was retributive or intentionally murderous. To the Confederate prisoners, Yankee jailers were worse than the stereotyped Indians in the popular thrillers. To the prisoners on both sides, the intent was clear: destroy the POW population to deny its future services to its cause.

One scholarly work among many stands out as the most significant study of Civil War captivity, William Best Hesseltine's *Civil War Prisons: A Study in Prison Psychology* (1930) and more recently, Lonnie R. Speer's *Portals to Hell: Military Prisons of the Civil War* (1997). Hesseltine argued that a general war psychosis—the gradual elevation of hate for the enemy—erupted on both sides mainly from newspapers and the publication of exaggerated prison narratives that resulted in treatment becoming increasingly worse on both sides as the war progressed. Speer gives a general and much-needed overview of every pen that was used as a POW facility during that war but refrains from any historical disputes. Hesseltine analyzed briefly a large number of Northern and some Southern narratives in the bibliographic section at the end of this important book. It is safe to say that there is no American war more closely studied and richer in published materials than the Civil War. For the researcher in the American captivity experience, the mass of Civil War captivity material is simply staggering.

The Federal government tried to exonerate itself from Southern charges of Northern inhumanity against its Confederate prisoners. Published in 1864, the United States Sanitary Commission's *Narrative of the Privations and Sufferings of United States Officers and Soldiers while Prisoners of War in the Hands of the Rebel Authorities, Being the Report of a Commission of Inquiry Appointed by the United States Sanitary Commission, With an Appendix Containing the Testimony*, was lauded by the press as a truthful account of what was really going on in Dixie. Before the war ended, the Confederate government responded to the allegations made by the United States Sanitary Commission, captivity narratives, and newspaper reports. On March 3, 1865, in its "Report of the Joint Committee of the Confederate Congress Appointed to Investigate the Conditions and Treatment of Prisoners of War," the Confederate Congress declared that the North was totally responsible for the sufferings of the prisoners in the South. Statements, testimonies, and correspondence challenging Northern accusations of a deliberate Southern policy to mistreat Union prisoners were collected and published as "The Treatment of Prisoners

during the War Between the States" by the Southern Historical Society in March and April 1876, just before nationwide centennial celebration. Included in this work are commentaries from the major Confederate actors: Jefferson Davis, Robert E. Lee, Alexander H. Stevens, Robert Ould, S. P. Moore (Confederate Surgeon General), numerous journalists, clergymen, and senior Confederate officers who addressed the POW issue during and after the war.

As William Marvel shows in his fine book, *Andersonville: The Last Depot* (1994), no prison experiences were more extensively chronicled than those that took place at CSM Camp Sumter—Andersonville—Georgia, in the spring and summer of 1864. After the war, the issue of captivity was kept alive by the formation of active veteran's organizations such as the Andersonville Survivors Association and the Grand Army of the Republic. Defiantly, in 1905, the Georgia Chapter of the United Daughters of the Confederacy started a fund to erect a monument to Captain Henry Wirz, CSA—the executed interior commandant at Andersonville. On one side of the Wirz monument appears Grant's letter stating that no further exchanges would be made between the United States Army and the Confederacy; on the other side are inscribed the last words of Jefferson Davis on the subject of prisoners: "When time shall have softened passion and prejudice, when Reason shall have stripped the mask from misrepresentation, then Justice, holding evenly her scales, will require much of past censure and praise to change places." Today, the Andersonville Historic Site serves as a national cemetery and the site selected by the American Ex-Prisoners of War Association and the National Park Service for its national POW memorial and museum. No war in the American experience, including World War II, Korea, or Vietnam combined, has generated such lasting passions.

World War I

The United States and Imperial Germany were at war from April 6, 1917, to November 11, 1918. The fighting may have lasted a short time, but it was costly in lives. American forces lost more than 100,000 Soldiers to disease, combat, and captures. In all, there were 4,120 American prisoners of war during World War I, of whom only 147 died in captivity; 3,973 were repatriated following the 1918 general armistice. Prior to hostilities against Imperial Germany, the American government had been deeply involved with the military prison problem. From 1914 through 1917 the United States served as the protecting power for Allied prisoners in Germany under the Hague Convention, a role that required representatives of the United States to visit the camps, interview prisoners, and report their findings to the International Red Cross.

One visitor, the former Senator Albert J. Beveridge, kept an eye on Allied POW conditions for the International Red Cross, and after his 1915 visit he commented that feeding these prisoners meant providing enough food to supply the whole German nation for about three days out of a year.

After the fighting started in 1914, some Americans refused to be left out of the war in spite of the American government's official policy of neutrality. Some Americans joined European armies and flying corps; others departed the United States bound for humanitarian service in the Ambulance Corps. In the Hemingway spirit, the lure of adventure for the American poet E. E. Cummings was just too overpowering to ignore. Arriving in France with the dangers of war surrounding him, Cummings discovered that service in the Ambulance Corps was a dirty business, and he preferred Parisian night life to trench warfare on the front. Complaining in letters home that his supervisor acted more like a martinet than a civilian humanitarian, that the French acted more like enemies than allies, and that the war in general was useless, Cummings and a colleague were seized by the French military police for seditious behavior and jailed. Fortunately for Cummings, his father contacted President Wilson and begged him to intercede for his son. Released and deported to the United States, Cummings published *The Enormous Room* (1922) more as a literary work rather than a simple, unadorned POW narrative. Nevertheless, it remains one of the most reflective and ingeniously descriptive examples of prison life during World War I.

Following World War I, escape narratives came into the public eye, especially stories about the war's darlings—pilots—who dared to break out of their captivities and plot their way home. Norman Archibald's book, *Heaven High, Hell Deep, 1917–1918*, appeared in 1935, as did an anthology of escape narratives by H. C. Armstrong, *Escape*, which includes the daring escapade of Harold B. Willis, an American volunteer pilot who flew with the Lafayette Escadrille Willis's escape partner in Germany was Lt Edouard Isaacs, USN, the only American naval officer captured at sea during World War I. In recognition of his escape, Isaacs was awarded the Medal of Honor; his captivity narrative appeared shortly after the end of the war as *Prisoner of the U-90* (1919). James Norman Hall published his escape narrative as part of his personal memoir, *My Island Home: An Autobiography* (1952). Less common after World War I were the captivity narratives of common soldiers. Henry Berry's collection of oral histories includes only one military prison narrative, Cpl Mike Shallin's captivity story, "The Guest of the Kaiser," in *Make the Kaiser Dance* (1978). The narratives of these prisoners tell of capture, internment, hunger, escape, and repatriation. Many address the issue of chivalry between soldiers, especially among the fliers, and the daring escapades of committed escapers like Isaacs, Hall, and Willis.

World War II

In all the theaters of warfare during World War II (1939–1945), approximately 130,200 Americans were captured and interned as POWs. Of that number, 14,072 died in captivity, most in Asia; 78,914 were repatriated at the end of the war. Approximately 79,000 Americans are still listed as missing in action. To study the POW experience of World War II, one must be prepared to travel a great deal. The most extensive government source for American POW materials is the *Inventory of Records of World War II American Ex-Prisoners of War* (1968) and War Department records from the Office of the Adjutant General held at the National Archives and Records Center. Oral history and archival collections, however, have been established not only by each military service but also by POW veterans' organizations and universities as well. Army materials are kept at the Army Historical Center at the Army War College, Carlisle, Pennsylvania; Naval and Marine Corps oral histories can be found both at the Naval and Marine Historical Centers at the Washington Navy Yard and in the oral history collections at the United States Naval Academy. Since many POWs during World War II were fliers, Air Force oral histories, memoirs, and personal papers can be found at Maxwell Air Force Base, the archives at the Air Force Museum at the Wright-Patterson Air Force Base, and in the Special Collections section of the Air Force Academy's library in Colorado Springs, Colorado.

After World War II, places like Camp O'Donnell, Bilibid, Davao Penal Colony, Palawan, Santo Tomas, and Cabanatuan in the Philippines; Changi in Singapore; Mukden Prison in Korea; and Karenko Prison in Formosa (Taiwan) found their way into the pages of American military and civilian captivity memoirs, adventure fiction, and feature films. Prisoners of war in these places witnessed unspeakable acts of violence against them. Few prison narratives of Pacific captivity were published before war's end; however, after William E. Dyess escaped from Japanese captivity in the Philippines, *The Dyess Story* (1944), shocked America when the author described the atrocities committed on the Bataan March and in the Davao Penal Colony. Col James P. S. Devereux's *The Story of Wake Island* (1947) and Col Gregory Boyington's *Baa Baa Black Sheep* (1958) chronicled the personal POW experiences of two Marine officers captured at different times in different circumstances. Along with a narrative published by Wake Island's commanding officer, W. S. Cunningham, *Wake Island Command* (1961), Devereux's narrative was a detailed description of the surrender of the island and an explanation of how well his Marines, Navy men, and civilians defended themselves against an overwhelming foe.

Boyington's captivity took up the last third of his wartime memoir, *Baa Baa Black Sheep* (1958). After his shoot down and capture, like so many other

American fliers and submariners, Boyington was carried as missing in action because the Japanese refused to report his capture to the International Red Cross. The Marine Corps, and America in general, thought that Boyington was dead. His repatriation surprised the nation so much that his photo appeared in national newspapers and the Movietone newsreels. He received the Medal of Honor, not for any activities during captivity, but for his remarkably aggressive combat activities against the Japanese. Gregory Boyington had no idea at the time that as "Pappy" Boyington he would became a new American popular hero. His memoir served as the basis for the popular, thoroughly fictional television series, *Baa Baa Black Sheep*, that starred Robert Conrad as the feisty Boyington, and, naturally, Boyington received credit as the "technical advisor." Hollywood certainly has its own unique way to recreate history. Other narratives of captivities in the Pacific Theater are too numerous to mention here, but in the United States and the Commonwealth countries, they continue to find their way into print regularly.

American prisoners use improvised litters to carry fellow POWs along the march from Bataan in March 1942. Courtesy of National Archives (no. 535565).

During World War II, 67 US Army and 16 Navy nurses were taken prisoner in the Pacific Theater. The American nurses captured in 1942 along with their male patients at Corregidor were treated as internees, the legal status of which defined them as "protected persons" and "sanitary personnel" rather than prisoners of war. Their stories were recorded and told by Elizabeth Norman, herself a nurse, in *We Band of Angels: The Untold Story of American Nurses Trapped on Bataan by the Japanese* (1999). The Japanese Army imprisoned American civilians—diplomats, workers and their families, medical personnel, and

journalists—as well as military nurses who found themselves in the wrong place at the wrong time in camps like Santo Tomas (Saint Thomas University in Manila), Cabanatuan, Baguio, Los Baños, and many others until 1945.

In Europe, the services were in a position to protect their nurses a little better than they did in the Pacific. One Army nurse, Reba Z. Whittle, was taken prisoner by the Germans in 1944 when her medical evacuation transport was shot down. She was eventually exchanged and returned to the United States under the "Protected Personnel" provisions of the 1929 Geneva Convention. In another incident, this time in Albania, several American nurses were rescued by the British Special Operations Executive (SOE) and American Office of Strategic Services (OSS) working in consort after a long evasion. Agnes Jensen Mangerich, one of the rescued nurses, told that story as *Albanian Escape: The True Story of U.S. Army Nurses behind Enemy Lines* (1999).[9]

In Europe, life in military captivity for the "Kriegie"—short for *Kriegsgefangene* (POW in German)—was not as docile, organized, nor hunger-free it was pictured in feature films like *Stalag 17* (1953), or its spinoff television series, *Hogan's Heroes* (1965–1971), or, for that matter, in the movie version of Paul Brickhill's description of the committed British, Canadian, Australian, South African, New Zealand, and Allied escapers in *The Great Escape* (1950).* Although some feature films fantasized Allied POWs as feisty escapers and resisters in World War II, in reality, for most Kriegies, prison life was dull, boring, and dreary. Death was always very close. "Barbed-Wire Disease"—giving up hope and preferring death to further incarceration—was always a possibility and unpredictable.[10] The numbered German military compounds, known as *Stalags* (*Stammlager*), *Oflags* (*Offizierslager*), and Air Force camps known as *Stalag Luft*,† were generally filthy, poorly supplied holding pens for thousands of Allied POWs unfortunate enough to be captured and fortunate enough to outlast a long and dangerous train ride in a cattle car. However, this is not to deny that a powerful resistance and escape ethos existed in those camps. At great personal risk to themselves and their fellow POWs, they listened to the *BBC* and received clandestine intelligence-gathering directives. They dug tunnels with tools they stole, traded much-needed food and personal items with the guards, sometimes held religious services, put on plays, and above all, attempted to maintain prison organizations. In my view, it was this symbiotic relationship between organization and leadership that saved the day.

*Brickhill's 1950 book was made into the movie, *The Great Escape*, in 1963 (Steve McQueen, Richard Attenborough, James Garner, and Donald Pleasence, among other great actors). Airmen from over 13 countries were involved in the escape attempt.

†"Main Camp, Air" is the literal translation.

To their credit, most German captors, except for the Waffen-SS,* attempted to meet the minimal provisions of the 1929 Geneva Convention regarding captured soldiers of the other signatories. Sadly, as the Malmedy murders showed during the Battle of the Bulge in 1944, rules were broken, and some American GIs were gathered up and shot upon capture. In the east, Russian POWs received brutal treatment from the Germans, in part because of the hatred between the two, the protracted length of combat, and because the Soviet Union refused to sign or ratify the 1929 Geneva Convention. If one accepts the conclusions reached by Rudiger Overmann in Gunter Bischof's and Stephen Ambrose's *Eisenhower and the German POWs: Facts Against Falsehood* (1992), Erich Maschke's *Die deutsche Kriegsgefangenschaft des Zweiten Weltkriegs* (1975), and Stefan Karner's *Im Archipel GUPVI: Kriegsgefangenschaft und Internierung in der Sowjetunion 1941–1956* (1995), German soldiers in Russian hands were treated no better. Nevertheless, in spite of the atrocious nature of the war in Europe, the International Committee of the Red Cross inspected the POW camps periodically until the German military infrastructure crumbled in 1945.

Although some former prisoners say that they had more food than the German civilians in 1945, the vast majority of the American Kriegies in Europe were always dangerously hungry and in great peril from the first to the last day of captivity. John A. Victor tells his Kriegie resistance and survival story in *Time Out: American Airmen at Stalag Luft I* (1951). Arthur Durand's *Stalag Luft III: The Secret Story* (1988) is as complete and historically satisfying as anything ever published on the subject. Excellent Kriegie narratives include Jerry Sage's *Sage* (1985), Clayton David's *They Helped Me Escape: From Amsterdam to Gibraltar in 1944* (1988), and Joe Consolmagno's collection, *Through the Eye of the Needle: 68 First-Person Accounts of Combat, Evasion and Capture by World War II Airmen*. One should not get the impression that all Kriegie narratives are salutary. Joseph S. Frelinghuysen's *Passages to Freedom: A Story of Capture and Escape* (1990) recounts the shock of his capture by a unit of the German *Afrika Korps* and blames his unit's disintegration on the poor state of training in the American Army in North Africa. Shortly after capture, Frelinghuysen was flown to Italy and interned at the Chieti prison camp. His internment became a horror, not because his Italian captors were so terrible, but because his fellow prisoners acted as disgruntled individuals who denied themselves the opportunity to become a resistance-oriented POW community.

Beginning in the 1980s, a new kind of World War II captivity narrative form began to appear in print, collections of first-person interviews and oral

*The armed element of the *Schutzstaffel*—"protection squadron."

histories in which authors piece together the story of a captivity environment from the recollections of several participants, usually members of the same or a similar captive community. One example is Robert S. La Forte and Ronald E. Marcello's study of Americans in the Burma jungles, *Building the Railway: The Ordeal of American POWs in Burma, 1942–1945* (1991). After conducting scores of interviews with ex-prisoners and visiting several conventions of the American Defenders of Bataan and Corregidor, Donald Knox published a stunning collection of POW experiences in his *Death March: The Survivors of Bataan* (1981). Whether the topic concerns capture, torture, executions, the Death March, escapes, Hell Ships, slave labor, or liberation, these scholars allowed their informants to narrate their experiences in a natural way. Readers can easily become exhausted from sharing not only the experiences of one prisoner but by immersing themselves into the lives of an entire POW community.

Lastly, some stories are best told as fiction. Most of us know *Slaughterhouse Five* by Kurt Vonnegut Jr., but he also published *Fates Worse than Death: An Autobiographical Collage of the 1980s* (1991). In the narrative, Vonnegut identifies his model for Billy Pilgrim in *Slaughterhouse Five* as PFC Joe Crone* who died in captivity of malaise. Another novelist and former inmate in *Stalag Luft III*, David Westheimer, published *Sitting It Out: A World War II POW Memoir* (1992) as a fully detailed history of his shoot down and imprisonment in Italy and Germany. Westheimer says that after internment in the Chieti prison camp, the prisoners were moved by train to Sulmona, and it was precisely that train trip that formed the basis for *Von Ryan's Express* (1964), his only bestseller.

The Korean War

The Korean War (1950–1953) was not the first international flash point when and where an icy Cold War turned hot, but it was America's first coalition war during the period of the Cold War. In 1950, the majority of American POWs were shocked when their captors discarded the 1949 Geneva Convention as if it never existed. In the British documentary, *The Unknown War* (1990), North Korean officers admitted arrogantly that they executed American prisoners when they resisted in any way or refused to beg for their lives. They forced the Americans to walk north to permanent camps in North Korea in all weather conditions, and the relatively few captivity narratives from that period indicate that about 70 percent of the early POWs (1950) died in transit.

*Edward R. "Joe" Crone Jr.

After the Chinese People's Volunteers entered the war, military captivity took a different turn. Instead of being treated simply as POWs, the Americans and other United Nations' prisoners became "students." An ideological war behind the wire caught unsuspecting, freethinking Americans by surprise. Only five years separated World War II and Korea, but after hostilities ceased and the prisoners were repatriated in 1953, the popular media made it look as if American POWs in Korea were weak, amoral losers who had betrayed the fundamental values of the American dream. New words crept into the popular consciousness: "brainwashing" was invented by the popular press to describe what the captors called "reeducation"; "reactionaries" were those prisoners who adhered to their soldier's oath and to the precepts of the Geneva Convention; "progressives" were those prisoners who began the process of assimilation into the captor's culture. Hard resisters opposed assimilators and consistently observed with disdain that the line of least resistance happened among their ranks at all. Anything more than forced cooperation was synonymous with collaboration.

Although writers in the popular media called the process of radical political indoctrination *brainwashing*, no one's brain was washed at all. Rather, individual POWs were forced under torture, starvation, and very clever forms of intimidation to confess to outrageously false charges of war crimes, the worst being the introduction of germ warfare to the battlefield.

Had Americans "gone soft" in captivity? It looked that way when the foreign presses of the Chinese People's Committee for World Peace published two propaganda books written by, or at least edited by, some of those men who decided to stay with their captors. *Shall Brothers Be* (1952) was loaded with claims of favorable treatment made by numerous progressive prisoners. Later, in 1955, nearly two years after the Korean armistice and Operation Big Switch, assimilated prisoners edited *Thinking Soldiers* as a propaganda "peace" text on behalf of the Chinese communists. The Department of Defense responded with *POW: The Fight Continues after the Battle—A Report by the Secretary of Defense's Advisory Committee on Prisoners of War* (1955) and *Communist Interrogation, Indoctrination and Exploitation of Prisoners of War* (1956). The real battle, of course, took place at home.

In the popular view, there seemed to be something very wrong with the American prisoners in Korea. Something seemed to distinguish them psychologically from the defenders of Bataan and Corregidor and the Kriegies of the German *Stalags*. Something had to be wrong. The North Koreans were accused of murder; the Chinese communists were accused of brainwashing, and American POWs were accused of mass collaboration. After publishing a series of accusatory articles in *New Yorker*, Eugene Kinkead's *In Every War But One* (1959) suggested strongly that American POWs in the Korean War

abandoned those traditional military and political values that supported individual and mass resistance. Kinkead was aghast that 21 Americans and one Englishman would decide to remain in communist hands voluntarily after the cessation of hostilities. In Kinkead's view, the idealistic and long-suffering POW communities of the past gave way in North Korea to a synthesis of American creature-comfort materialism, what's-in-it-for-me pragmatism, and to-hell-with-everyone-else-but-me individualism. Looking for a scapegoat, Kinkead blamed not only the prisoners but also the social, economic, and educational system which nurtured them. Journalist Edward Hunter refused to accept Kinkead's analysis and responded with *Brainwashing: The Story of the Men Who Defied It* (1956). Hunter suggested that the communist Chinese had attempted to utilize Pavlovian stimulus-response principles to reeducate POWs in much the same manner as they politically reeducated resisting members of their own population following the communist seizure of power in China. Hunter argued that the vast majority of American and United Nations POWs resisted the North Koreans even to the death and that, in most cases, the Chinese communists had failed to reeducate anyone.

More importantly, the former prisoners responded to Kinkead, Hunter, and to the American expatriate renegades in their respective narratives, several of which became reasonably popular in the postwar period. Gen William F. Dean, the highest-ranking American prisoner of war in Korea, told his story first in the *Saturday Evening Post* and then published it as *General Dean's Story* (1954). He told his audience how he was separated from his forces and evaded enemy forces for nearly a month. After his capture, General Dean became a prize and received special attention from his captors until his release. The popular General Dean, like Gen Jonathan M. Wainwright in World War II, received the Medal of Honor. Ward Millar's *Valley of the Shadow* (1955) and Clay Blair's *Beyond Courage* (1955) were both laudatory memoirs of committed escapers and evaders. More importantly, both books reinforced the notion that American prisoners did not simply give in but actively resisted their captors. In the same spirit, Sgt Lloyd W. Pate narrated his experience of hard-boiled resistance in *Reactionary* (1956). Walker M. Mahurin's *Honest John* (1962) told the story of a pilot who was forced to sign a phony germ warfare confession. John W. Thornton's *Believed to Be Alive* (1981), a POW resistance classic which appeared nearly 30 years after his repatriation, related how Thornton, a Navy flier, was shot down and resisted his captors for three years.

Outside the world of narrative, William Lindsay White and Albert D. Biderman began to refute Kinkead's assertion that Americans had gone soft in captivity. White published *The Captives of Korea* (1957) and compared "their treatment of ours and our treatment of theirs." White concluded that, al-

though imperfect from time to time, the United Nations forces treated communist prisoners well within the provisions of the 1949 Geneva Convention. Albert D. Biderman followed White's lead with *March to Calumny: The Story of American POWs in the Korean War* (1963). Especially valuable in Biderman's book was the definition of the four types of American and United Nations prisoners in North Korea: the relatively few diehard resisters or *reactionaries* as the captors called them; the collaborators or *progressives*, who cooperated temporarily with their captors; the handful of renegades who decided to cast their lot with the captors, and the vast majority of prisoners, who decided to stay out of the captors' way and "play it cool." By using narrative records, official documents, and cross-references to affidavits from a variety of prisoners, Biderman and White attempt to refute Kinkead's hypothesis that communist reeducation or *brainwashing* was anything more than minimally successful. More importantly, Hunter, Biderman, and White corroborate the individual narrative memoir accounts written by the prisoners themselves and show conclusively that the Americans resisted their captors with the same intensity, if not more, than they had displayed in captivity during previous wars. In the end, however, the Kinkead position seems to have remained the strongest memory in the minds of Americans when they considered what captivity was all about in Korea. Perhaps Richard Condon's popular novel (1959) and John Frankenheimer's popular film, *The Manchurian Candidate* (1962), might have had something to do with it. With these publications and captivity experiences in mind, we can get a better perspective why the Code of Conduct became the framework for the next POW battlefield, Vietnam.

The Vietnam War

Captivity in Vietnam, like Korea, was political as well as military. After capture, American prisoners were treated as political criminals rather than as soldiers with convention rights as military prisoners in war. Survivors have raised questions about the viability of military discipline in captivity, the validity, if not the legality, of the Code of Conduct (1954), and the uselessness of the 1949 Geneva Convention when one side disregards its provisions. Likewise, they investigate several persistent themes that link them with their forbearers: stoic heroism, hunger and torture, resistance, escape, defiance, and cooperation with the captors. With ethnological and ethnographic precision, the Vietnam War narrators examine functions of the prison community and prison culture much as their predecessors had done before them.

The first American POW taken in North Vietnam was Everett Alvarez, a Navy pilot shot down in 1964 after the Gulf of Tonkin action. He waited 16 years after his repatriation to publish *Chained Eagle* (1989). According to Al-

varez and the vast majority of other POW narrators, American prisoners in the Vietnam War suffered a very punitive kind of military captivity until Ho Chi Minh's death in 1969, when North Vietnamese policies changed and the torture stopped. Some prisoners languished in solitary confinement for years; a small number became progressives, or "antiwar" prisoners, either because they considered their captors' political position just or because the threat, if not the act, of physical torture was too much to endure. As told by many of the POWs themselves in the recent documentary *Return with Honor* (1998), in Hanoi and the other prison camps in North Vietnam, American prisoners were rigorously tortured for breaking camp regulations, one of which was the uniquely unnatural prohibition against any verbal communication.[11] In 1970, after the unsuccessful American commando raid on the Son Tay camp in western North Vietnam, the Vietnamese closed their outlying camps and placed the Americans into a section of the Hoa Lo Prison the POWs called "Camp Unity." From 1970 until their release and repatriation in 1973, POW activities in Hanoi settled down to the management of boredom and the elimination of hunger.[12]

The first captivity narratives of the Vietnam War were published as point-counterpoint perceptions of the politics of the Vietnam War before the war ended. James N. Rowe's *Five Years to Freedom* (1971) was a classic military resistance-and-escape narrative. As a counterpoint to Rowe, George Smith's *POW: Two Years with the Vietcong* (1971) was as much an antiwar polemic as it was the story of his captivity.

Like World War II, there were women in captivity too. By far, the experiences of Monika Schwinn and her male colleague, Bernhard Diehl, who together wrote *We Came to Help* (1973 in German, 1976 English), became one of the most gripping civilian captivity narratives of the Vietnam War. Schwinn and Diehl told how five members of the humanitarian West German Aid Service of Malta volunteered for humanitarian medical duties among the South Vietnamese civilian population. Of the five persons seized, three died miserably from beriberi, malaria, and pneumonia. After years in jungle camps, Diehl and Schwinn were transported to Hanoi and kept in close confinement until their repatriation with the Americans in 1973.

Postwar Vietnam POW narratives began to define and clarify what life was like in North and South Vietnam for American POWs. First to appear were the officer-written, religious resistance narratives: J. N. Helsop's *From the Shadows of Death* (1973) and Jay Roger Jensen's *Six Years in Hell* (1974); Ralph Gaither's *With God in a POW Camp* (1973), Norman A. McDaniel's *Yet Another Voice* (1975), and Eugene B. McDaniel's *Before Honor* (1975); and Jeremiah Denton's *When Hell Was in Session* (1976). As representative captivity narratives with messages of trials by ordeal, faith, and redemption, this cate-

gory resembles the Puritan and French Jesuit accounts written in the seventeenth century.[13] Others, such as Robinson Risner's *The Passing of the Night* (1973), Charles Plumb's *I'm No Hero* (1973), Stephen A. Rowan's *They Wouldn't Let Us Die* (1973), John Dramesi's *Code of Honor* (1975), James B. and Sybil Stockdale's *In Love and War* (1984), George E. Day's *Return with Honor* (1989), Gerald R. Coffee's *Beyond Survival* (1990), and Larry Guarino's *A POW's 2801 Days in Hanoi* (1990), focused more on civil values and military resistance rather than religious faith. Although in some cases these narratives featured strong reflections of religious faith, like Ethan Allen before them, patriotism outdistanced religious faith as an organizing principle.

John M. McGrath's *Prisoner of War: Six Years in Hanoi* (1975) is unusual in the sense that the commentary is minimal, but his powerful sketches speak for themselves. From memory, they include portraits of the guards, scenes of the prison landscape, how the prisoners communicated with one another, and, most importantly, graphic representations of the torture techniques used against the Americans. Practically no book on the Vietnam POW experience appears without Mike McGrath's memorable drawings, including my own.[14]

Each military service debriefed its own POWs during Operation Homecoming in 1973, but these official documents remain closely guarded and classified. Zalin Grant published *Survivors* (1975) as the first set of oral histories given by nine prisoners of the Vietnam War, seven enlisted POWs, one warrant officer, and one medical doctor. Grant's interviews with his informants reported on the antiwar movement in captivity; more importantly, Grant reported on Robert Garwood, the captured Marine private, and the only POW tried and convicted in a military court of collaboration with the enemy.[15]

By 1978, former Vietnam prisoners along with their biographers were beginning to reflect on their experiences in terms of philosophy and ethics. Not only were some of these officers telling their audiences what happened to them in captivity, they were beginning to question how captivity challenged and possibly changed their individual and collective sense of being. Malcolm McConnell's *Into the Mouth of the Cat: The Story of Lance Sijan, Hero of Vietnam* (1985) examined the short captivity, escape attempts, and death of Air Force Capt Lance Sijan, who received the Medal of Honor posthumously. Scott Blakeley's *Prisoner at War: The Survival of Commander Richard A. Stratton* (1978) tells the fascinating story of Richard Stratton, a Navy pilot who broke in torture and wrote bogus war crimes confessions. Stratton's famous bow and his monotone confession pleased his captors at first but embarrassed them later when they understood finally how and to what degree he disgraced them in public. Stratton knew that bowing was foreign to American culture. When he bowed not once but several times at an international press conference in Hanoi, he did so with full intent to destroy the event. The Western

press noticed immediately that his behavior was distinctly foreign to American culture in general and asked again if the POWs in Hanoi were being brainwashed. The North Vietnamese were then forced to respond to international scrutiny about their treatment of the Americans they held. As a result of Stratton's bow, what looked like a propaganda victory for the North Vietnamese at first was really an international resistance event and a vital turning point for the politics that affected the Vietnam War in general and the American POWs in Hanoi until 1973. In Blakeley's contemporary reflection on the philosophy of military captivity, Stratton contended that the individual could withstand only so much torture before being made to confess anything. Resisting a torturer to the best of one's ability was the objective, not resisting to a point of total self-sacrifice at any single instance. Stratton suggested that the Cold War prisoner should attempt to save his mind and body in order to continue the fight over the long haul rather than giving in to one's primal instincts to resist at all costs. Most importantly, Stratton, along with many of his prisoner colleagues, maintained that the greatest good for the greatest number of prisoners in a POW community begins with tolerance of failure, endures through forgiveness of others' weaknesses, limits resistance to what is absolutely necessary, and maintains strong links with the captive community at large. Most other narratives agree, at least in spirit, with this captivity philosophy.

There was no broadly accepted, primary sourced, historical examination of the POW experience in the Vietnam War until Stuart I. Rochester and Frederick Kiley published *Honor Bound: American Prisoners of War in Southeast Asia 1961–1973* (1998, 1999). For accuracy, strength, and analysis, this book stands alongside Hesseltine's masterful examination of Civil War prisons. Before *Honor Bound*, John G. Hubbell's *A Definitive History of the American Prisoner of War Experience in Vietnam 1964–1973* (1976), served as the first attempt to create a broad-brushed, comprehensive history of Vietnam captivity. Acting as a counterpoint to Hubbell stands Craig Howes's *Voices of the Vietnam POWs* (1993). Howes, reminiscent of the bad-war-good-soldier position taken by former Confederates after the Civil War, calls Hubbell's popular history the "official story." This might be true, but it is hard to make the case that former POWs will agree with what was said about them in print. Howes points out that powerful ethical dichotomies divided the Vietnam POWs into camps that more or less followed the divisive social dynamics inside the United States during that war. Based on Robert Laffin's thesis of the totalitarian environment that exists in political prisons, Howes compares Hanoi to North Korea where the captors used forms of judicial torture to gain propaganda points and public admissions of guilt.

I wish to close my discussion of Vietnam captivity by pointing to Elliott Gruner's *Prisoners of Culture: Representing the Vietnam P.O.W.* (1993). This

book examines the Vietnam POW experience from a critical perspective; that is, how it was represented and possibly exploited by American popular media. In his analysis of popular culture's treatment of the captivity experience, Gruner criticizes the film *Hanoi Hilton* as a severe distortion of the actual experience in Hanoi. What *Prisoners of Culture* really shows is that perhaps the divisive issues of the Vietnam War, like those of the Civil War long before it, will have lasting appeal for scholars long after both the actors and the witnesses have long faded away.[16]

To examine these works is to examine what it means to be human when captors remove the layers of culture from their prisoners by force. On the surface, some narratives of captivity resemble morality plays: the captives are the heroes, and the captors are the villains. In real captivity, however, from capture to repatriation, ethical, moral, and cultural issues remain far more clouded when superficiality as well as predictability disappear. What remains is a world of luck, chaos, desperation, and determination to live, all told in tightly compressed descriptions of days, weeks, months, and years in a cage.

Are captivity narratives true? Are they honest personal histories of time past, or are they simply statements full of antipathies and vindictive diatribes against former captors? If there has to be some assumption here which sets the tone, it is that most POW narratives are perceptually true, as accurate as one person's memory can be over a long period of time. It may be true that a soldier knows only his own foxhole very well, but knowledge about enough foxholes gives us a pretty good view of the battlefield.

Some narratives were created from diaries; others synthesized an author's personal experience with historical facts and recollections from other POWs in the same camp. Former POWs and internees whom I have met and interviewed claim that in captivity one's memory is heightened. This is not to argue that every word in every narrative account was recorded with videotape accuracy; narratives consist of memory-dependent, complicated event scenarios that sequentially contextualize the prisoner's point of view. According to Terrence Des Pres in *The Survivor* (1976), captivity is a watershed experience in a person's life never to be forgotten, and survivors must bear witness to the truth as they know it from experience, not only for their own sake and other living survivors, or even posterity or the historical record, but for the sake of the dead they left behind.

The representative works cited here, as well as hundreds of others not included, have chronicled individual experiences in the most catastrophic human circumstances imaginable. Each major narrative category is represented: religious redemption, stoic resistance, escape, and assimilation. And each represents a continuing tradition in the broad spectrum of American military literature. To the credit of the authors, this body of work presents the captivity

experience in terms of the cultural realities which, for the most part, generated individual and community survival: the physical ability to withstand starvation, torture, and sickness; the psychological ability to forgive oneself for surrender; the courage to ignore the captor's wants or demands; and the ethical and moral ability to maintain an unswerving trust in the institutional relationships of family, home, church, community, and country.

In the end, for wars past and most certainly for the wars to come, there seems to be little doubt that military captivity literature functions as a public forum in which former prisoners ask ethical and moral questions about human relationships and institutions that create national, community, and personal culture. There are few mysteries. Shared by prisoners from the Forest Wars to Vietnam and beyond to hostage narratives and to the POWs during Desert Storm, each voice from captivity shares not only one experience, it represents the permanent bond of shared adversity. In that sense, although prisoners may be separated by centuries of chronological time and contextually by the issues rising in different historical eras, these men and women, unknown to one another personally, have formed a lasting kinship with one another and with the culture that produced them. Individually and collectively, they have made their experience count.

Dr. Robert Doyle has been a professor of history at Franciscan University of Steubenville, Steubenville, Ohio, since 2007. He received his bachelor of arts degree at Pennsylvania State University (1967), a master's degree from Pennsylvania State University in comparative literature (1976), and his doctorate in American culture studies from Bowling Green State University (1987). Among his many works are *The Enemy in Our Hands: America's Treatment of POWs from the Revolution to the War on Terror* (Kentucky, 2010); *A Prisoner's Duty: Great Escapes in U.S. Military History* (Naval Institute Press, 1997; Military Book Club, 1998; Bantam, 1999, EBook and Softback reprint, 2016); and *Voices from Captivity: Interpreting the American POW Narrative* (Kansas, 1994). Also, he contributed to a number of monographs, including "Making Experience Count" in *Prisoners of War: The American Experience*, edited by Vance R. Skarstedt (Imprint Publications, 2005), and "Authentic Voices" in *The Last Time I Dreamed About the War: Essays on the Life and Writing of W. D. Ehrhart*, edited by Jean-Jaques Malo (McFarland & Company, Inc., 2014). He provided a talk at The Pritzker Military Library on "The Enemy in Our Hands: American Treatment of POWs from the Revolution to the War on Terror" (Chicago, 26 June 2010) and was a historical and technical advisor for *Hart's War* (directed by Gregory Hoblit, with Bruce Willis. MGM/UA, 2000–2001), and a historical consultant for *Return with Honor*, presented by Tom Hanks (directed by Freida Lee Mock and Terry Sanders. American Film Foundation, 1999). Professor Doyle was an officer in the US Navy (1967–1971) and the Naval Reserve until 1980, with service in Vietnam 1968, 1970–1971.

Notes

1. Frances Roe Kestler, *The Indian Captivity Narrative: A Woman's View* (New York: Garland, 1990), xxii. Concerning the subjects of ethnological reportage one finds in Indian captivities, see Marius Barbeau, "Indian Captivities," in *Proceedings of the American Philosophical Society 94* (1950): 522–48. For a fictionalized version of the Ortiz captivity, see Andrew Lytle's 1941 short story, "Ortiz's Mass" in *At the Moon's Inn* (Tuscaloosa: University of Alabama Press, 1990), 122–50. Lytle created "Ortiz's Mass" via the report of the US De Soto Commission, appointed by Franklin D. Roosevelt to research the 1539 De Soto Expedition and commemorate it in 1939.

2. *See* Ray Allen Billington, *The Western Movement in the United States* (New York: Van Nostrand, 1959), 9–35; Richard VanDerBeets, *The Indian Captivity Narrative: An American Genre* (New York: University Press of America, 1984); Alden T. Vaughan and Edward W. Clark, *Puritans among the Indians: Accounts of Captivity and Redemption,1676–1724* (Cambridge, MA: Belknap Press, 1981); J. Norman Heard, *White into Red: A Study of the Assimilation of White Persons Captured by Indians* (Metuchen, NJ: Scarecrow, 1973); R. W. G. Vail, *The Voice of the Old Frontier* (Philadelphia: University of Pennsylvania Press, 1949); Emma Lewis Coleman, *New England Captives Carried to Canada* (Portland, ME: Southgate, 1925); and Richard Slotkin, *Regeneration through Violence: The Mythology of the American Frontier, 1600–1860* (Middletown, CT: Wesleyan University Press, 1973). For a large collection of 311 Indian captivity narratives in 111 volumes, see William Washburn, *The Garland Library of Narratives of North American Indian Captivities* (New York: Garland, 1978).

3. George Taylor, *Martyrs to the Revolution in British Prison-Ships in the Wallabout Bay* (New York: W.H. Arthur, 1855), 9.

4. Taylor, *Martyrs to the Revolution*, 19.

5. *See* Catherine M. Prelinger, "Benjamin Franklin and the American Prisoners of War in England during the American Revolution," *William and Mary Quarterly* 32 (1975): 261–94. Prelinger points out that Franklin's efforts to help American prisoners in England were humanitarian as well as diplomatic.

6. United States House, *Report on the Spirit and Manner in which the War Has Been Waged by the Enemy, 1813* (New York: Garland, 1978), 3–4.

7. Ira Dye, correspondence with the author, 17 November 1992. The only comprehensive work concerning British prisoners in American hands during this period is Anthony G. Dietz, "The Prisoner of War in the United States During the War of 1812," an unpublished doctoral dissertation written at American University in 1964.

8. Edward S. Wallace, "Deserters in the Mexican War," *Hispanic American Historical Review* (August 1935), 376. See also Robert Ryal Miller, *Shamrock and Sword: The St. Patrick's Battalion in the U.S.–Mexican War* (Norman: University of Oklahoma Press, 1989), an excellent history of this unusual combat unit.

9. *See* LTC Mary E. V. Frank, AN, "The Forgotten POW: Second Lieutenant Reba Z. Whittle, AN" (unpublished paper at the Carlisle Barracks: US Army War College, 1990). See also Lynn Z. Bloom, "Till Death Do Us Part: Men's and Women's Interpretations of Wartime Internment," *Women's Studies International Forum* 10 (1987): 75–83. For studies of British and Commonwealth women in captivity during World War II, see Lavinia Warner and John Sandilands, *Women beyond the Wire: A Story of Prisoners of the Japanese, 1942–45* (London: Michael Joseph, 1982). For Vivian Bullwinkel's story of Australian nurses in captivity, see Catherine Kenny, *Captives: Australian Army Nurses in Japanese Prison Camp* (Brisbane, Australia: University of Queensland Press, 1987). See also Elizabeth Head Vaughn, *Community under Stress: An Intern-*

ment Camp Culture (Princeton, NJ: Princeton University Press, 1949); and "Adjustment Problems in a Concentration Camp," *Sociology and Social Research* 32 (September 1947): 513–18.

10. Studies of "prison fever," include A. L. Vischer, *Barbed Wire Disease: A Psychological Study of the Prisoner of War* (London: John Bale, Sons & Danielsson, 1919); Walter A. Lunden, "Captivity Psychosis among Prisoners of War," *Journal of Criminal Law and Criminology* 39 (1949): 721–33; George S. Prugh, "Prisoners at War: The POW Battleground," *Dickinson Law Review* 60, no. 2 (January 1956): 123–38; Robert J. Ursano, "The Viet Nam Era Prisoner of War: Precaptivity Personality and the Development of Psychiatric Illness," *American Journal of Psychiatry* 138, no. 3 (March 1981): 315–18; and Amia Lieblich, *Seasons of Captivity: The Inner World of POWs* (New York: New York University Press, 1993). Lieblich's work examines survival and resistance techniques used by Israeli POWs in Egypt.

11. Silence is not a new concept in close confinement. The French colonial prison system used it regularly in the past; the Japanese government still uses silence in their civilian prisons today. It was a new weapon, however, in a POW compound.

12. Charles Stenger, "Report," in *Post-Traumatic Stress Disorders: A Handbook for Clinicians*, edited by Tom Williams (Cincinnati: Disabled American Veterans, 1987), 131.

13. Only one narrative was written as an apology for a conversion to religious pacifism, James A. Daley's *A Hero's Welcome: The Conscience of Sergeant James Daley versus the United States Army* (1975, Reprint 2000). Daley became a Jehovah's Witness in captivity and for religious reasons joined the "Peace Committee," consisting of the antiwar prisoners inside the Hanoi Hilton.

14. Maj Theodore W. Gostas published his own book of sketches called *Prisoner* in 1974. It was privately published and is not generally available.

15. Although some resisting officers attempted to bring charges of collaboration against the antiwar prisoners and the Peace Committee, each service decided against that course of action. *See* Chris Doyle, "Bobby Garwood: Traitor or Victim?," *Soldier of Fortune* (September 1979): 72–75; David J. Truby, "Turncoats in Action: The Untold Story of Viet Nam's TIA," *Military Journal* 12 (June 1980): 24–25; and Monika Jensen-Stevenson and William Stevenson's *Kiss the Boys Good Bye* (1989) for more extensive treatments of the Garwood controversy.

16. *See* Joe P. Dunn, "The POW Chronicles: A Bibliographic Review," *Armed Forces and Society* 9, no. 3 (Spring 1983): 495; and "The Vietnam War POW/MIAs: An Annotated Bibliography," *Bulletin of Bibliography* 45, no. 2 (June 1988): 152–58.

Part IV. Waging War: Strategy, Operations, and Tactics

Introduction to Part IV

Chuck Steele

This section contains five lectures that get to the very heart of what the Harmon Lectures and the USAFA's core military history course are intended to address. The lectures reprinted here offer scholarly and personal insights into the planning, direction, and concluding of wars. Each provides unique analysis laying bare the complexity of conventional and unconventional warfare. At the time this project was undertaken, the objective of History 100 (USAFA's core course in modern military history—which also supplies the target audience for the annual Harmon Lecture)—was to provide an experience that inspires cadets to "comprehend the profession of arms and gain an understanding of the nature of war." To do this, cadets need to develop "the ability to critically assess the factors that have led to success and failure in war through thoughtful consideration of warfare's evolution at each of its three levels: strategic, operational, and tactical."[1] While none of these essays provides a treatise on tactics, they all offer discussions of war's other two levels that one hopes will help inform the opinions of young officers as they contemplate the difficulties attendant on the members of their profession in the most demanding of circumstances. As Robert Doughty, the longtime head of the history department at the United States Military Academy and one of this section's authors, posited in his book *Pyrrhic Victory*, war is a problematic undertaking. While his focus was clearly on France a hundred years ago, his comments about that nation's part in the first of last century's world wars are relevant to this day:

> Those who believe that wars can be surgical, that they can be won with "shock and awe," or that they can be directed toward a precise endgame or end state know little about the Great War. In the final analysis, war is far more than an extension of politics or the image one sees on a computer or television screen. It is the most complex, demanding, and unpredictable of all human endeavors . . .[2]

The first essay in this chapter might seem at odds with the preceding commentary, but part of what makes the study of history valuable is that it fosters an understanding that no two events are identical and that no solutions to the problems of war have proven to be universal in application. John Warden's presentation on preparations for the air war in Operation Desert Storm offers a best-case scenario for planning in war. Warden's recollections of how he and a handful of other airpower professionals created one of the most effective air campaigns in history are highly personal reminiscences of how best to connect the operational and strategic levels of war. The essay, transcribed from Warden's lecture, places the audience in his meetings with Generals Schwarz-

kopf and Powell and tells of how Warden and his team engaged in a remarkable act of military problem solving.

The second essay in this section is drawn from David Kahn's 1994 Harmon Lecture "Codebreaking and the Battle of the Atlantic." Kahn's exploration of the role of cryptanalysis in helping the Allies secure victory in arguably the most important campaign of World War II is an excellent reminder of the multidimensional complexities of modern war. The need to secure the sinews of war from attack by a phantom enemy, hiding in the vastness of an ocean and with the ability to slip beneath the water's surface, created an immense problem. The need for that enemy to communicate at great distances from home—to receive instructions and disseminate intelligence—was one element of waging war at sea that could be exploited to help solve that problem. Kahn's discussion of the Allies' triumphs in breaking German codes does not tell the entire story of the "Battle of the Atlantic," but it gives valuable insights into the role of intelligence professionals in shaping the conduct of the operational level of war.

The third offering is Richard Overy's comprehensive look at the role of airpower in the German campaign against Britain and France in the spring of 1940. Overy delivers a compelling case explaining the role of airpower in both the German success and the failure of the Anglo-French alliance. His examination of factors includes discussions of technology, doctrine, and strategic vision. As Overy demonstrates, Germany's success was not guaranteed by any advantages in the quality or quantity of its technology. The Germans and the Allies prepared for air war differently, and as Overy reminds us, in the end, war is first and foremost about fighting.

The fourth installment is George Herring's 1990 lecture: "Cold Blood: LBJ's Conduct of Limited War in Vietnam." Perhaps the most respected name in the historiography of the Vietnam War, Herring attempts to tackle the question of why America lost. Rather than concerning himself with a single campaign or discussing great battles, Herring dissects Lyndon Johnson and his administration's years-long difficulties in waging limited war against an opponent committed to the conduct of revolutionary war. Herring's efforts yield considerable insights into how complicated war is and how important competent leadership is in the development of strategy.

The final lecture in this section is from Robert Doughty's 2009 discussion: "France and the Armistice of 1918." Delivered at a time when the United States was caught up in two conflicts (wars in Afghanistan and Iraq) that had outlived the presidential administration originally committing American troops to action, the lecture expertly cautioned its listeners to beware of the effects of war weariness. Specifically, Doughty suggested that there is a considerable difference between seeking conflict termination as opposed to con-

flict resolution. Using the historic example of France in the Great War, Doughty demonstrates clearly that there is a gulf between expectations and reality in the waging and ending of wars.

Collectively, the essays in this section add valuable insights that help the United States Air Force Academy meet its obligation to develop in cadets an understanding of the profession of arms and how it functions in managing violence in the service of the nation. The Harmon lectures, particularly the essays in this section, are essential tools affording multiple perspectives critically examining the profession of arms and the nature of war. In providing expert analysis from renowned historians and military practitioners, the Harmon Memorial Lectures help the Department of History play its part as the foundational intellectual experience in establishing a warrior ethos in future officers of the United States Air Force.

Dr. Chuck Steele is an associate professor of history at the United States Air Force Academy. He is a graduate of the University of California, Berkeley (BA, History 1987), King's College, the University of London (MA, War Studies 1990), and West Virginia University (PhD, History 2000). Chuck served as the first defense editor of *Rotor and Wing* magazine and subsequently worked as an assistant professor of history at the United States Military Academy (fall 2002–summer 2006). He is the book review editor for the *International Journal of Naval History* and has written on naval affairs for *Naval History*, the *Journal of the Australian Naval Institute*, and the UK's *Naval Review*.

Notes

1. The course objectives for History 100 were taken from the course syllabus for the 2017–2018 academic year.
2. Robert Doughty, *Pyrrhic Victory* (Cambridge, MA: Belknap Press, 2005), 3.

The Profession of Air Arms in the Twenty-First Century*

John A. Warden III

It is a pleasure to be here and especially because I am here not as a professional historian but as a user of history, and for that reason I feel especially honored to be asked to make this presentation here tonight. Before I begin though, I really would like to acknowledge a couple of men in the past who really made an enormous contribution to my development as a user of history in working with strategy. The first was from when I was here at the Air Force Academy, then-Maj Roger P. Fox in the History Department, who in addition to giving me a wonderful education in military history introduced me to the works of Alexander the Great. The second man I would like to acknowledge was Professor Frederick Hartman, who was a professor at the Naval War College but was on a teaching sabbatical at Texas Tech University when I was doing graduate work there. He was the man who really helped me to understand the importance of strategy and its rich depth, flowing from the balance of power theory of the nineteenth and twentieth centuries So, I say thank you very much to both of those men.

When I was here as a cadet, I frequently had to recite a quote from airpower pioneer and Flying Tiger lead, Gen Claire Chennault, and that quote was this: "We were a different breed of cat right from the start. We flew through the air, while the others walked on the ground."† And I think General Chennault is as relevant today as he was in the 1930s. When we think about it, it was the advent of the airplane, barely a hundred years ago, that launched man into the third dimension for the first time in history. It not only launched us into the third dimension, but it also allowed us to operate with time compression in the fourth dimension, and that was utterly and completely beyond any kind of experience that we had in the past. In fact, planning and executing airpower is sufficiently different that we need to be thinking about airpower and air operations as being within the province of the profession of air arms. And we should think about the airpower professional as having very real and very special responsibilities.

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*Harmon Memorial Lecture #58, 2015. We would like to thank Major Miguel Lopez for transcribing the video of Col Warden's presentation.

†Although attributed, in this instance, to Gen Claire Chennault, other writers credit Gen Carl Spaatz with this statement. *See* John Andreas Olsen, *Global Air Power* (Washington, DC: Potomac Books, 2011), xvi. Indeed, Colonel Warden himself has credited Spaatz with this statement in his own previous writings.

Now I'm using the term *airpower* as a shorthand way of covering anything that flies through the air and space and is guided. That is air, that is space, that is cyberspace, so all of these things come under the general rubric of *airpower*. What I would like to do tonight is to highlight some key areas in which the airpower professional needs to be very comfortable and very proficient, and I want to try to do that by mentioning some vignettes from the First Gulf War that really tended to foreshadow many of the kinds of things with which you all are going to have to deal over the next many years. The Gulf War started in mid-January of 1991 and lasted for 42 days. It cost about 150 American lives, more than we would have liked, but less than what we expected, and it was the least-expensive war in terms of GDP of any of the wars in which the United States participated. I would hope that my experiences from the Gulf War will help you to do a far better job with the peer competitors that you are going to have to deal with over the course of your careers.

So, how did I get involved in the First Gulf War, and what are some of these vignettes? In the summer of 1990, I was on the Air Staff at the headquarters of the Air Force, and I had under me several different divisions: a strategy division, a doctrine division, a long-range plans division, the Checkmate division, and a couple of others. We had a very broad mission, finding better ways to use airpower in support of the geopolitical goals of the country. This was not a particularly auspicious time for airpower. For example, the Office of the Secretary of Defense frequently talked about two options for a potential war in Europe. One option was the land option, which was kind of the standard one, and then the other one was the sea option—without any mention of an air option, even though both the land and the sea options had some really significant problems attached to them. It was during this time that the Army's AirLand Battle was the dominant concept in joint circles and in fact at Tactical Air Command; TAC officers—TAC being the forerunner of Air Combat Command—for the most part saw their primary job as supporting the ground commander's scheme of maneuver and saw the ground battle as the thing that was dominant in their minds. So, I think we made some progress in trying to move airpower to a higher level, but I've got to tell you that there is still, even after these many years, there is an awful lot left to do.

When the Iraqis invaded Kuwait in early August of 1990, I happened to be on a cruise with my family in the Caribbean.* When I got back to Washington a few days after the Iraq invasion, I found that there was little being done other than a handful of potential "show-the-flag" kinds of operations, which didn't look like they would have any particular impact on the Iraqis. So, on Monday, the 6th of August, I pulled together a handful of people from the

*Iraq invaded Kuwait on 2 August 1990.

divisions that I had, and we met in the basement of the Pentagon in that Checkmate division. Our objective was to put together an air campaign plan that would defeat Iraq and obviously, also, lead to its expulsion from Kuwait. As we were building this plan, one of our models was the work that the Air Corps Tactical School had done in the 1930s and also the very brilliant air war plan for World War II that flowed out of that particular work. It was based on what the Air Corps Tactical School called the "Industrial Web Theory," which was in fact a huge advance for the time, but I believed that we could do significantly better because the Industrial Web Theory was very much oriented against having an effect on the opponent's ability to conduct military operations. I thought we could do better than that. As we started doing the planning with this group, I said, "You know I don't know whether we're going to be able to get anybody to agree to do this. I don't know how we're going to sell it. In other words, let's build it and then we will figure out how we're going to sell it." We named the plan "Instant Thunder," and the reason for calling it Instant Thunder was because we wanted to contrast it as much as possible with the disastrously slow campaign Rolling Thunder of the Vietnam War that had been my combat experience in Vietnam.

We started planning and two days later General Schwarzkopf, who was the Central Command commander and the officer who would have responsibility for conducting whatever operations might take place against Iraq, called the Air Staff and wanted to talk to the chief of staff, but the chief of staff was out of town, and General Schwarzkopf ended up talking to the vice chief.* He had a serious problem; in his mind, he did not have either the forces or the concepts to deal with the problem that was facing him—that is, a very large force of what he considered to be very competent Iraqis in Kuwait. So, he called to ask if there were any ideas that involved the special uses of airpower, an air campaign, something of that sort. The vice chief was aware of the fact that we had started this planning, so he told General Schwarzkopf, "Yeah, we've already started thinking about this and will be happy to send some guys down to see you in Tampa, Florida, MacDill AFB," where he still was, "and we'll send down a couple guys and they'll give you some ideas as to how you can deal with this problem." General Schwarzkopf said, "That will be great, I will be awaiting them."

Shortly thereafter I'm in the vice chief's office, and he is describing this conversation: "Okay, you got two days to put a war plan together, any problem?" And of course, there was only one possible answer to that: "Sure gen-

*Gen H. Norman Schwarzkopf, US Army, was the commanding officer of the United States Central Command from 1988 until soon after the Gulf War. The Chief of Staff of the Air Force at the time of the Iraqi invasion of Kuwait was Gen Michael Dugan, who would be replaced by Gen Merrill McPeak at the end of October 1990. Dugan's Vice Chief of Staff was Gen John Loh.

eral, no problem at all." So, we started working pretty seriously on the planning with only two days in order to be able to make a crucial presentation to General Schwarzkopf. Two days later after the call from General Schwarzkopf, we found ourselves at MacDill Air Force Base, meeting with General Schwarzkopf in a very small office. It was not a briefing room by any means but actually one of the offices that belonged to one of his deputies, because at the time, he was very concerned that anybody was going to hear about this in any way. So, I went through the presentation with him, which I will describe here momentarily. The presentation that we gave to him was what we think about as a *future back presentation*. A future back plan is one that you begin with what you intend for your opponent to look like at the end of the war, then you work backwards to identify the centers of gravity, the targets if you will, that need to be affected in order to create that end state for your opponent. Then back farther to determine the time that you have available to do it, and then figure out how you are going to get out of the conflict after you have been successful.

Future back—the future part of the thing, we didn't call at the time, but subsequently have called what we want our opponent to look like, what our downstream strategic objective is called a *future picture*. With the idea that what we're really talking about is not some wish, it would be nice to make this happen, but something that is as real as a photograph or a picture, except that it's taken in the future and it's a photo—it's a picture of what your opponent will be at the end of the conflict. In this particular case, our future picture for Iraq was fairly straightforward. We suggested that, obviously, Iraq would be out of Kuwait—that at the end of the conflict, its weapons of mass destruction programs would be broken. That Iraq would not be a strategic threat to its neighbors, that it would be economically viable, and it would be able to defend itself against its neighbors, so that we didn't create some terrible power vacuum, and as a result of all of this that the general Middle East situation would be more stable than it had been previous to the Iraqi invasion of Kuwait.

After the presentation of the future picture, we moved back to the next step, and the next step was: in order to get to this future picture what needs to happen. And this then required a brief description to General Schwarzkopf about our concept of centers of gravity and a methodology for locating them. I think all of you are pretty familiar with the idea of centers of gravity. *Centers of gravity* are merely a relatively small number of potential things that you could deal with, that in fact are dramatically more important or will have a dramatically greater impact on an opponent than the vast majority of other things that you might put your efforts against. That's very simply the concept of the centers of gravity.

The next problem becomes how you find the right centers of gravity, the ones that in fact are related to the future picture that you are trying to achieve on the one hand, and then on the other hand, the things that you believe will have the most return on investment. I'm using a word from the business world here, a *return on investment*—in order to attack a center of gravity or a target, it obviously takes energy, you've got to put airplanes against it or missiles or whatever it may happen to be that is all a cost: it's an investment. So, what you'd like to do is get the best return on your investment against these things that you possibly can.

The methodology that we use to figure out which centers of gravity to attack we called *The Five Ring* methodology, which we had put together about a year and a half previous to this time, and very simply what it says is that all systems with which you might want to deal, whether it be an enemy state, a terrorist organization, a criminal gang, it doesn't make a difference, that it all has five similar kinds of components. It has a *Leadership* element, maybe a single person, maybe a group of people, maybe a tribal council—it could be a variety of things, but it has some leadership to take it in a particular direction. If we think about military examples, historical examples of centers of gravity, one that comes to my mind is what happened to the Persian Empire when Alexander drove Darius III off the battlefield at Arbela, and you all can think of similar kinds of things. From our standpoint Saddam Hussein was in that category. Leadership has a lot of leverage; it offers high return on investment. You can rarely ever solve a problem with just the leadership, but if you can affect the leadership that is going to help you enormously in moving towards what you are trying to accomplish.

The second ring we call *Processes*; these are the things that allow a state, a terrorist organization, whatever it may happen to be, to have the wherewithal to exist, to conduct its operations whatever it may happen to be and that includes things like getting revenue, either through taxes or whatever method they want to use. It has to do with communications, the process is to move information back and forth through the system. It has to do with energy. It happens to do with food, a whole variety of things like this. So, as we think about that from a historical standpoint, we can recall the impact on Germany in 1918 and 1919 as a result of the British food blockade against Germany. More recently in US history, think about the impact of the blockade that we put against Japan in World War II, both from sea and from the air, that put Japan in simply an impossible position. In the Iraqi situation, we had a variety of things that we thought we ought to be suppressing significantly during the course of the war. That included energy; it includes things like electricity, like retail fuel, gasoline, aviation fuel, jet fuel, etc., and a variety of other sorts of things. In this second ring, you tend also to get a lot of leverage and pretty

good return on your investments—not quite as good as the center brings, but it's pretty good.

The third ring out is the *Infrastructure*, and these are the physical kinds of things that are part of any organization. You might own them if you are a country, you may use them if you happen to be a terrorist group operating in a foreign country, but you need to have something physical, you need to be able to put your feet someplace. In military history, a pretty good example of the impact on losing infrastructure really took place in our own war between the states, when first, General Grant conducted operations against the Mississippi River and cut the Confederacy east and west, and then subsequently when General Sherman cut it north and south when he marched from Chattanooga to Atlanta and then on to Savannah. There was not a whole lot of infrastructure that was of particular interest in Iraq; so, we couldn't worry about that very much.

The fourth ring out is the *Population*. The population is simply the people that do all of the kinds of things that are associated with any kind of an organization. People are in the military, people are manning communications, and people are working on farms and a whole variety of other things like this. You think about population by breaking it down into *demographic groups*, and a demographic group is nothing more than a group of people that tend to respond in similar ways to similar kinds of things: old, young, whatever it may happen to be. The best military example of this being used effectively, that I can think of, was the success the British had in the Malayan emergency in the 1950s, when they separated the population of Chinese who were supporting the Chinese communist rebels, and that separation went a long way to help in the eventual suppression of that rebellion. In Iraq, we had a number of demographic groups we thought would be very useful to approach with strategic psychological operations, but for a variety of reasons, those were never approved and they were never executed—but that's another story.

In the last ring out, the fifth ring is the *Fielded Forces* ring. And this is the ring that we tend to think about as where war really is—fifth ring versus fifth ring. It's really not the case at all, and in fact, fifth ring forces are difficult to deal with. You don't get a heck of a lot of leverage from them, and I think a great example of that is to think about the enormous success that the Germans had against the Russians in the summer of 1941. That campaign produced millions of Russian casualties and prisoners. And yet, because Russia remained intact from a strategic standpoint, all of those losses had basically been made up by Christmas time of that very same year and it was almost from a German standpoint as if nothing had happened in that initial great success. So, our idea for Iraq was—outside of some air offense against the air

defense that we wanted to address—we simply would bypass the Iraqi Army in Kuwait, and I'll come back and talk about that a little bit later.

That was the Five Rings, and the only thing I want to emphasize here again is the idea that the Five Rings is simply a methodology to help you choose centers of gravity that are related to your future picture and will help you achieve your strategic objective. It's not a mechanistic thing; say if you do this that you're going to win or if you don't do it you won't and so on. It is a methodology to help you select the right kinds of things.

So, after describing this to General Schwarzkopf and identifying the centers of gravity, associated targets, and some examples of how we would go about dealing with them, we then told General Schwarzkopf we anticipated that this was going to take six to nine days of good weather operations in order to be successful against Iraq and to win the war. At the end of the presentation, General Schwarzkopf asked several questions, two of which I think were especially interesting and enlightening. The first question that he asked was, "Well, what happens if we don't get Saddam Hussein?" And I said, "Well I think that would be too bad both from our standpoint and from the standpoint of the Iraqi people and Iraq." I said, "I don't think it's going to make too much difference, because I believe what the impact that we're going to have on Iraq as a system means that Iraq will not be able to do anything serious for at least a decade." General Schwarzkopf said, "You know, if we can get a decade out of this at the cost that it looks like, it's going to be pretty low." He said, "I would be absolutely delighted."

I think that the very interesting part about that observation is that in reality, in a significant number of wars and with something less than a full solution—unconditional surrender and so on—it becomes incumbent on the airpower professional to be able to conceive those kinds of wars, to think them through and to execute them. And in fact, that executing those kinds of wars is actually much easier from an airpower standpoint than it is from a surface warfare standpoint.

The second question that he asked was about time. He said, "Now how much time did you say this was going to take?" And I said about "six to nine days," and he said, "You know that's exactly right." He said, "That's all the time we have."

Now remember, we're talking in early August of 1990 at which time there was no coalition for a war that he and everybody else in Washington thought was going to start at any time and that was within the next couple to three weeks. There was no coalition; it was going to be a US war. And he said, "Let me tell you why you're right about that time frame." He said, "On the first day, operations will be successful, no question about that. There will be fury around the world, and everybody will say, 'What in the world are the Ameri-

cans doing with this attack on the Iraqis, on Baghdad and all of the rest of it?' The second day the world media will begin to coalesce against the United States and say, 'How terrible this is, etc.'" "Third day," he said, "the General Assembly will vote to condemn the United States for this wanton aggression. A similar thing will happen on the fourth day. When the Security Council meets on the fifth day, it will condemn the United States, which we will veto, but nevertheless," he said, "we will have to stop the war on the sixth day." And anything we haven't accomplished, that we need to accomplish in order to get to this future picture (a word that we were not using at the time), but anything that we hadn't accomplished, isn't going to get done. We only have six days. He was one of the very few people I've ever encountered in the military, or in business, who genuinely understood that the real strategic question was about time.

The strategic question in war about time is always how much time do we have to succeed. It is never: how long is it going to take. He really understood this, and this becomes one of the most important responsibilities of the airpower professional—to really grasp this whole concept of time and be able to use it to help build the kinds of operations that are necessary to make things happen within very short periods of time. Short is good; long is bad. It also, I think, highlights one of the other key differentiating factors about airpower, and that is that with airpower you can do parallel operations. Parallel operations are very simply bringing a fairly significant number of centers of gravity, targets if you will, under attack in a pretty compressed time period, in order to impose an unbearable shock on your opponent and ideally a shock that actually leads to strategic- or conceivably even operational-level paralysis. This is, again, something that the airpower professional really needs to be very comfortable with, and it's something they need to be able to convince others about. Unfortunately, explaining the value of time in parallel operations to people not versed in those areas can be, as a rule, a difficult thing to do. But, it's something that simply must be accomplished. It must be done, because it's so incredibly important.

During the course of our presentation to General Schwarzkopf, we had alluded a little bit to the idea of end games and exit planning but, for a variety of reasons, hadn't gone into it in much detail. As a result, we really didn't have the kind of endorsement from the commander that would have allowed us to pursue it aggressively at a later time. We did put together, with some help from Zalmay Khalilzad, then with RAND, who later became the US ambassador to Iraq, Afghanistan, and the United Nations, an interesting armistice

plan.* But we were never able to get people to be very interested in it. The Defense Department said, "Oh no, that's the job of the State Department," and the State Department said, "Well, we can't do any end game planning until we know how the war is going to end." So, you had this most crucial of the elements of strategy that nobody wants to deal with, and this is a huge problem—it's a problem not only in military and geopolitics; it's a problem in business and indeed in your own personal lives. So, as we concluded this briefing with General Schwarzkopf, he said, "Well, this is great; this is exactly what I needed." And he pointed to a telephone on a desk, and he said, "I have been deathly afraid that at any minute the phone was going to ring and it was going to be the president and he was going to say, 'Norm, you've got to go do something about those Iraqis right now,' but I didn't have, I didn't have anything to do. There was no way that I could answer that. Now I have it, I've got it, so I feel a heck of a lot better. So, I want you to take this plan back and present it to General Powell, the Chairman of the Joint Chiefs of Staff."† And he said, "As soon as you leave, I will call him and ask him to take the presentation at the earliest possible time."

As we were walking out of the room, I said, "General, if you execute this successfully, I think that you will have the greatest military success that any American commander has had since Douglas MacArthur went ashore at Inchon." Well, Schwarzkopf is pretty big guy, but he got a little bit bigger with that, because he obviously liked that as an idea. Also, we had a little bit of an opportunity during the course of the presentation to talk a bit about Nelson at the Battle of Copenhagen, about the Battle of Cannae and so on.‡ I only mention that because history, the thing in which so many of you are currently involved, can be such wonderful shorthand for conveying very complex ideas in a fairly simple kind of a way. So, the plan that we presented to General Schwarzkopf really started with national objectives, then worked backwards to identify what needed to be done in order to realize those objectives, and it again illustrates the need for the airpower professional to be very comfortable in this whole realm of strategy connected to military operations, airpower

*Zalmay Mamozy Khalilzad was born in Afghanistan and educated at American University of Beirut and the University of Chicago. After service in both the Department of State and the Department of Defense, he joined RAND. He served as US Ambassador to Afghanistan (2003–2005), US Ambassador to Iraq (2005–2007), and US Ambassador to the United Nations (2007–2009).

†Gen Colin Luther Powell served as the sixteenth national security advisor (1987–1989) and then as the twelfth chairman of the Joint Chiefs of Staff (1989–1993). He subsequently served as the sixty-fifth US secretary of state (2001–2005).

‡In April 1801, the British naval hero Horatio Nelson, while second in command to Adm Hyde Parker, took extraordinary risks to defeat a Danish naval force at the harbor in Copenhagen. The battle was instrumental in furthering Nelson's reputation as a fierce and fearless commander. The battle of Cannae is regarded as one of the greatest battles of antiquity. In one day, the Carthaginian general Hannibal Barca managed to trap and destroy two Roman legions in a classic example of a double envelopment.

operations. And to be comfortable with being willing to propose national objectives in the event that the ones given to the airpower professional don't look particularly useful or particularly executable.

We went back to Washington that afternoon, Friday afternoon. By the time we got back, we found that we were scheduled to meet with General Powell early the next morning, Saturday morning, in his office. We made about the same presentation to General Powell as we made to General Schwarzkopf, and it was well received. Beyond some distant detail kinds of things, the most important question that he asked was one that would end up having a significant impact on the conduct of the war itself and on its aftermath. And that question was, "What's going to happen to the Iraqi army in Kuwait?" And I said, "Well, we're going to fly over it, and because of the impact that we'll have on Iraq as a system, the Iraqis will either withdraw that army or the army will be forced to withdraw on its own if it's going to survive." It wouldn't have anything to eat or any way to sustain itself, and he said, "Well, that may well be true," but he said, "I don't want that army to withdraw." He said, "What I want to do is I want to destroy it. I want to leave a smoking tank on every kilometer mark from Kuwait City to Baghdad." And I said, "Well, we can do that, and we can do that from the air." And in fact, that then became the basis of what would later be called our Phase Three operations.

From the standpoint of the airpower professional, one of the things that stands out in my mind is that you're going to encounter a lot of officers, especially from other services, that are still very much in the Clausewitzian mode of thinking about enemy military forces. They think in terms of the essence of the war and the idea of a climactic battle and all of the rest of these things. So, your job as an airpower professional is to show them how to avoid battle, because it's always dangerous, and it's expensive. And instead show them how to achieve strategic objectives at the lowest possible cost.

The other lesson I think worth thinking about here was that plans that are put together should be put together in such a way that they not only work at the operational level, in this case at General Schwarzkopf's level, but that they also operate at the next level up, in this case at General Powell's level. And interestingly General Powell, as we were walking out, said, "By the way, would you please give me a five-slide condensation of the presentation that you made." He then presented this to the president at Kennebunkport about three days later.* So, the plans that you put together ought to be able to move very easily up and vice versa to move very easily from the top to the bottom, so that you don't get these terrible disconnects between the White House, if you will, and the execution level or vice versa.

*Kennebunkport, Maine, was the location of Pres. George H. W. Bush's summer vacation home.

We spent the next several days developing the whole campaign plan, in particular putting it into a written form. It ended up being a fairly significant document. We went back to see General Schwarzkopf, and this time, the presentation we made was in a regular briefing room, a small auditorium, and he probably had 25 or 30 of his staff attending this one. We went through [the] presentation, and at the end of the thing, he asked a few detail kinds of questions and then he opened the meeting to questions from the floor. Well, there was a Navy flag officer who was sitting next to him, and this flag officer turned and he looked at General Schwarzkopf and said, "Don't you think this plan is entirely too violent?" Those were his words. General Schwarzkopf looked at him for about 30 seconds—maybe it wasn't quite that long. And rather coldly, he finally said, "No. Are there any other questions?"

Well, as you can imagine there were no other questions after that. So, we finished this briefing with him, and he asked me to take the presentation and give it to General Horner, who was both the Air Component Commander in Riyadh and who was also at the time acting Central Command Commander Forward, until such time as General Schwarzkopf could actually take the field.* We left the next day from Andrews Air Force Base, and accompanying me were three of the officers that had been so essential, so key in the development of the plan: Dave Deptula, and many of you know Dave Deptula and many of you have met him personally I think, and Ben Harvey and Ronny Stanfield.† So, we got to Riyadh and had some adventures there. Late the evening that we arrived, we made the presentation to General Horner's senior staff, who received it very well and said, "Thank you very much, great to have you, this is exactly what we need, etc."

The next morning, we do the same presentation to General Horner, exactly the same presentation that had been done with General Schwarzkopf and then with General Powell. This one didn't quite go the same way. It was fine up until the time we put the first slide up, and then it began to fall apart. And the first slide to which General Horner took a fairly significant exception was titled "Instant Thunder: A Strategic Air Campaign against Iraq." He said, "That's nonsense. There's nothing strategic about this at all," and then he continued to talk more about how it wasn't strategic. Well, part of the problem here was that the concept, strategic, strategy, etc., was not a word or terminology or something that was much discussed amongst the TAC officers, the fighter officers of the day. In fact, they tended to associate strategy, strategic, etc., with Strategic Air Command, which they literally hated for a lot of interesting reasons. They associated the terms with academia, with Washington, with a

*Gen Charles "Chuck" Horner.

†Dave Deptula would rise to the rank of lieutenant general, retiring in October 2010.

whole bunch of things that they really didn't like. So, this was unknown at the time; I didn't realize it—afterward it became quite clear, that this was a real red flag they were waving before we even had done anything.

Well, I wouldn't say that the briefing improved after that, but nevertheless, we finally did get through it. Until we got to the end of the thing, and he said, "Well, this plan does not address my problem at all." And he looked out, and this was in a building in the Royal Saudi Air Force headquarters, and it had windows, nice windows, pretty nice briefing room. He looked out the window up to the north, and he said, "Those tanks, Iraqi tanks, could appear at any minute, and your plan does nothing about them." And my answer at that point was probably not the most politic of answers, but in essence it was this: "General those tanks are not a problem. You are paying entirely too much attention to them." And he reacted violently to that observation, but I knew I was right, because I knew what tanks could do. I mean to read about them in World War II, in all kinds of other places, I knew that under the very best of conditions that those tanks, that Iraqi force, would be lucky to move at 10 miles an hour, and so it would take days or weeks for them to get from Kuwait City down to Riyadh. With even the limited opposition that General Horner could offer to it with the airpower assets that he had available to him right then, that its ability to move at all was going to be significantly close to zero.

General Horner said, "Thank you very much," and then he said, "Can I keep the three officers that you brought with you?" And I said, "Yes." I'm not sure that I could have said anything else, but I said yes, and so they stayed there, and what they did was that they continued the development of the plan—and in fact, within probably a two-week period of time they, particularly Dave Deptula, managed to convince everybody there, including General Horner, that this was the way to go. They did, however, change the name of the plan. It changed from Instant Thunder to Desert Storm. So, that was fine. There was no problem with that.

Looking at that presentation, there are a couple things that I think stand out in my mind. One of them is that the airpower professional really needs to have a pretty good grasp of what other components can do, and not just a theoretical grasp; if you look at a tank, a tank can go 60 miles an hour, 300 miles, five hours to get from Kuwait City to Riyadh. In the real world though, that doesn't happen, and the only place where you really learn that real world stuff is through history. So, you simply have got to know that.

I'd like to take just a few minutes now and mention a couple other events from the war and from the planning itself, which I think are pretty useful for you to think about, to prepare yourself for, and to realize some areas where you may need to do some fairly significant improvisation. When I got back to Washington, we resumed the open planning, which I will talk about momen-

tarily, we resumed the open planning but now our focus was a little bit different. There were two areas of focus. The first area of focus was on advancing the plan in Washington. Keeping it well supported and staving off its many opponents, enemies if you will, and then the second part was helping Dave Deptula and his fellow planners in Riyadh with analysis they simply didn't have the manpower and the equipment to do and also to help gather the kind of intelligence that at least at that particular point in time was almost impossible to get while being located in Riyadh.

So, the first thing I want to really talk about is this idea of *open planning*. When I was walking out of the vice chief's office, after he'd told me about the call with General Schwarzkopf, I thought a little bit about how I wanted to go about doing the planning, and I have to admit that my first inclination was, well, we need to make this really very fast. So, what I'm going to do is to cut down the numbers and just be a small number of people that I really knew well, and we would make things happen very fast. Fortunately, we ended up going in exactly the opposite direction. Rather than restricting the people participating, we opened the doors of Checkmate, and in the first two days of planning, we actually had pretty close to 300 people participating. This was of extraordinary value, and there were four things that I think were notable about it. The first was that when you have a lot of people participating, that you found that there was an answer in that room to almost any question that might arise, and if there was not an answer within the room, somebody in the room knew who to call someplace around the world to get the answers. As a result, you really moved along very quickly—not getting stuck trying to figure out simple kinds of things.

The second thing was that people that participated in the planning ended up with a deep understanding and a deep commitment, which then helped them to continue the efforts over the succeeding months in order to do the things that were necessary to bring it to fruition. The third thing was that we had several people, of which Dave Deptula was probably the primary, who had participated in the strategic-level planning in Washington that then subsequently ended up with operational-level responsibilities out of Riyadh. When they encountered, as they certainly would, a number of situations that hadn't been foreseen because maybe they were unforeseeable or maybe we just weren't smart enough to do it, that rather than them being stuck, they weren't an issue. We know where we want to end up, and we can figure this out without any particular problem. To some extent you might think about this a little bit as similar to the kinds of planning that the Prussians introduced after the Napoleonic Wars. The three-echelon-down kinds of communications.

The fourth thing is a little bit different; the fourth thing that flows out of open planning is that things happen—answers come up to questions that you

didn't even know that you had. And, I want to give you just one classic example, for me classic, of which there were many. There was a civilian, pretty senior guy, officer in the Defense Intelligence Agency, that had started coming over to visit Checkmate and would watch the planning for a while and talk to the guys. I had met him and said hello to him, his name was Chuck Crystal, but never had any extensive conversations. About three days before the war was going to start, he walked into Checkmate and said, "Do you have a few minutes?" And I said, "Well, sure Chuck." So, we sat down, and he pulled out of his briefcase this piece of cable, which you can't see very well from where you are, but this is a piece of early fiber-optics cable, and he said, "You know where I got this? You know what it is?" I replied, "No, I really don't." It was the first one I had seen physically, at any rate. "I got it from Iraq," he said. "So, you got this from Iraq?" And he said, "Yeah," and then he moved very quickly to the next thing and he pulled a whole sheaf of blueprints out of this briefcase, and he said, "These are the engineering drawings for the Iraqi backup fiber optic system." I said, "Chuck where in the world did you get these things?" and he said, "Well, you know you really don't need to worry particularly about that aspect of it."

The story's relevance to this whole business of open planning is that as he had been watching the open planning, he had seen the operations that we were putting together against Iraqi communications, which of course were against the sort of the conventional communications, the copper-based things, the switching centers, and so on, and so forth. "And so, I thought you all had done a great job with this, but," he said, "for a long time there'd been a rumor in intelligence circles that the Iraqis had this backup fiber-optics capability." And he said, "I got to be so worried about it, I figured I needed to do something about it; so, I commissioned a clandestine operation, and this is the result: the cable and the blueprints. Can you use this?" And I said, "Absolutely," and we had a handful of guys that were with us from the Weapons School at Nellis, and said, "Guys take a look at this, see how you would go about targeting this early on in the war." They did, and we sent that over to the guys in Riyadh. Whether the Iraqis actually had a functional back-up fiber-optic system or not is unknown. They did have a fiber-optic system, but we know that it was not functional because it couldn't be functional after the first night of the war.

Open planning is not the way that you tend to think about military planning; you think about doing closed circle—need to know—all the rest of that stuff. I tell you that open planning makes such a huge difference—and you want to make things as open as you possibly can—and I have found that to be the case not only in military planning but also in business planning as well—just think about that and keep that in mind.

Another vignette that I think is pretty useful involves the concept of bomb damage assessment, and I was familiar from a lot of different directions with the problems of bomb damage assessment. It was a big issue in World War II. It was a big issue in Vietnam. It had been a big issue in the 1986 attacks against Libya in El Dorado Canyon.* So, we were so concerned about the ability of the national bomb damage assessment community, which was pretty broad and included a lot of different agencies, that we decided to put on a course where we would bring people who were involved with that activity over to Checkmate, and we would tell them about what we were trying to accomplish. One, that we were targeting not for destruction but targeting for effect, and that second, to help them understand the huge difference between what you see as a result of a single precision bomb going into a building as opposed to the older attrition—destroy it, turn it into rubble kinds of things—that were laid out in the joint munitions effecting this manual. So, this was a pretty good program. We brought hundreds of people over the next couple months, and we didn't get everybody—but we got enough people that as we actually got into the campaign itself, we got some fairly decent results. People were measuring the right things and reporting the right things.

So, why is this so important and why specifically mention it to you? If you do something different with airpower—which for the most part you probably should; any new conflict, or new operation, you probably ought to be doing something different—what you're going to find is when you do something different, the people that are in the measurement business don't know what you're doing, and they will report based on the old criteria. And if you find that, particularly the civilian leadership will think that things aren't going well, even though in fact they are, you have a very serious problem and one from which you may not be able to recover. So, it is really incumbent that when you do something different, make darn sure that you are going to be measured in the right way with what it is that you are doing.

There are more things that we could talk about that I think are pretty interesting, so let's just pull maybe one or two additional ones out to discuss. In December of 1990, the president became aware that there were some significant differences of opinion about the war within the Joint Chiefs of Staff. The president had not met with the Joint Chiefs of Staff; he met with the chairman but had not met with the Joint Chiefs of Staff as a body in any substantive way

*Operation El Dorado Canyon was the name of the American long-range bombing attack that targeted key Libyan terrorist sites in Tripoli in April 1986. The operation was ordered after the United States cited "exact, precise, and irrefutable" evidence of Libyan involvement in various terrorist attacks earlier in the year, including the bombing of TWA Flight 840 over Greece and the bombing of a crowded disco in West Berlin. For more on this operation, see Air Force Historical Support Division, "1986–Operation El Dorado Canyon," 18 September 2012, http://www.afhistory.af.mil/FAQs/Fact-Sheets/Article/458950/operation-el-dorado-canyon/.

beyond a photo op in the very early days after the Iraqi attack on Kuwait. So, when he became aware that there were significant disagreements within the Joint Chiefs, he called for a meeting a couple days later at Camp David. So, all of the Joint Chiefs were invited—obviously the Secretary of Defense and a handful of other senior people. We spent the next couple of days working pretty intensely with the Air Force Chief of Staff in order to give him all of the kinds of information and ideas that he needed in order to present what could be done with airpower: what the plan was, why it would work, what it was going to cost, and so on and so forth. He was successful in his presentation as evidenced by the fact that in early January the president invited not the joint chiefs, not the chairman of the Joint Chiefs, but invited the Air Force Chief of Staff to come over, accompanied only by the Secretary of Defense, for a private meeting. At this meeting, he said to the Air Force Chief of Staff, "Are you as confident now about what you can accomplish with airpower as you were at Camp David a month ago?" The answer was absolute affirmative. So, the president said, "Thank you very much," and that then set into motion the delivery of the ultimatum to Iraq and the decision to launch the operations on the evening of the 16th of January, Washington time.*

Now I would have to say that you think, "Well, so is there something unusual about that story?" And the answer is, unfortunately, yes. In the current system in the United States, what we have in general is that the chairman will go to meet with the president and he will be accompanied and supervised by the Secretary of Defense. He will summarize the views of the other joint chiefs for the president and then he will make a recommendation on action or inaction, whatever it may happen to be. Well, we all know how extraordinarily difficult it is to represent, in any kind of a passionate way, views with which you disagree. So, as a result, it becomes highly unlikely that a president is going to get unfiltered advice, especially if there is any difference in the views of the advisers. Now, in the case of something like the joint chiefs, where you have air, land, and sea officers, you would make the presumption that there are some significant philosophical and operational differences of viewpoint between those three different approaches, and there ought to be. But, if the president doesn't get to hear that directly, as by the way that he did in World War II under a different command arrangement, under a different concept, that the chances that the president ever gets unfiltered advice that is pertinent, that's relevant to making key decisions about peace and war, get to be pretty darn small. This is a challenging situation, and for the airpower professional,

*The first air attacks against Iraq began on 17 January 1991 (local time) and continued until mid-February. Then, on 22 February, President Bush publicly announced an ultimatum to Iraq to completely withdraw from Kuwait within the next week or face a massive ground-and-air offensive from a coalition of over 30 nations.

what it really says is that the airpower professional really needs to be willing to stand up and say, "I think that we ought to be going in a particular direction" and needs to present that at whatever level is possible. And this is not a charge that is necessarily easy to carry out, but it's one that becomes extraordinarily important. Now, one would hope that there would be some reconsideration of the command structure, or the way that we go about making decisions, and to the extent that happens, that the airpower professional certainly ought to be in the forefront of the debate in the discussion.

The war started in January and lasted for 42 days. At the end of the war Iraq was clearly out of Kuwait and we had accomplished all of the objectives that had been provided to General Schwarzkopf several months earlier. General Schwarzkopf and General Horner had done a great job in executing that war. And the situation at the end of the war was manageable. Iraq was under control. It was under control and remained under control for the next decade as a function of air occupation—operations Northern Watch and Southern Watch—and remained under control until such time as there was a decision made to go into a dramatically different direction in Iraq.*

F-16A Fighting Falcon, F-15C Eagle, and F-15E Strike Eagle fighter aircraft fly over burning oil field sites in Kuwait during Operation Desert Storm. US Air Force photo.

*From 1992 to 2003, Operation Southern Watch monitored and controlled the airspace in the southern part of Iraq to enforce Iraqi compliance with various UN agreements and directives. In 1996, Operation Northern Watch began to monitor and control the airspace over northern Iraq. It also ended in 2003.

So, if we then talked about what we think are some of the very specific roles of the airpower professional, they are these: that one, that the airpower professional must understand that airpower is in fact dramatically different from other forms of power; that in itself doesn't necessarily make it better, but it does make it different and the airpower professional needs to be comfortable with that difference. Second, the airpower professional needs to be very comfortable at the strategic level of war and needs to be able to connect strategic operations to actual operations. Start with strategy and then move down from there. Airpower professionals must be able to connect operations at any level with national strategic objectives. They must have a thorough understanding of the value of time and must know how to explain that value of time to people, whether that be the president or the other services, or whatever, and then need to know how to put together operations that fit within that time. They have got to be comfortable in making airpower-specific proposals in a joint environment, even though that may not be a particularly popular thing to do. They must be a good marketer—a good seller of airpower—both internally (military internally) and externally to the public.

The next 50 years over which many of you are going to have an impact is likely to be even more momentous than were the last 50 years. The United States and Western civilization are certainly going to see some real challenges to our very survival from peer competitors and other dangerous strategic enemies. There may be some dramatic changes in technology and the introduction of new technology, but it seems highly likely that in fact that the key to success, to military success, is going to be found through the third dimension and through the fourth, the time compression of the fourth dimension. That is the realm of the profession of air arms, and that is your responsibility as an air professional. And I wish you the very best of luck and thank you very much.

John A. Warden III is a Vietnam War veteran combat pilot who went on to be a central figure in the planning of Operation Desert Storm. Since retiring from the Air Force as a colonel in 1995, he has been an executive, strategist, planner, author, and motivational speaker whose work includes the books *The Air Campaign* and *Winning in Fast Time*. Among his other active duty assignments was service as the commandant of the Air Force's Air Command and Staff College. His best known work, *The Air Campaign: Planning for Combat*, has been translated into at least seven languages.

Codebreaking and the Battle of the Atlantic*

David Kahn

This is the story of World War II's Battle of the Atlantic and the intelligence effort that went into helping win it. The Battle of the Atlantic was the longest battle of the greatest war of all time. Winston Churchill said it was "the dominating factor all throughout the war. . . . Battles might be won or lost, enterprises might succeed or miscarry, territories might be gained or quitted, but dominating all our power to carry on the war, or even keep ourselves alive, lay our mastery of the ocean routes and the free approach and entry to our ports."† In the attempt to keep these sea lanes open, codebreaking played an important role.‡

The story begins—as do so many things in World War II—in World War I. In August of 1914, the first month of that war, a German light cruiser, the *Magdeburg*, stranded itself a few hundred yards off the island of Odensholm at the mouth of the Gulf of Finland. Today that island, now called Osmussaar, is part of Estonia, but then it was part of Russia, with whom Germany was at war. To free his ship, the German captain threw everything he could think of overboard—the coal, the mine laying rails, the bulkhead doors, ammunition, the drinking water. He rocked his vessel. He had the crew collect at the stern to lift the bow. Nothing worked. His radioman could hear the calls of Russian ships from nearby Reval (now Tallinn) approaching. He had one codebook burned and two others thrown overboard. But, as he ordered his crew to abandon ship, he forgot one in his own locker. Only one of the demolition charges he had set went off, and the Russians boarded the damaged cruiser. A search turned up the neglected codebook. This the Russians sent by courier to their allies, the British, who, the Russians thought, as the primary sea power could well use it. It was officially delivered in London to the First Sea Lord, a position equivalent to the American Secretary of the Navy, then held by a politician named Winston Churchill.

With this codebook, the fledgling organization that the British had set up to read coded German naval radio messages got its real impetus. Room 40, as it was called for its early quarters in the old building of the Admiralty, was

*Harmon Memorial Lecture #36, 1994.

†Winston S. Churchill, *The Second World War*, vol. 3, *The Grand Alliance* (1950; repr., Boston: Houghton Mifflin, 1977), 98.

‡The following note was provided by the author to accompany the submission of the written version of his Harmon Lecture: This lecture is based upon my book, *Seizing the Enigma: The Race to Break the German U-Boat Codes, 1939–1943* (New York: Houghton Mifflin, 1991). Sources for the statements in the lecture may be found therein.

soon revealing the plans of Germany's High Seas Fleet. This knowledge kept the Germans from surprising the Royal Navy, perhaps from defeating it in a great sea battle that would end Britain's dominion of the seas and so in effect winning the war in a day. Instead the British were able to bottle up the Germans in their North Sea ports. This kept the Germans from victory, and the British, French, and Americans went on to win the war.

The end of that struggle brought a few hints that the Germans had lost at sea in part because of codebreaking, but it was not until 1923 that the secret was revealed. Churchill, who had the necessary political clout, received government permission to tell the story in his memoir *cum* history, *The World Crisis*. In his dramatic fashion, and with rather more poetic license than fidelity to facts, he told how the Russians had picked up the body of a German sailor and "clasped in his bosom by arms rigid in death were the cipher and signal books of the German Navy." He disclosed that the *Magdeburg* codebooks had been given to the British and that with them the British were able to detect every potential and actual sortie of the German High Seas Fleet and so frustrate almost every German naval move. This information surprised and dismayed the Germans. The German Navy realized that it had to have some kind of cipher system that would prevent this ever happening again.

Back in 1918, German mariners had been offered a cipher machine with so many combinations that it would prove useless even to an enemy who captured it because it would take too long to run through them all to hit upon the right one. The German Navy had then turned it down as expensive, complicated, and unnecessary. But in the mid-1920s the *Reichsmarine* realized that this machine was exactly what it wanted. So it got in touch with the inventor.

He was an electrical engineer named Arthur Scherbius. He had developed, independently of others in the United States, Holland, and Sweden who had had the same flash of inspiration, a cryptographic principle called the rotor. The working principle requires you to imagine a hockey puck. On one side of the puck are 26 electrical contacts; on the other, 26 more. They are connected at random to one another through the body of the puck. The puck is held between two plates. One of these gets current from a typewriter keyboard; the other sends current to a display device, such as an array of flashlight bulbs that can illuminate a panel with letters printed on it. Now if you shoot in a current from, say, the letter A from a keyboard, it will go in at the top of the plate, enter the puck, twist around inside it, and come out at the contact that will lead to, say, Q. The rotor turns one space. Now you shoot the current in again at the top, from A. This time it comes out at X. Again the rotor turns. Shoot the A current in again; now it comes out at R.

Obviously, the sequence of substitutions is going to repeat after 26 letters—one revolution. But if you line up several rotors, one next to the other, each

turning one step only after the preceding rotor has completed a rotation, you will have a complex, internal maze of electrical wiring that will not recur until 26 to the power of the number of rotors you have. In addition, you can vary the order in which the rotors are put into the machine, and then their starting positions. Probably about 1924, the German Navy saw that Scherbius's machine, which he called the Enigma, solved the problem of capture that had led to disaster in World War I. Sometime in 1926, therefore, it adopted the Enigma. It proved so good a machine that the army too adopted it, instituting its use on 15 July 1928.

Near the end of World War I, Poland had reappeared in Europe. It had been reborn from Germany and Russia, which had partitioned the country near the end of the eighteenth century. Both Germany and Bolshevik Russia were infuriated at losing this land. The Bolsheviks in fact invaded Poland, in part with the desire of turning all Europe red. Poland, using every weapon at her disposal, evolved a codebreaking bureau that helped her armies under Gen Jozef Pilsudski defeat the Russians. During the 1920s, as Germany—never reconciled to the loss of her eastern lands or to the Polish corridor*—thundered out ceaseless propaganda about rectifying the frontiers, Poland developed her codebreaking further to get information about German plans. At first her cryptanalysts had been able to solve several German army cryptosystems. Then, on 15 July 1928, the codebreakers saw a change in the characteristics of the German cryptograms. One of the old systems had merely shuffled the letters of the German originals, and so the cryptograms contained about the 40 percent vowels of ordinary German text. The new intercepts had only about 20 percent vowels—the number to be expected at random. This told the codebreakers that they faced a complex cipher system in which the letters of the original German message were replaced with substitutes in an almost random fashion. They guessed that the cipher was generated by a machine, perhaps the Enigma, which they knew from Scherbius's failed attempt to sell it to businesses. Intelligence sources confirmed this, and the Poles attacked the cryptograms. But they made little progress.

While they hammered unsuccessfully upon the intercepts, a German whose soap factory had gone bankrupt had been given a civilian job in the German army's Cipher Center, which his brother had previously headed. This job included creating, distributing, and accounting for the Enigma machine keys—the order of the machine's three rotors, their starting position, and other elements that had been added. Needing or wanting money, this man, Hans-Thilo Schmidt, decided to sell the valuable information that he had

*The Polish Corridor was a strip of land some 20–70 miles wide that separated Germany's province of East Prussia from the rest of Germany and gave Poland access to the Baltic Sea.

about the Enigma to the French. They bought from him the basic operating instructions for the machine. But this did not include the actual starting positions, and so it did not enable the French cryptanalysts to break the system. They gave the material to their friends the British, who had no more success with it than had the French.

Now France had had, since 1921, an alliance with the Poles that threatened Germany with a two-front war if she made trouble either for France or for Poland. The French may have known of a 1928 Polish publication revealing Poland's cryptanalytic successes in her defeat of the Bolsheviks and may have thought that the Poles might put Schmidt's material to good use. In any event, the French gave it to them. At first the Poles could do little more with it than the French and the British. But in 1929, to a greater degree than any other country in the world, the Poles brought mathematicians into their cryptologic service. In 1932, one of them, Marian Rejewski, represented the Enigma encipherment with several simultaneous equations. Aided by some keys that Schmidt had sold and by a lucky guess, he solved the equations—and thereby determined the wiring of the right hand, or "fast" rotor, and then of the others. He had uncovered the heart of the Enigma machine.

But Rejewski's work had, in a sense, just begun. The advantage of the Enigma was that, even if the enemy were given a copy of the machine, he would not be able to crack messages enciphered in it quickly enough to be of use. Now Rejewski had, in effect, obtained an Enigma. But he and his colleagues now had to ascertain each day's keys—and that in less than the hundreds of millions of years that the Germans' studies had told them that that would take.

They cracked this problem, in part because an element of the German system of keying intended to offer extra security in fact opened a chink in the cipher's armor. Three letters of the key that had to be sent from encipherer to decipherer were repeated—for example, WSX WSX—to help correct any transmissions errors. The six were then enciphered at a common, prearranged setting of the rotors. But different encipherments of identical letters gave the Polish cryptanalysts a wedge with which to break into the encipherment. Their ingenious analysis, accelerated by special mechanisms, enabled the Poles to do what the Germans thought nobody could ever do—namely, read messages in Enigma in a day. They continued to do this throughout the 1930s, keeping up with the constant complications that the Germans introduced. But, in part for fear of a leak that might infuriate the Germans, they said nothing about this to the French or the British. After several years, however, two things happened that caused the Poles to change their minds. On 15 December 1938, the Germans put two more rotors into service, giving them five possible choices, not just three, to pick from to insert in the Enigma's three

rotor positions. This multiplied the Poles' work by 10 and outstripped their financial and personnel resources. And on 15 March 1939, Hitler, who had promised after he'd taken the Sudetenland, the German-speaking fringe of Czechoslovakia, that he would never annex any part of the world that wasn't German-speaking, marched into the rest of Czechoslovakia. The French and the English finally saw that he was not to be trusted. They guaranteed Poland that, if Hitler attacked her, they would come to her aid.

This promise dissolved Poland's reluctance to share her great cryptanalytic secret, even though Germany's cryptographic improvements had rendered it almost moot. Britain and France, on the other hand, had both the resources and, if war were to come, the need, to exploit the Polish work. The Poles built new mechanical cryptanalytic aids, called bombes, for their allies, as well as Enigma replicas and, in a sensational meeting outside of Warsaw in July 1939, gave them to their astonished but delighted new allies.

On 1 September, Hitler attacked Poland. The British and French guarantee went into effect. World War II began. The Poles broke some Enigma messages. But these did not enable Poland to stop the Nazi *Blitzkrieg*. This is a sad but significant instance of the rule in intelligence that, no matter how good a nation's intelligence may be, without military strength, no country can win a war. So Poland was defeated. A few months later, so was France.* Not, however, before the British and the French, exploiting a weakness in the German air force's Enigma keying system, solved some cryptograms.

Britain, then, protected by the sea from invasion and augmented in her stymied cryptanalysis of Enigma by the Polish solution, endeavored to crack the German machine. By 1939, she had followed the Polish example and recruited mathematicians to help in this work. She was lucky—or wise—to have in her cryptanalytic agency, the so-called Government Code and Cypher School (G.C. & C.S.), not only a collection of extraordinarily brilliant young men and women, but one authentic genius. This was Alan Turing, the intellectual father of the computer and the man who devised a better way to solve Enigma messages. Turing modified the Polish bombe mechanism to perform a much more powerful cryptanalytic method. It required imagining what the original German language might be for a particular cryptogram. The bombes—each of which was in a sense a collection of Enigmas—would then run rapidly through all the possible rotor combinations to see if any would yield the known ciphertext from the presumed plaintext. If one did, that combination represented the day's settings for that key net, and it would unlock all that day's messages on that net. But how did Turing guess the original German

*Poland was defeated in approximately four weeks. Germany attacked France and the Low Countries on 10 May 1940, and France signed an armistice on 22 June 1940.

message? That was, after all, what the Germans were trying to keep secret. There were a number of ways. Sometimes the Germans sent the same message in two different cryptosystems, one in a low-level system for small units that did not hold an Enigma machine, one in Enigma for higher-echelon units. If the British had solved the lower-level system, they had the plaintext they needed to crack the Enigma message. Sometimes German commanders sent the same message or address or message-start at a set time every day, such as "Situation unchanged" or "Morning report" or "To the General of Aerial Reconnaissance." Some of these were known from solutions from the Battle of France; others could sometimes be guessed.

German general Heinz Guderian in a medium radio armored vehicle, with a radio operator using an Enigma encryption device, in May 1940. Bundesarchiv (Bild 101I-769-0229-10A / Borchert, Erich (Eric) / CC-BY-SA 3.0).

Of course, many days the needed plaintext could not be divined, and Turing's system failed. Moreover, though it worked often with the Luftwaffe, where radio operators' chatter and earlier solutions gave insight into the possible plaintext, it worked rarely with the *Kriegsmarine*. The German navy's radio operators, most of whom had served for many years, were much more disciplined than the newly recruited Luftwaffe personnel. Some fortuitous document captures—from a couple of armed trawlers—had made a few solutions possible. These helped in reading a handful of subsequent messages, but

there was no wholesale solution of U-boat traffic. In view of the importance of the Battle of the Atlantic, this was fundamental. What could the British do?

A man whose name has become well known as a creative author had an idea. Perhaps, suggested this man, then an aide in the Naval Intelligence Department, we should attempt to capture some of the German navy's keys. Then we could read the messages directly without having to guess plaintexts and run the messages through the bombes. This man, Ian Fleming, later the creator of James Bond, proposed luring out a minesweeper by faking a crash at sea with a captured Heinkel bomber, then overpowering the minesweeper's crew and seizing the needed documents. The opportunity never presented itself. But, the idea didn't die. A longish-haired undergraduate named Harry Hinsley (later a Harmon Memorial Lecturer),* had been plucked from his studies at Cambridge's St. John's College to work at G.C. & C.S. and was studying German naval activities on the basis of German naval communications patterns. He knew that the Germans had deployed weather ships in the North Atlantic to gather data on the air masses that moved from west to east and that affected bombing raids on Britain and the coordination of German airpower with ground forces throughout Europe. These ships were isolated and unescorted. One day Hinsley realized that these ships carried Enigma machines and thus naval Enigma keys. The Admiralty was persuaded to send a task force to seize the weather ships and nab the keying documents. Twice during the summer of 1941 such task forces were dispatched, and twice, after brief encounters in the northern seas, they came home with the papers Hinsley hoped they would obtain. In addition, a fortuitous capture of a submarine, the U-110, provided additional documentation. The results were dramatic. When the first set of keys in service arrived at Bletchley Park, home of G.C. & C.S., on 1 June, solution times fell at once from 11 days to 5 hours. As the solutions began pouring out—they were codenamed ULTRA—the British began getting a comprehensive view of German naval communication phraseology, inestimable in its importance for providing cribs for the bombes for future solutions when the captured keys expired. Perhaps more to the point, the British began building up a picture of how the U-boats operated.

Did the fast solutions of June and July immediately produce a drop in the number of Allied ships sunk because the British knew where the U-boat wolf packs were and diverted the convoys around them? No. The Battle of the Atlantic involved too many factors for the effect of just one to be so determinative. The cryptanalysts contributed their part, but no one-to-one correlation existed between them and the sinking rate. Still, the Admiralty was glad to

*Sir Francis Harry Hinsley gave the Harmon Memorial Lecture in 1988: "The Intelligence Revolution: A Historical Perspective." It is included in Part V of this volume.

have the solutions that G.C. & C.S. produced for the rest of 1941 after the running start the captures had provided. For the solutions did help convoys to avoid U-boats. For example, Convoy HX 155, with 54 ships out of Nova Scotia in October 1941, changed course on the basis of ULTRA at least twice during its crossing to avoid sub-infested waters and arrived in Britain with its cargoes of gasoline, fuel oil, sugar, steel, copper, and grain entire and intact.

For many months, ULTRA flourished in part because weather reports formed some of its best cribs. G.C. & C. S. had worked them as follows: All German warships sent in meteorological observations. They condensed each of these into a few letters by means of their so-called Short Weather Code. These coded reports were enciphered in Enigma and transmitted to a headquarters, where the German weathermen deciphered them. They then broadcast the weather reports. The British intercepted these. They had captured the Short Weather Code from the U-110, so they were able to convert the broadcasts back to the same form into which the warships had put them. This constituted the plaintext of an Enigma transmission, which G.C. & C.S. could run on the bombes to find that day's key. But in the fall of 1941, the *Kriegsmarine* introduced a new edition of the Short Weather Cipher. This precluded the conversion into Enigma plaintext, and the useful weather cribs vanished.

Meanwhile, the German cryptographers were growing worried about the increase in their communications volume—an increase sustained by all combatants. They knew that, in general, the more cryptograms one intercepts, the easier it is to solve a cryptosystem. Though the cryptographers never believed that the British might be reading their messages, they wanted to take no chances. So on 1 February 1942, the *Kriegsmarine* changed the configuration of the Enigma. The original had three rotors in it. The new one had four. This multiplied the work of the codebreakers by 26. Together with the loss of the weather cribs, the new mechanical twist blinded the British.

They remained blinded throughout almost all of 1942. Unable to know what the U-boats intended, the Allies could not take remedial action. Convoys sailed straight into wolf packs. Sinkings in the second half of 1942 were quadruple those of the same period a year before, when Enigma messages were being read.

Then, in the fall of 1942, the British got a break. In the eastern Mediterranean, Royal Navy destroyers forced a submarine, the U-559, to the surface. A rating and an officer swam to her and climbed down into her control room. They passed up documents before the vessel unexpectedly sank, taking them down with her. (They received the George Cross for their heroism.) But among the documents they had salvaged was the new edition of the Short Weather Cipher. With this, obtained at so high a price, the cryptanalysts of G.C. & C.S. could again perform their weather crib trick. And they were

helped now by US Navy cryptanalysts in Washington, DC. These were supported by dozens of high-speed bombes, weighing about 2 1/2 tons each and produced by National Cash Register in Dayton, Ohio. The British and American cryptanalytic centers, linked by cable and radio, shared the work. The Allies were producing ULTRA solutions faster than before and almost continuously. Once again, convoys were dodging wolf packs. More supplies were getting through than ever before. A typical case was that of Convoy SC 127. Its 57 ships sailed from Nova Scotia on 16 April 1943, carrying tanks, grain, explosives, steel, lumber, sugar, phosphates, and fuel oil. Its original route would have taken it through an area in which the codebreakers discovered an estimated 25 U-boats. Its course was altered so it sailed around this square, and eventually the convoy arrived in its British ports without the loss of a single vessel. Its commodore happily signaled: "All arrived."

The Allied intelligence advantage was augmented by the growth in Allied air cover over the Atlantic. Some of this came from very long-range patrol planes. These aircraft closed the black hole in the mid-Atlantic in which U-boats had operated free from the fear of air attack. Flying over the convoy routes, the aircraft kept the U-boats submerged, greatly restricting their mobility and their effectiveness. More air cover came from airplanes from escort aircraft carriers. And these, for the first time in the Battle of the Atlantic, used codebreaking offensively. The Allies knew that Germany's supply submarines, the U-tankers, or "*Milchkuhe*" (milk cows), greatly extended the combat time-on-station of the U-boats. Codebreaking revealed with almost pinpoint precision where these U-tankers were to rendezvous with the combat U-boats to give them fuel and other supplies. On the basis of this information, airplanes from the escort carriers attacked the U-tankers, often when they were on the surface refueling. In the middle of 1944, of the 10 *Milchkuhe* in the Atlantic, nine were sunk. Each sinking caused U-Boat Command to go through contortions of resupply, with U-boats having to meet and give up precious fuel to one another so that all could return to Germany.

The consequence of all these converging efforts was that, between mid-December 1943 and mid-January 1944, U-boats sighted not one of the 10 convoys that sailed close to their patrol lines and sank only one isolated merchant ship. In the first three months of 1944, U-boats sank only three merchantmen in convoy out of 3,360 that sailed—at a cost of 36 submarines. By then vast convoys, sometimes hundreds of ships stretching from horizon to horizon, proceeded majestically across the Atlantic, bringing to Britain the men and material that would drive a stake through the heart of the wickedest regime the world had ever seen. This was done by the brave men who sailed the ships and flew the planes and by the American shipwrights who built more ships than any fleet of submarines could have sunk. But their bravery

and their efforts were supported, and their sacrifices ameliorated, by the backroom boys, the boffins, who broke the German U-boat codes.

David Kahn was a reporter and senior editor for *Newsday*, a Long Island daily newspaper. He earned his bachelor of arts degree at Bucknell University and a doctorate in modern history at St. Antony's College, Oxford University. In addition to his work at *Newsday*, he has contributed to the *New York Times* and the *International Herald Tribune*. Dr. Kahn has also taught courses on military intelligence at Yale and at Columbia's graduate school of International Affairs. He is the author of numerous books, articles, and reviews, including *Seizing the Enigma: The Race to Crack the German U-Boat Codes, 1939–1943* (1991), *Kahn on Codes: Secrets of the New Cryptology* (1984), *Hitler's Spies: German Military Intelligence in World War II* (1978), and *The Codebreakers: The Story of Secret Writing* (1967).

Author's Annotated Bibliography

Fundamental is F. H. Hinsley, et al., *British Intelligence in the Second World War: Its Influence on Strategy and Operations, History of the Second World War* (London: Her Majesty's Stationery's Office, 1979–1988), 3 volumes in 4 parts (plus 2 volumes on deception and counterintelligence). Though this official history covers more sources of intelligence than just cryptanalysis, and within that more than just naval Enigma solutions, it details the effects these intelligence operations had on the war at sea. It is based on documents, but Hinsley's work with naval intercepts during the war also informs the book, which is thorough and well indexed but rarely develops the personalities involved. This not only omits an essential dimension but makes the work needlessly dry.

Some of the human aspect is found in Patrick Beesly's admirable *Very Special Intelligence: The Story of the Admiralty's Operational Intelligence Centre, 1939–1945* (London: Hamish Hamilton, 1977). Beesly served in the Operational Intelligence Centre's Submarine Tracking Room as a deputy to the room's commander, and his memoir *cum* history gives a colorful picture of the use of codebreaking in the fight against the U-boats.

A remarkable conference in Germany in 1978 brought together specialists in many areas of ULTRA, including the Battle of the Atlantic. The proceedings have been published in *Die Funkaufklarung und ihre Rolle im Zweiten Weltkrieg*, edited by Jürgen Rohwer and Eberhard Jäckel (Stuttgart: Motorbuch Verlag, 1979).

The story of the German who disclosed the secrets of the Enigma to the French, and France's subsequent cryptanalytic relations with Britain and Poland, was first revealed by the Frenchman who was at the center of it all,

Gustave Bertrand, in his *Enigma: ou, la plus grande enigme de la guerre, 1939–1945* (Paris: Plon, 1973). Additional details are in former French counterintelligence officer Paul Paillole's *Notre espion chez Hitler* (Paris: Laffont, 1985). A solid secondary study, correcting some of the chronological errors found in Bertrand and establishing a list of the spy's meetings with the French, is the final edition of Gilbert Bloch's *Enigma avant Ultra (1930–1940)* (Paris: self-published, 1988).

The account of the original Polish solution of the Enigma is given best in Wladyslaw Kozaczuk, *Enigma: How the German Machine Cipher Was Broken, and How It Was Read by the Allies in World War II*, translated and edited by Christopher Kasparek (Frederick, MD: University Publications of America, 1984); it includes appendices on technical details of the solution by the man who did it. A German translation, *Geheimoperation Wicher: Polnische Mathematiker knacken den deutschen Funkschlüssel "Enigma,"* translated by Theodor Fuchs, edited by Jürgen Rohwer (Koblenz, Germany: Bernard & Graefe, 1989), provides additional documents and updates the text. Jozef Garlinski's *The Enigma War* (New York: Scribner's, 1980; British title: Intercept) offers some additional color. Krzysztof Gaj gives the best publicly available explanation of the mathematics of the solution and of the operation of the Polish and British mechanical aids to solving in his *Szyfr Enigmy: Metody Zlamania* (Warsaw: Wydawnictwa Komunikacji i Lacznosci, 1989); only pages dealing with these matters have been translated. C. A. Deavours's *Breakthrough '32: The Polish Solution of the Enigma* (Laguna Hills, CA: Aegean Park Press, 1988), takes the student step by step through the cryptanalysis, which Deavours has reconstructed. C. A. Deavours and Louis Kruh's *Machine Cryptography and Modern Cryptanalysis* (Dedham, MA: Artech House, 1985), a fund of information about cipher machines, deals in detail with the mechanics and mathematics of the Enigma in chapter 3, pages 93–150. Jack Levine's invaluable listing, *United States Cryptographic Patents, 1861–1989* (Terre Haute, IN: Cryptologia, 1991), in effect places the Enigma in the context of other cipher machines.

The people and operations of Bletchley Park are described in several works:

Codebreakers: The Inside Story of Bletchley Park, ed. F. H. Hinsley and Alan Stripp (Oxford, UK: Oxford University Press, 1993), has 17 chapters (pages 1–137) on Enigma and the production of ULTRA intelligence that include many personal details. One of the great scientific biographies of our times, Andrew Hodges's *Alan Turing: The Enigma* (New York: Simon and Schuster, 1983), in addition to profiling the mathematician who made a fundamental contribution to the solution of the Enigma, explains what this contribution was and describes his other work at Bletchley Park.

Two books deal with ULTRA and the war at sea. John Winton's *ULTRA at Sea: How Breaking the Nazi Code Affected Allied Naval Strategy during World War II* (New York: Morrow, 1988) regrettably does little more than concatenate the intelligence information in Hinsley et al.'s official history with the operations described in S. W. Roskill's official history of *The War at Sea, 1939–1945* (London: Her Majesty's Stationery Office, 1954–1961), from which all references to ULTRA had been excluded, without really integrating the two. Alberto Santoni's *Il Vero Traditore: Il ruolo documentato di ULTRA nella guerra del Mediterraneo* (Milan: Mursia, 1981), maintains that the true betrayer of the Axis naval powers in the Mediterranean was ULTRA. It has been translated into German by Theodor Fuchs: *Ultra siegt im Mittelmeer: Die entscheidende Rolle der britischen Funkaufklarung beim Kampf um den Nachschub fur Nordafrika von Juni 1940 bis Mai 1943* (Koblenz, Germany: Bernard & Graefe, 1985).

Recent studies of the Battle of the Atlantic incorporate ULTRA intelligence into their narratives. Two good ones are Dan van der Vat, *The Atlantic Campaign: The Great Struggle at Sea, 1939–1945* (London: Hodder & Stoughton, 1988), and John Terraine, *Business in Great Waters: The U-Boat Wars, 1916–1945* (London: Leo Cooper, 1989). In preparation is a study by Clay Blair with great promise.* On the German side are Jochen Brennecke's bitter *Die Wende im U-Boot-Krieg: Ursachen und Folgen, 1939–1943* (Herford, Germany: Koehler, 1984), and Gunter Boddeker's *Die Boote im Netz: Der dramatische Bericht uber Karl Donitz und das Schicksal der deutschen U-Boot-Waffe* (Bergisch Gladbach, Germany: Lubbe, 1981).

Other books tell the non-naval aspects of the ULTRA story. Gordon Welchman, one of the most ingenious of the early Enigma cryptanalysts, reveals some of his technical breakthroughs in *The Hut Six Story: Breaking the Enigma Codes* (New York: McGraw-Hill, 1982). Peter Calvocoressi, *Top Secret Ultra* (New York: Pantheon, 1980), explains the ULTRA operation at Bletchley Park for German army and air force messages; the operation for German naval messages was similar. Two books by Ralph Bennett tell how the German army and air force ULTRA was used by Allied commanders in battle: *Ultra in the West: The Normandy Campaign, 1944-45* (New York: Scribner's, 1980), and *Ultra and Mediterranean Strategy* (New York: Morrow, 1989). Lt Col William W. Haines of the US Army Air Force wrote what was called an "ULTRA history of USAAF vs. G.A.F." (German Air Force) in 1945; this has been published as *ULTRA and the History of the United States Strategic Air Force in*

*This is probably a reference to Blair's twin volumes, *Hitler's U-Boat War: The Hunters, 1939–1942* (New York: Random House, 1996) and *Hitler's U-Boat War: The Hunted: 1942–1945* (New York: Random House, 1998).

Europe vs. the German Air Force (Frederick, MD: University Publications of America, 1980). Diane T. Putney edited *ULTRA and the Army Air Forces in World War II: An Interview with Associate Justice of the US. Supreme Court Lewis F. Powell, Jr., USAF Warrior Studies* (Washington, DC: Office of Air Force History, United States Air Force, 1987), which includes, besides the interview with the wartime codebreaker, a study by Putney on ULTRA.

Two German books by Heinz Bonatz, for part of the war the head of the German naval cryptanalytic service, tell of the work of that organization: the narrative account *Die Deutsche Marine-Funkaufklarung, 1914–1945* (Darmstadt, Germany: Wehr und Wissen, 1970), and what amounts to little more than notes from documentary sources, *Seekrieg im Ather: Die Leistungen der Marine-Funkaufklarung, 1939–1945* (Herford, Germany: Mittler, 1981).

Finally, there exists a technical history of the solution of Enigma in several volumes, reproduced by the Ditto process with numerous diagrams, that was probably written just after the war, perhaps by the British. It seems never to have been mentioned in unclassified print before. Perhaps this notice will alert persons who are interested in this subject and who would have access to this history to its existence, enabling them to deepen their studies of what was probably the greatest sustained intelligence feat of all time.

Airpower, Armies, and the War in the West, 1940*

R. J. Overy

It is now almost 50 years since German armies routed British and French forces on the northern plains of France. It was a victory almost unique in twentieth-century warfare in its speed and decisiveness. So rapid and well planned was the German advance that it was not difficult to argue that this was just the campaign for which Hitler had long been preparing. German victory strengthened the view that the Western Allies stood before him weakened by years of military neglect and political feebleness. Since the war, this view has become embedded in popular wisdom. There is a strong consensus that the Western powers were militarily unprepared, much weaker than the enemy they faced, and that German success rested on exploitation of the new air and tank weapons. This new technology was integrated in the blitzkrieg formula, which cruelly exposed the poor planning, strategic bankruptcy, and low morale of Germany's enemies. The core of German success, so the argument goes, was the overwhelming airpower that Germany brought to bear on the conflict. At least one historian of the campaign has concluded that it was "the Luftwaffe's supremacy in the air which constituted a decisive factor."[1]

Though there would be little point in denying that the air force did constitute an important element in Germany's success in May and June 1940, there remain nonetheless a great many questions that historians can still ask about the role of airpower in the campaign. We must dispense, first of all, with some powerful misconceptions about the nature of the conflict. The first and most enduring of these is the belief that there existed a great disparity of air strength between the two sides. The facts show otherwise. Germany massed 2,741 combat aircraft for the campaign in the West on 10 May 1940—1,000 of them bombers, 970 of them single-seat fighters.[2] On the same day, France possessed over 3,000 modern combat aircraft; 2,500 modern fighters had been supplied to the French Air Force during 1939 and the first five months of 1940. The difference was that French forces were very dispersed: only 500 fighters were stationed in northeastern France opposite German forces, and 1,000 aircraft were in North Africa.[3] The Royal Air Force (RAF) had stationed about 250 aircraft in France in May 1940, half of them bombers, half fighters—but the RAF as a whole possessed by then over 2,000 modern first-line aircraft, including 700 advanced single-seat fighters in the home squadrons.[4] It is strik-

*Harmon Memorial Lecture #32, 1989.

ing that Britain initially devoted to the French campaign not many more aircraft than Belgium, which had 184 aircraft operational in May 1940.[5]

Taken together, the French and British air forces could have mustered over 4,000 modern, combat-ready aircraft and almost a third more fighter aircraft than the Luftwaffe. These were much better odds than the RAF faced a few months later in the Battle of Britain. Moreover, both Western air forces had a higher level of reserves (mainly of technically inferior aircraft) than the Germans and by May 1940, with American aircraft supplies, had a monthly output of aircraft more than double German levels. By the end of the Battle of France, it has been calculated that the French Air Force alone had been supplied with 2,900 modern fighters since 1939. Indeed, it had as many combat-ready aircraft in fighter squadrons at the end of the battle as it possessed at the start.[6] It is certainly possible to argue that the German air force had a marginal lead in quality, particularly in bombing aircraft rather than fighters. But in terms of numbers of aircraft the gap disappears. The issue this raises is an important one: why did the Allies fail to use their numerical and production advantages in an effective, concentrated way?

The second misconception stems from the view that the Western states failed to understand the new weapons of war and displayed a particular incompetence in the exercise of airpower. There were, of course, plenty of mistakes and false hopes. It is not difficult to construct a largely negative view of Western achievements in the air. But this perspective neglects two essential points. First, the British were only weeks away from winning perhaps the only major air force–to–air force conflict of the whole war, the Battle of Britain, and by a less narrow margin than the British like to think. Second, both British and French military thinkers and planners had worked away at the problems of airpower with every bit as much energy as their German counterparts. Western planners had formulated a role for air forces and integrated them into the general strategic plan. It could certainly be argued that some of the choices they made turned out to be inappropriate for the campaign they fought. But defeat in 1940 occurred not for want of thinking hard about the use of aircraft. The issue again is to ask why the Allies made the choices they did about air strategy; their choices were not made from mere incompetence or perversity.

A final misconception lies in the view, widely held, that the odds were always stacked against the West from the start and that their defense of Poland was a vain, belated, and doomed moral gesture in the face of certain defeat. Yet this view, too, ignores that neither state declared war expecting to lose. They planned in detail the war they would fight. The war plans drawn up in the spring of 1939 worked on the sensible assumption that war could only be contemplated if the chances of victory were considerable. British and French

strategy rested on the view that Germany could be contained in 1940 by a combination of naval blockade—and it should be recalled how much more substantial Western naval strength was compared with German—together with the prepared "continuous front" from the Alps to the North Sea and bombing from the air against Germany's "vital centers." The British draft of the War Plan in March 1939 argued that with Germany isolated diplomatically, hemmed in by the Maginot system, and with the economic might of the two Western empires mobilized to the full, "we should regard the outcome of the war with confidence."[7] Anglo-French military planning was not some grand suicide pact but a genuine reflection of growing belief in Western dispositions and staying power.

With this said, however, it is still possible to argue that in the campaign fought in May 1940, German forces proved greatly superior in fighting power, organization, tactical flexibility, and coordination of forces. This observation was particularly true of the German army, and it would be wrong to understate the role played by the German army, as distinct from the air force, in the campaign.[8] Modern airpower was untested except against the lightest resistance in Spain or Poland. The German planners placed their hopes in the strategic novelty of the army's so-called "sickle-cut" strategy based on a concerted armored drive through the Ardennes. It is striking how little airpower featured in the strategic and tactical discussions of the planned attack on France. When the air force was used, it conformed closely to German army doctrine and the army's high operational standards. Broadly speaking, this doctrine can be reduced to three "C's": concentration of force, counterforce strategy, and coordination of forces. There was nothing very original in this approach; German planners looked at the core of the problem, which was to attack and decisively destroy the military forces of the enemy. They hoped to do so with optimum operational effectiveness, economy of force, and above all, concentrated and combined effort. But they were far from confident in 1940. The armed forces had not expected a general war to break out in 1939; neither had Hitler. Alternatives were explored: sitting defensively behind the Siegfried Line or, the brainchild of the younger Luftwaffe staff officers, an all-out air assault on Britain in the late autumn of 1939 to knock her out of the war.[9] But in the end the offensive tradition in the German forces, combined with a recognition of geopolitical reality, pushed them, and Hitler, to the view that the decisive land campaign was the only real option. The Battle of France was thus no well-prepared, single-minded campaign. No Schlieffen Plan existed in Germany in 1939. The campaign was the hasty product of staff planning over the winter and spring, recognizing German limitations and making the most of German strengths. It was the Allies, not the Germans, who had a clear idea before September 1939 of the kind of war they were going to fight.

We can now move beyond the arguments that it was unequal strength and lack of preparation that doomed the West from the start, to look at the question of why the three states involved in the battle organized, prepared, and deployed their air forces in such different ways and with such contrasting effect. The German case is by now well-known, but it is worth recapitulation. The preparation for war was dominated by the army view of strategy: the role of the armed forces was to constitute an offensive force, capable of attacking and defeating the enemy armed forces in the field. This attitude made geopolitical sense considering Germany's long, exposed borders and the recognition that any future major war was likely to engage the two largest land armies, French and Russian. These views also complemented the preconceptions of the commander in chief, Hitler, whose own ambitions dictated that Germany should wage offensive war.

The general instruction for the Luftwaffe, the "Conduct of Air Warfare," first drawn up in 1935 and revised down to 1940, conformed to this general military outlook. The Luftwaffe's goal was "to defeat the enemy armed forces" and to do so in combination with the other services.[10] The operational guidelines were straightforward. The Luftwaffe was to be used first as a counterforce instrument to destroy enemy airpower and establish air superiority over the campaign area; then it had to concentrate on the task of giving direct support to the land campaign. This support was to consist of providing a protective umbrella over German armies, attacking targets near the front line, and attacking rear areas where new troops, communications, or supplies were located. Only in the event of stalemate and the expectation of a long, drawn-out war would the Luftwaffe bomb enemy vital centers. The lessons of Spain and China and, of course, Poland, suggested that direct tactical support would be the most effective use of airpower. Even Col Walther Wever, the Luftwaffe chief of staff, who died in 1936 and who is generally regarded as the chief German proponent of strategic air warfare, argued that "in the war of the future, the destruction of the armed forces will be of primary importance."[11] The Luftwaffe staff was filled with ex-soldiers or ex–World War I fighter pilots who broadly shared this view. Combined service maneuvers from 1935 onwards demonstrated conclusively that tactical airpower would bring the best results given the current technology.

German air planners closely linked technology to strategy. Given the limitation of aircraft in the late 1930s, they concentrated on fast fighters, medium bombers, and dive-bombing aircraft, which could perform the combined operation function. Great emphasis was placed on front-line communications. In 1940 the Luftwaffe possessed three signal regiments, 63 signal companies, and 115 special signal units to coordinate air attacks and air-ground cooperation.[12] Yet the Luftwaffe did not ignore strategic bombardment, as is so often

claimed. In 1938 the long-range Heinkel He 177 bomber was put into the production plans; a year later an intercontinental bomber (the so-called Amerikabomber) was also included. But these weapons would not be available in quantity until 1942–43. Luftwaffe operational surveys from autumn 1938 to late 1939 demonstrated that with the current technology nothing decisive could be achieved from the air against Britain until that date.

Although Göring* wanted a more vigorous strategic role for airpower and the younger staff officers were eager to send Britain the knockout blow she was so manifestly expecting, the German high command kept the air role within its technical limits and did so to very great effect.[13]

There is little here that is surprising. More interesting is the fact that Britain and France, both states that had waged, like Germany, a largely tactical air war on the Western Front in World War I, failed to do what the Luftwaffe did. Here the French example is the more remarkable, for France shared much of the military and strategic outlook of her erstwhile enemy. Like Germany, France was governed by geopolitical necessity and the search for resource efficiency in warfare. Like German forces, the services were dominated by the army and by army interests. The organization of the air forces in the two states was not strikingly different in the late 1930s except in one regard: the separate army units in France expected to have air units assigned for their individual use, while in Germany, air units were assigned in "fleets" to support whole army corps. This distinction was to prove a very significant difference in approach to tactical warfare. At the level of strategy, the chief contrast was that French leaders geared their forces to defend France, not to promote an offensive. The whole of France's large and expensive military effort in the interwar years was

*Hermann Wilhelm Göring (1893–1946) was a political and military leader and one of the most-powerful figures in the Nazi Party. A veteran World War I fighter pilot ace, he was the last commander of *Jagdgeschwader* 1, the fighter wing once led by Manfred von Richthofen, the Red Baron. An early member of the Nazi Party, Göring was among those wounded in Hitler's failed Beer Hall Putsch in 1923. Once the Nazis came to power in 1933, Göring was named as minister without portfolio in the new government. In this capacity, one of his first acts was to create the Gestapo, which he ceded to Heinrich Himmler in 1934. Quickly, Göring amassed power and political capital, becoming the second-most powerful man in Germany. Hitler appointed him commander-in-chief of the Luftwaffe, a position he held until the final days of the regime. Upon being named Plenipotentiary of the Four Year Plan in 1936, Göring assumed responsibility for mobilizing all sectors of the economy for war, an assignment that brought numerous government agencies under his control and helped him become one of the wealthiest men in the country. In September 1939, Hitler designated him as his successor and deputy in all his offices. By 1941, Göring was at the peak of his power and influence. As World War II progressed, Göring's standing with Hitler and with the German public declined after the Luftwaffe proved incapable of preventing the Allied bombing of German cities and resupplying surrounded Axis forces in Stalingrad. Informed on 22 April 1945 that Hitler intended to commit suicide, Göring sent a telegram to Hitler requesting permission to assume control of the Reich. Considering this treasonous, Hitler removed Göring from all his positions, expelled him from the party, and ordered his arrest. After the war, Göring was convicted of conspiracy, crimes against peace, war crimes, and crimes against humanity at the Nuremberg trials. He was sentenced to death but committed suicide the night before the sentence was to be carried out.

based on the establishment of a "continuous front" with an elaborate, prepared battlefield on which the German attack would be blunted. Once Germany was contained, the French would wear the enemy down by bombing and blockade until an offensive could be launched with any prospect of success.[14]

Given that the French strategic profile was different from the German—a defense strong enough to absorb and deflect the offense—the French view of how to use aircraft was remarkably similar. The French General Staff placed emphasis on the defeat of the enemy forces and saw airpower contributing to this strategic aim. The Instruction of 1936 for the air force gave it three functions: providing a defensive umbrella over the mobilizing armies as they entered and established the prepared battlefield along the fortified front; air attacks on the advancing enemy, on concentrations of his troops, supply columns, strong points, etc.; and finally, attacks by bomber aircraft against rear-area targets. These bombing attacks were supposed to complement the battle-area attacks and were to be directed at an area no more than 200 kilometers from the front line, where only militarily useful targets should be attacked, such as communications and ammunition dumps.[15] Only in exceptional circumstances would attacks against industrial or city targets be endorsed. French military leaders were on the whole unimpressed with the distinction between tactical and strategic airpower and opposed attacks against civilians. French air theorists regarded battlefield support as "strategic" airpower inasmuch as it contributed to the general strategic aim. There were arguments among French military leaders about how to organize and command air forces, but by the late 1930s there was general agreement on the need for large tactical air forces to establish air superiority over the front and prevent the breakthrough that had destroyed French arms in 1870 and had almost done so again in 1914.

French air strategy, then, differed little from German. But in operational preparation and technical development there were marked differences. The French Air Force failed to develop either battlefield assault planes or a dive-bomber. Too much emphasis was placed on reconnaissance, artillery spotting, and army cooperation aircraft in the 1930s, reflecting the priorities of the ground army. When rearmament accelerated in 1938, the industry rushed out large numbers of good quality fighters and medium bombers. Not until 1940 did the French order large numbers of dive-bombers from the United States when, belatedly, they realized that they lacked any effective battlefield support planes.[16] Even more bizarre for a military that placed so much emphasis on the prepared battlefield and static, centrally controlled operations, the French forces had very poor communications. This deficiency was true of links between air units and between the air force and army. Only 0.15 percent of the military budget between 1923 and 1938 was spent on communica-

tions.[17] Radar was hastily imported from Britain in 1939 but hardly featured in the 1940 campaign. Poor communication fatally weakened French combined operations.

Another operational problem was the failure to assign an order of priority to the targets designated for the air force. The French Air Force did not develop a counterforce strategy as such. Attacks on the enemy army were regarded as being of equal importance. Second, the air force failed to impose on the army an organizational plan that would permit the concentration of effort that the Instruction to the air force required. Airpower was parceled out, like tanks, to support each area of France where army units were stationed and to support each division at the front. This organizational structure was the end product of a long argument between the air force and army, which spilled over into French prewar political conflicts. In 1936 the new Popular Front Air Minister, Pierre Cot, favored counterforce and concentration of effort as well as a more independent air force to make this possible. The army opposed Cot because he was left-wing and challenged the army's military monopoly; the fall of the Popular Front in 1938 permitted the army to dominate air strategy again and to decentralize air forces to meet army requirements. What the French Air Force lacked was a Trenchard* or a Göring who could fight their political battles for them while they got on with the job of preparing for air warfare. Instead the French got the worst of both worlds: a sulky air force, eager to organize its own campaign, and a jealous army equally motivated to use the air weapon in its own way.

The British approach to air strategy differed in almost every respect from the continental powers. This uniqueness was due in no small part to the RAF winning its independence at the end of World War I, allowing it to pursue what it self-consciously saw as air strategy in its own right. The reality of Britain's geographical position and her imperial obligations, and the political

*Marshal of the Royal Air Force Hugh Montague Trenchard (1873–1956) was instrumental in establishing Britain's Royal Air Force. He has been described as the Father of the Royal Air Force. As a young infantry officer, Trenchard served in India, and with the outbreak of the Boer War, he volunteered for service in South Africa. While fighting the Boers, Trenchard was critically wounded, losing a lung and suffering partial paralysis. While recuperating in Switzerland, he took up bobsleighing. After a severe crash, Trenchard found that his paralysis was gone and that he could walk unaided. Following further recuperation, Trenchard returned to active service in South Africa. After the end of the Boer War, Trenchard saw service in Nigeria where he was involved in efforts to bring the interior under settled British rule and quell intertribal violence. During his time in West Africa, Trenchard commanded the Southern Nigeria Regiment for several years. In summer 1912, Trenchard learned to fly and received his aviator's certificate. He was subsequently appointed as second in command of the Central Flying School. He held several senior positions in the Royal Flying Corps during World War I, serving as the commander of the Royal Flying Corps in France from 1915 to 1917. In 1918, he briefly served as the first Chief of the Air Staff before taking up command of the Independent Air Force in France. Returning as Chief of the Air Staff under Winston Churchill in 1919, Trenchard spent the following decade securing the future of the Royal Air Force. Trenchard is recognized today as one of the early advocates of strategic bombing.

weakness of the British army, also influenced British airpower development. But the fundamental difference lay in the kind of war the British expected to fight and in their strategic priorities. General Golovin's* "Air Strategy," published in London in 1936, illustrates this point exactly. Golovin wrote that British air strategy could be reduced to three problems: defending the British Isles, defending the Dominions and colonies overseas, and protecting the imperial trade routes. The RAF's contribution to this strategy was to secure the local defense of Britain and the Empire and to perform "general strategic duties" in the form of an "active defence." Active defense meant, in fact, offense, the bombardment of the enemy state as a means of weakening its military power and shortening the war.[18] Though Golovin's views were not official doctrine, they closely reflected the views of leading airmen. Airpower was generally regarded as a means of prosecuting a long war of attrition in the style of a naval blockade from the air. The RAF insisted that it was not like the other services whose task was to seek out and destroy the enemy army or navy. The enemy air force was regarded as an indirect target. According to the Manual of Combined Operations issued in 1938 and still current in 1940: "Air strategy consists of attacks aimed at the destruction of . . . one or more of the enemy's vital resources." The best means of defense was therefore offense against enemy sources of industrial supply. This "indirect" exercise of airpower dominated RAF thinking throughout the prewar period.[19]

Such a strategic priority affected the development of British airpower in some obvious ways. The RAF consistently argued against a direct counterforce strategy. Air leaders regarded an attack against an air force as an "uneconomical expenditure" of effort. They believed that an enemy air force would always be too well dispersed and too well defended to be a profitable target. Tests conducted in the late 1930s against "airfield" targets confirmed this view. Not only were dispersed aircraft difficult to hit, but damage to runways could be repaired "in hours." When operational plans were produced in August 1939 for a campaign against the German air force, it was found that only 12 percent of its airfields could be reached from British bases and only 60 percent from French.[20] Airfields, it was argued, would have to be bombed at

*Nikolai Nikolayevich Golovin (1875–1944) was an Imperial Russian general and military historian. At the beginning of World War I, Golovin commanded the Grodno Hussar regiment. Later he was transferred to staff of Gen Platon Lechitsky (9th Army) as quartermaster-general, and in 1916, he served as chief of staff of 7th Army. In 1917, he was promoted to chief of staff of the Romanian Front. After the Russian Revolution and breakup of the army, Golovin retired to Odessa, where he lived in obscurity until the victory of the Allies and the opening of the Black Sea allowed him to move to Western Europe. In autumn 1919 he travelled from Paris through Vladivostok to Siberia to join Adm Alexander Kolchak's anti-Bolshevik "White forces." It was assumed that Golovin would be the chief of staff of Kolchak's army. However, when he arrived at Omsk, Kolchak's army was already retreating in disarray. Golovin decided that the situation was hopeless and did not take command, instead returning to Vladivostok and Europe. While living as an expatriate in Paris he authored numerous books and articles on military theory and military history.

night, which raised navigational and bombing accuracy problems. The only effective solution to reducing enemy airpower, according to RAF planners, was to mount "attacks against the aircraft industry." This view prevailed throughout the campaign in 1940, even when the British Chief of Staff directed the RAF in June to attack airfields and German aircraft on the ground.[21]

To the rejection of conventional counterforce strategy must be added the almost complete rejection in the RAF of a direct tactical role in support of the army. The Manual of Combined Operations devoted only three and one-half pages out of 272 to air-army cooperation, and one-third of that was devoted to "Control of Semi-Civilised Tribes within our own Jurisdiction."[22] Of course it was true that until the mid-1930s it was not clear that a major land army would ever be raised and launched again on the Continent, and strategic air attack was seen as an alternative to trench warfare. But when it became clear in Spain and China that air-army cooperation had played an important role, and once Germany had become the main potential enemy, there was every case to be made for developing a tactical capability. Some British politicians began to suggest just such a course. Yet the RAF continued to urge strongly that neither its technology nor strategic profile were suitable for direct support of a land army. Further bombardment tests showed that railways were difficult and expensive to attack and fleeting targets of opportunity behind a moving front were virtually worthless given the time it would take to bring heavy bombers into action.[23]

The RAF view was that the target had to be large, preferably static, and important to the enemy war effort in a more permanent sense to justify the expenditure of operational effort and bombs in attacking it. If airpower involved concentration of force for the British, it was concentration against well-defined, if complex, industrial target systems, not against airfields, supply lines, and troops on the move, which were all difficult to hit, likely to be well defended by flak and fighters, and incapable of decisive destruction. The British saw airpower as an instrument for the big strategic gesture, not the minor tactical target. Battlefield targets, it was suggested, could more usefully be attacked by ground artillery. Even after the failure in France in 1940, the RAF inquiry into the campaign stressed that the failure in the air was due to the French insistence on tactical support, which was "unprofitable" and directed at "random objectives."[24]

This view prevented the RAF from making any serious technical or organizational preparations to meet the needs of a tactical air campaign. The dive-bomber was examined, tested without enthusiasm, and rejected. High-level bombing was shown by bombing tests to be just as effective and less dangerous for the pilot. This conclusion was largely special pleading. Dive-bombing tests had in fact been carried out with aircraft that could barely dive but

merely glided downwards towards their target at an angle of 17 degrees. The margins of error recorded from these limited tests—averaging 82 yards from 3,000 feet—were felt to be too great to be worth using against battlefield targets.[25] When the Air Staff finally ordered more dive-bombing tests in spring 1940 with the one aircraft—the slow and vulnerable Fairey Battle—which could dive more than 40 degrees, the Advanced Air Striking Force in France trained a mere seven pilots, who dropped 56 bombs in practice.[26]

The RAF attitude to tactical aviation was exemplified by the specification for a new army cooperation aircraft laid down as late as March 1939. The specification called for a slow two-seater aircraft, which could undertake "close and distant tactical reconnaissance by day, observation of artillery fire, photography, low-level or shallow dive bombing, and supply-dropping."[27] The call for a battlefield jack-of-all-trades came at just the time that greater functional specialization in aviation was evident everywhere, while the technical performance required made the aircraft obsolescent even at the planning stage. John Slessor, director of plans in the Air Ministry, expressed the widely held view that "the aeroplane is not a battlefield weapon."[28] Small wonder that almost no preparation was made to provide effective battlefield technology or to establish systems of communication to cooperate with the army that matched the excellent communications system set up by Fighter Command in Britain. Small wonder, too, that the RAF fought all the way along the line not to be subordinated to the French Army in 1940 and not to divert more than a tenth of British air strength to the Battle of France.

There were, then, reasonable grounds for British arguments against tactical aviation. But they made Britain a less-than-effective ally for the French when they were finally faced with the day of reckoning. Under pressure from the French General Staff, the British military chiefs accepted a continental strategy in the spring of 1939. This meant a continental expeditionary force and an air force to serve in France. But when war broke out, both sides were still arguing about air strategy. Bomber Command wanted immediate attacks on Germany in September 1939 because she was "politically rotten, weak in financial and economic resources, and already heavily engaged on another front."[29] Maurice Gamelin, the French commander in chief, insisted that the air forces should be held back to attack the German offensive when it came.[30] Under political pressure, the two sides finally agreed that a British air contribution would consist of a small striking force of bombers to attack the advancing enemy and a separate air component under the French commander in chief for attacks in direct support of the army and the protection of Allied airfields. Slessor reminded his seniors of the strong opposition of his staff to the idea "that we are going to direct every aircraft against German columns on the roads."[31]

In practice, the British chiefs of staff made little effort to give clear priorities to the RAF, which continued to resist the tactical role throughout the period to June 1940, in anticipation of the assault on more valuable industrial targets in the Ruhr. This ambivalence explains the poor communication between the Allies, the lack of cooperative exercises, and the very negative research findings the RAF sent to the French on tactical aviation. Asked what Bomber Command could do to hold up the German advance, the RAF replied that tasking its medium bombers at full capacity for a week would only keep three German railway lines out of action.[32] But the French aggravated the problem. Gamelin insisted that the greatest caution be exercised in bombing missions to avoid initiating what the British called the "gloves off" conflict, attacks against civilian industrial targets. Rather than bomb railway stations and marshaling yards, the French Air Force commander asked the RAF only to bomb railroads at some distance from habitation.[33] The RAF was not only asked to perform a role for which it had not been properly prepared and against which it was strongly prejudiced but to do so with what it regarded as serious operational constraints.

There were other important considerations that governed the attitude of the Allies regarding airpower. Their intelligence indicated (wrongly, as it turned out) that combined German and Italian forces vastly outnumbered their own and were backed with reserves of equal numbers, a total of over 12,000 aircraft.[34] This information encouraged the sensible view that the enemy should not be met head on since it would mean the immediate destruction of Western air forces; it discouraged the politicians from taking the "gloves off" for fear of massive retaliation on their own civilian populations. This intelligence also encouraged the British to keep the great bulk of their forces in the British Isles and the French to disperse their forces over the whole of France, guarding the industrial regions and anticipating Italian intervention. The British refusal to transfer their airpower to French soil was a critical decision. It was very difficult for the RAF to accept that Germany might not use the Luftwaffe to attack British cities, having argued for so long that it would, and British politicians were not prepared to take the risk of denuding the home country of air forces. Yet this outcome reduced any prospect for serious concentration of effort and ironically produced on the Western Front the overwhelming disparity in numbers that the Allies had feared in the first place. Wary of overcommitment, deeply divided on the merits of tactical aviation, and with only a hazy intelligence picture of German intentions and strength, the Allies sheltered behind the view that whatever happened, Germany would not be strong enough to pierce the prepared battlefield. If they were less confident of defeating Germany, they were more confident of containing her, and this goal had always been the main aim of French military strategy.

The current state of air technology and military tactics clearly favored the strategic choices made by Germany in 1940 over those made by the Allies. Not only was Germany the only one of the combatants to favor a strategy of force concentration, but the campaign area itself was geographically concentrated to produce the maximum effect. During the campaign, the German air fleets massed up to 800 aircraft on any one sector of the front while leaving other sectors entirely undefended. Or not entirely so, for the other great strength of the German advance was their use of antiaircraft batteries, which provided very effective defense of captured positions and airfields and which the Allies had neglected as a battlefield weapon. During the course of the battle German aircraft did what they had been prepared to do: they attacked enemy airpower in the field and then concentrated the weight of attack on the rear areas and combat zone. Most of the damage was done not by dive-bombers, which constituted not much more than 10 percent of the force, were vulnerable to fighter attack, and less accurate than the popular image would suggest, but by the fast medium bombers which pounded supply columns, railways, depots, and bases in the rear. Defense of German troops and bomber formations were left to the fighter forces, which operated in large groups and which quickly achieved local air superiority over the vital areas of the front.[35]

By contrast, the British and French response was famously disorganized and feeble, though perhaps less so than might have been expected from the poor operational preparation. The critical problem was the inability to produce effective force concentration. This deficiency was exacerbated by the absence of an Allied counterforce strategy, which permitted the Luftwaffe greater freedom to attack Allied airpower at the source and further reduce any prospect for concentrated effort on the Allied side. As it was, the Allies never drew on more than a fraction of their available aircraft at any one time. In May 1940 only one-quarter of the combat-ready aircraft were deployed on the front facing the German attack.[36] The British sent an air contribution not much larger than the Polish Air Force that had faced the Luftwaffe in September 1939, and it got the same treatment. Its light bombers were so ineffective that within the first two days of the battle the bomber force was reduced by 50 percent.[37] The response was to send in more aircraft in small packets—a few squadrons at a time—which proved disastrous. It meant that the RAF suffered regular attrition throughout the battle while never building up sufficient strength to stabilize its position. RAF losses were double those of the French Air Force. For the French, by contrast, the strategy of conserving forces meant that as the battle went on more reserves could be brought in, and by the end of the campaign French fighters were regaining air superiority on some parts of the front. Yet Allied air forces dissipated even this advantage by a remarkably low level of combat activity. French fighter units averaged 0.9 sorties a

day; German fighters averaged 4.0. French bomber units averaged only 0.25 sorties a day.[38] This paucity can partly be explained by manpower shortages. But there were few constraints on fuel supply or operational airfields, and the supply of new aircraft was double the German. Moreover, German airmen had problems of greater magnitude. They were often compelled to make do with makeshift airfields, with stretched lines of supply and maintenance, and the loss of pilots shot down over French territory.

Failure to concentrate air forces—at a time when the Western powers had over 1,200 fighter aircraft available—was compounded by poor communications and wildly fluctuating tactical instructions. French communications were rudimentary and preparations for coordinating air attacks in support of the army poorly carried out. The British post-campaign assessment showed that a lapse of four to five hours was standard between sighting the target, reporting back to headquarters, and dispatching an attacking force.[39] For British bombers the delay could be even longer since reports had to be sent back to headquarters in Britain first. Air-to-air and air-to-ground contact was poor by the standards of RAF Fighter Command at home or German practice. German tank commanders could call up dive-bomber or fighter support within minutes, indeed so quickly that they were willing to send radio messages in the clear rather than in code. Target selection on the Allied side became random as the pace of the battle increased. Daylight bombing attacks were hastily withdrawn in favor of night attacks, which limited what targets could be hit effectively. Through the middle of May, the RAF chafed at the bit to be allowed to attack long-range industrial targets. Their argument now was that the bombing of German cities would reduce the pressure at the front by forcing the Germans to withdraw fighters to defend the Reich. The hope was that an enraged Hitler would also order bombers away from the battle to retaliate against Britain, where they would be destroyed on the firm shield of Fighter Command.[40] The commanders in chief and the politicians remained unconvinced of the virtues of such an indirect and unpredictable strategy. Only after the bombing of Rotterdam on May 14 were the gloves finally taken off and attacks on Germany permitted, but they had virtually no effect on diverting Luftwaffe aircraft from the battle. Nor would the French allow any concentrated effort against German targets. Allied bombers were divided among the battlefield, the rear areas, and distant industrial bombing. By the end of the month the two Allies were effectively fighting separate air wars. The British War Experience Committee noted in July with classic understatement: "There appears to have been some lack of touch between England and France in the latter part of May."[41] In fact, by the end of May, the British had abandoned the military alliance and were intent on saving themselves. The bulk of RAF aircraft remained, as the French bitterly noted, in England.

Yet for all the deficiencies of Allied arms in May 1940, the impact of German airpower should not be exaggerated. German air forces faced problems of their own, and the loss rate for German aircraft was very high. In May and June 1940, the Luftwaffe lost 1,482 aircraft destroyed and 488 damaged, a total equal to almost half their total strength at the start of the battle and well above the replacement rate from the factories.42 As the battle continued, the lack of large air reserves began to tell and French fighter aircraft began to inflict higher losses. Allied air tactics, learned in the harsh school of battle, started to improve. Over the evacuation beaches at Dunkirk the Luftwaffe lost 240 aircraft in three days of fighting and von Kleist was forced to report "enemy air superiority."43 Accidents, battlefield attrition, and Allied attacks on airfields all took their toll. Pilot losses were high, and by the end of the battle, exhaustion and frayed nerves reduced Luftwaffe effectiveness even more. Nor was air attack as effective as it was to become later in the war. Navigation and bomb-aiming were in their infancy. Eyewitnesses noticed that it was the psychological effect of air attack that created as much havoc as actual bombing, which tended to be less accurate in battle conditions. Against a well-defended target such as Dunkirk, regular bombing even lost its psychological effect. The impact of the Battle of France was far-reaching for the Luftwaffe, reducing its aircraft numbers and skilled pilots and laying the foundation for its ultimate defeat over England a few months later. The Luftwaffe had not yet fully recovered from its mauling in France when it attacked the Soviet Union a year later.

A case could be made for arguing that Allied air forces in the end did better against the Luftwaffe than might have been expected given the disparity in numbers and activity rates. The same cannot be said for the ground armies. Whatever might be presented in mitigation about Allied courage and steadfastness in the face of the enemy, the fact was that the German army's very high standards of training and operational effectiveness, combined with the element of surprise and the concentration of armored forces in a battering ram aimed at the weakest point of the "continuous front," were all that was necessary to produce the Allied rout. Large numbers of aircraft clearly helped the ground campaign and contributed to the speed of the conquest, but the Luftwaffe failed to establish permanent air supremacy, or to pursue strategic air attacks, or to prevent the evacuation at Dunkirk. The real limits of German airpower were demonstrated in the Battle of Britain in August and September 1940 when the RAF could at last fight the campaign for which it had been prepared.

Interservice rivalry, political intervention, and serious operational weaknesses contributed to reducing the effectiveness of both Allied armies and air forces. Yet the Allies' wider strategic choices were not necessarily perverse or wrong in their own terms, nor were they behind in the technical or economic

race. More significant, however, for the eventual outcome of the war was the effect the campaign in the West had on the development of airpower. The German armed forces remained committed to the system that had, almost fortuitously, worked so well in May 1940. Tactical aviation and combined operations remained the central role for the German air force for the whole of the war. Other aspects of airpower—supply, air defense, air-sea cooperation, and strategic aviation—were neglected, or neglected until it was too late. In Britain the direct lessons of the campaign were slowly absorbed, and a greater tactical dimension was built into the exercise of airpower when and where that became necessary. But the failure also encouraged the British to stick with what they saw as the key elements of airpower: strategic bombardment and strong, independent air defenses. The United States watched the campaigns in Europe closely and concluded that tactical and strategic aviation, incorporating a counterforce capability, were interdependent components in the exercise of airpower and developed its forces accordingly. If the West needed to learn any lesson from the experience of 1940, it was the indispensability of effective operational preparation. Clear operational guidelines, concentration of force, and good cooperation were there for the taking by any power.

There are also some lessons for the modern strategist. Some scarcely need to be mentioned. The establishment of a primary aim and concentration of effort to achieve it is a central principle of warfare whether defensive or offensive. Close collaboration among services and allies is always likely to achieve more than self-dependence. Both factors explain a great deal about German victory and Allied defeat in 1940. Other lessons are less clear-cut. The experience of the three warring states suggests that strategy must be matched closely to prevailing technology. This assertion is not a case for accepting obsolescence but a case for recognizing the limitations of current technology and working within them. British air leaders between the wars embraced an optimum air strategy and then found their technology constantly deficient. German airmen recognized airpower's ultimate capabilities—and in 1939 their engineers were working on rockets, jets, and intercontinental bombers—but they also adjusted air operations to existing technical conditions. Of course, in the long run the British got to their goal, but with mixed results, and only at the expense of risking defeat in 1940 and 1941—and only, in the end, with Soviet and American assistance.

The contrast between British and German experience highlights the importance of sound intelligence in helping to form a clear strategic picture of the potential enemy. The British were so convinced that the Germans would turn their bombing weapon against them that they developed an air strategy designed to fight a very different air war from the one they actually fought in spring 1940. Western statesmen assumed that their strategy corresponded

with German intentions when in practice there was a significant divergence. Armed forces can hardly be expected to fight a campaign for which they have not been adequately prepared; modern strategy has to be founded not only on the kind of war a state wants and expects to fight but also on the kind of war the enemy actually fights. The two are not always the same. With hindsight it could be argued that RAF leaders might have responded more flexibly to the threat posed by Germany, and to the new alliance with France, though it is still important and salutary to understand why they did not.

There is one final lesson to be drawn from the Allied collapse in 1940. Military conflict is, for all its technical and organizational complexity, relatively simple to conduct. Looking back on the endless debates in the interwar years on the future nature of airpower, the reader is struck by how excessively and unnecessarily complicated it had all become. It was a French air strategist, Charles Rougeron, who reminded his readers in 1938, "The essential task is fighting."[44] In 1940 German forces did not outnumber the Allies; they had no special technological lead; they were not notably more courageous; but without question, the Allies were outmatched by the German ability to fight.

German troops march on the Avenue des Champs-Élysées in Paris, 1940. Bundesarchiv (Bild 146-1994-036-09A / CC-BY-SA).

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14. R. J. Young, "The Strategic Dream: French Air Doctrine in the Inter-War Period, 1919–1939," *Journal of Contemporary History* 9, no. 4 (1974): 57–76.

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17. Robert A. Doughty, "The French Armed Forces 1918–1940," in *Military Effectiveness*, vol. 2: *The Interwar Period*, ed. Allan Reed Millett and Williamson Murray (London: Allen & Unwin, 1988), 58.

18. Nikolai N. Golovin, "Air Strategy," *Royal Air Force Quarterly* 7 (1936): Pt 1: 186; Pt. 3: 421. Golovin was not entirely hostile to tactical aviation but saw it in a subsidiary light. "It is highly probable," he wrote, "that in the early stages of a future major conflict ground fighters will play an important part in cooperation with mechanized Army units." This help was included under the heading "auxiliary strategic duties."

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20. PRO AIR 2/1830, Manual, para. 23; AIR 9/98, "Report on Trials to Determine the Effect of Air Attack against Aircraft Dispersed about an Aerodrome Site," July 1938; and AIR 9/99, "Appreciation of the Employment of the British Air Striking Force against the German Air Striking Force," 26 August 1939, 5.

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24. PRO 2/7211, "Conference with the Chief of the Air Staff," 28 May 1940, 1–2.

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29. PRO AIR 14/194, Bomber Command, "Note on the Question of Relaxing the Bombardment Instructions," 7 September 1939, 6.

30. PRO AIR 14/194, General Gamelin to Air Vice-Marshal Evill, 25 October 1939.

31. PRO AIR 8/277, "Minutes by John Slessor," 16 October 1939; and War Cabinet Conclusions, "Air Policy," Meeting of 13/14 October 1939.

32. PRO AIR 9/117, Anglo-French Staff Conversation, "The Attack of German Railway Communications," 26 April 1939.

33. PRO AIR 14494, "Notes of a Meeting at General Gamelin's Headquarters," 24 October 1939, 5.

34. The figures are from a report sent by Gen Joseph Vuillemin to the French Air Minister, reproduced in *Revue d'histoire de la Deuxieme Guerre Mondiale* 19 (1969): 73–74. A British

report of May 1940 gave even higher figures: 4,100 German bombers and fighters with 7,000 aircraft in reserve. See PRO AIR 2/7211, "Air Ministry, Plan W.A. 1 (Modified)," 3 May 1940, 3.

35. Maier, et al., *Das Deutsche Reich und der Zweite Weltkrieg*, 340–41.

36. Kirkland, "The French Air Force in 1940," 102.

37. Richards, *The Royal Air Force, 1939–1945*, 118.

38. Kirkland, "The French Air Force in 1940," 110. French fighters nonetheless accounted for between 600 and 1,000 of all German losses.

39. PRO AIR 1/5251, "Report by the Brooke-Popham Committee," 16 July 1940, 3.

40. Richards, *The Royal Air Force, 1939–1945*, 120–22.

41. PRO AIR 2/5251, Brooke-Popham Report, 3. See also Philip Michael Hett Bell, *A Certain Eventuality: Britain and the Fall of France* (London: Saxon House, 1974), 18–26.

42. Williamson Murray, *Luftwaffe: Strategy for Defeat, 1933–1945* (Maxwell AFB, AL: Air University Press, 1983), 44–45.

43. Richards, *The Royal Air Force, 1939–1945*, 127. On German difficulties in preparing and conducting air operations, see Karl Köhler and Karl-Heinz Hummel, "Die Organisation der Luftwaffe, 1933-1939" in *Handbuch zur deutschen Militärgeschichte: 1648–1939; 7, Wehrmacht und Nationalsozialismus 1933–1939*, ed. Michael Salewski (Munich: Bernard & Graefe, 1978): 570–79; on Luftwaffe weaknesses in 1940, see H. Faber, ed., *Luftwaffe: An Analysis by Former Luftwaffe Generals* (London, 1979), 201–6.

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"Cold Blood"

LBJ's Conduct of Limited War in Vietnam*

George C. Herring

Of the two great questions on American involvement in Vietnam—why did we intervene and why did we fail—the latter has provoked the most emotional controversy. Failure in Vietnam challenged as perhaps nothing else has one of our most fundamental myths—the notion that we can accomplish anything we set our collective minds to—and partisans of many diverse points of view have sought in its aftermath to explain this profoundly traumatic experience.

Much of this discussion ignores basic precepts of historical method. Many of those seeking to explain why we failed are in fact arguing that an alternative approach would have succeeded.[1] Such arguments are at best debatable on their own terms. More important, they are dubious methodologically. As Wayne Cole pointed out many years ago of a strikingly similar debate in the aftermath of World War II, the "most heated controversies . . . do not center on those matters for which the facts and truth can be determined with greatest certainty. The interpretive controversies, on the contrary, rage over questions about which the historian is least able to determine the truth."[2]

Much more might be learned by focusing on how the war was fought and explaining why it was fought as it was, without reference to alternative strategies, without presuming that it could have been won or was inevitably lost. Drawing on research I have done for a book on the Johnson administration's conduct of the Vietnam War, I will look at two crucial areas: the formulation of and subsequent nondebate over military strategy, and the administration's efforts to manage public opinion. By doing this, I think much can be learned about why the war was fought the way it was and took the direction it did.

Limited war requires the most sophisticated strategy, precisely formulated in terms of ends and means, with particular attention to keeping costs at acceptable levels. What stands out about the Johnson administration's handling of Vietnam is that in what may have been the most complex war ever fought by the United States there was never any systematic discussion at the highest levels of government of the fundamental issue of how the war should be fought. The crucial discussions of June and July 1965 focused on the numbers of troops that would be provided rather than how and for what ends they would be used, and this was the only such discussion until the Communist

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Tet Offensive forced the issue in March 1968. Strategy, such as it was, emerged from the field, with little or no input from the people at the top.

Why was this the case? Simple overconfidence may be the most obvious explanation. From the commander in chief to the GIs in the field, Americans could not conceive that they would be unable to impose their will on what Lyndon Johnson once dismissed as that "raggedy-ass little fourth-rate country." There was no need to think in terms of strategy.

But the explanation goes much deeper than that. Although he took quite seriously his role as commander in chief, personally picking bombing targets, agonizing over the fate of US Airmen, and building a scale model of Khe Sanh in the White House situation room, Lyndon Johnson, unlike Polk, Lincoln, or Franklin Roosevelt, never took control of his war. In many ways a great president, Johnson was badly miscast as a war leader. He preoccupied himself with other matters, the Great Society and the legislative process he understood best and so loved. In contrast to Lincoln, Roosevelt, and even Harry Truman, he had little interest in military affairs and no illusions of military expertise. He was fond of quoting his political mentor Sam Rayburn to the effect that "if we start making the military decisions, I wonder why we paid to send them to West Point," probably a rationalization for his own ignorance and insecurity in the military realm.[3] Johnson "failed to do the one thing that the central leadership must do," Stephen Peter Rosen has observed. He did not "define a clear military mission for the military" and did not "establish a clear limit to the resources to be allocated for that mission."[4]

Indeed, at crucial points in the war, the commander in chief gave little hint of his thinking. National Security Adviser McGeorge Bundy literally pleaded with him in November 1965 to make clear his positions on the big issues so that Secretary of Defense Robert McNamara could be certain he was running the war "the right way for the right reasons, in your view."[5] By late 1967, private citizen Bundy's pleading had taken on a tone of urgency, warning Johnson that he must "take command of a contest that is more political in character than any in our history except the Civil War."[6]

McNamara himself might have filled the strategic void left by the president, but he was no more willing to intrude in this area than Johnson. In many ways a superb secretary of defense, he was an ineffectual minister of war. Conceding his ignorance of military matters, he refused to interfere with the formulation of strategy, leaving it to the military to set the strategic agenda. When asked on one occasion why he did not tell his officers what to do and was reminded that Churchill had not hesitated to do so, he shot back that he was no Churchill and would not dabble in an area where he had no competence.[7]

Johnson and McNamara saw their principal task as maintaining tight operational control over the military. This tendency must be understood in the

context of the larger strains in civil-military relations in the 1950s and 1960s. A powerful peacetime military establishment was something new in post–World War II American life, and civilian leaders were uncertain how to handle it. They recognized the necessity of military power in an era of global conflict, but they feared the possibility of rising military influence within the government. If it confirmed the tradition of civilian preeminence, Douglas MacArthur's defiance of civilian authority during the Korean War seemed also to symbolize the dangers. Former general and president Dwight D. Eisenhower waged open warfare with his Joint Chiefs, and civil-military tension emerged full-blown in the Kennedy years. McNamara's efforts to master the arcane mysteries of the Pentagon budget process set off a near revolt within the military, and civilian and military leaders were sharply divided over the handling of such things as the Bay of Pigs, the Cuban Missile Crisis, and the Nuclear Test Ban Treaty.[8]

Suspicious of the military and operating in an age of profound international tension with weaponry of enormous destructive potential, civilians concentrated on keeping the generals and admirals in check. During the Cuban Missile Crisis, McNamara haunted the Navy's command center and even then had difficulty preventing provocative actions, reinforcing his determination to keep control tightly in his own hands.[9] Johnson brought to the White House the Southern populist's suspicion of the military. Suspecting that the admirals and generals needed war to boost their reputations, he, like McNamara, was determined to keep a close rein on them.[10] The consequence in Vietnam was a day-to-day intrusion into the tactical conduct of the war on a quite unprecedented scale. The larger result, Rosen observes, was an unhappy combination of "high level indecision and micro-management."[11]

Inasmuch as McNamara and Johnson's civilian advisers thought strategically, they did so in terms of the limited war theories in vogue at the time. Strategy was primarily a matter of sending signals to foes, of communicating resolve, of using military force in a carefully calibrated way to deter enemies or bargain toward a negotiated settlement. This approach must have appeared expedient to Johnson and his advisers because it seemed to offer a cheap, low-risk answer to a difficult problem. It also appeared to be controllable, thereby reducing the risk of all-out war.[12] The Kennedy administration's successful handling of the Cuban Missile Crisis seems to have reinforced in the minds of US officials the value of such an approach. "There is no longer any such thing as strategy, only crisis management," McNamara exclaimed in the aftermath of Kennedy's victory.[13]

He could not have been more wrong, of course, and the reliance on limited war theory had unfortunate consequences. It encouraged avoidance of costly and risky decisions. It diverted attention from real strategy and caused the

military problem of how to win the war in South Vietnam to be neglected. It led the decision makers into steps they must have sensed the American people might eventually reject. And when Hanoi refused to respond as bargaining theory said it should, the United States was left without any strategy at all.[14]

Created in World War II to provide military advice to the commander in chief, the Joint Chiefs of Staff (JCS) did not effectively play that role in the Vietnam War. The National Security Act of 1947, as modified by subsequent legislation, left the JCS with no formal position in the chain of command. They were merely advisers, and there was no requirement that they be consulted. More important, perhaps, in the new postwar environment civilians had increasingly invaded a once exclusive preserve, and senior military officers had abdicated a good deal of responsibility in the area of strategic thought and planning. Post–World War II military officers had also been "civilianized" through indoctrination in management techniques and limited war theory at the expense of their more traditional folkways. Thus, the new breed of military managers, the Joint Chiefs handpicked by McNamara, were by and large staff officers, men in many ways ill-equipped to devise sophisticated strategies for a complex war.[15]

Civil-military tensions further complicated the formulation of strategy. From the start, there were profound differences among the Joint Chiefs of Staff and between them and the civilian leadership as to how, or at least at what level, the war should be fought. Perhaps tragically, these differences were never even addressed, much less resolved. Indeed, the decision-making process seems to have been rigged to produce consensus rather than controversy. As a result, some major issues were raised but not answered; others were not even raised. The sort of full-scale debate that might have led to a reconsideration of the US commitment in Vietnam or to a more precise formulation of strategy did not take place. And the tensions and divisions that were left unresolved would provide the basis for bitter conflict when the steps taken in July 1965 did not produce the desired results.

During the process of escalation in Vietnam, civilian and military leaders approached each other cautiously. The Joint Chiefs compromised their own sharp differences over how the war should be fought and developed unified proposals to prevent the civilians from exploiting their differences.[16] Johnson feared the implications of the Joint Chiefs' proposals for escalation. Wary at the same time of provoking a military revolt and sensitive to the military's influence with conservatives in Congress, he was determined, in Jack Valenti's words, to "sign on" his military advisers to his Vietnam policies, thus protecting his right flank. The president repeatedly trimmed the Joint Chiefs' proposals to expand the bombing of North Vietnam and commit combat troops

to South Vietnam, but he refused to impose firm limits, and at each step, he gave them enough to suggest they might get more later.[17]

During the July 1965 decisions on the major troop commitment, deep divisions over strategy were subordinated to maintaining the appearance of unity. While rejecting without any discussion several of the measures the JCS considered essential for prosecuting the war, most notably mobilization of the reserves, Johnson shrewdly co-opted them into his consensus. The chiefs did not deliberately mislead the president as to what might be required in Vietnam. On the crucial question of North Vietnamese resistance, they probably miscalculated as badly as he did. Perhaps to prevent him from moving to the position advocated by George Ball, however, they downplayed the difficulties the United States might face, and although bitterly disappointed with his refusal to mobilize the reserves, they quietly acquiesced. They seem to have assumed that once the United States was committed in Vietnam they could maneuver the president into doing what they wanted through what JCS Chairman Gen Earle Wheeler called a "foot-in-the-door" approach.[18]

Pres. Lyndon B. Johnson (left) and Secretary of Defense Robert McNamara listen during the National Security Council meeting on Vietnam, 21 July 1965. LBJ Library photo by Yoichi Okamoto.

Thus, the July 1965 discussions comprised an elaborate cat-and-mouse game, with the nation the ultimate loser. Perhaps if the military had perceived

Johnson's steadfast determination to limit US escalation, they might have been less ready to press for war. Though they too miscalculated, the military seems to have perceived more accurately than the civilians what would be required in Vietnam. Perhaps, if Johnson had been more aware of their estimates and reservations, he might have been more cautious.

An equally crippling form of bureaucratic gridlock persisted during the period 1965–1967. Far more than has been recognized and then was revealed in the Pentagon Papers, no one in the Johnson administration really liked the way the war was being fought or the results that were being obtained. What is even more striking, however, is that despite the rampant dissatisfaction, there was no change in strategy or even any systematic discussion at the highest levels of government of the possibility of a change in strategy. Again, the system seems to have been rigged to prevent debate and adaptation.

From July 1965, there were sharp differences over strategy within the Johnson administration, and these differences became more pronounced as the measures taken failed to produce the desired results. The running battle over the bombing, especially between McNamara and the Joint Chiefs of Staff, is well known.[19] But there was also widespread and steadily growing conflict over Gen William C. Westmoreland's costly and ineffectual ground strategy. From the outset, the Marine Corps strongly objected to the Army's determination to fight guerrillas by staging decisive battles "along the Tannenberg design."[20] Perhaps more significant, within the Army itself there was great concern about Westmoreland's approach. As early as November 1965, after the bloody battle of the Ia Drang Valley, Army Chief of Staff Harold Johnson had been skeptical of Westmoreland's attrition strategy, and increasingly thereafter he questioned the wastefulness and fruitfulness of search-and-destroy operations. Vice Chief of Staff Creighton Abrams seems to have shared at least some of Johnson's skepticism, as did some top officers in the field in Vietnam.[21]

Divisions within the military paled compared to the growing conflict between military and civilians. On their side, the military bristled at Johnson's refusal to mobilize the reserves and chafed under restrictions on the bombing, troop levels, and the use of troops in Laos, Cambodia, and across the DMZ. They protested bitterly Washington's micromanagement of the war. "The idea," Marine general Victor Krulak complained in 1967, "is to take more and more items of less and less significance to higher and higher levels so that more and more decisions on smaller and smaller matters may be made by fewer and fewer people."[22]

The civilians, on the other hand, observed with growing alarm military proposals for escalation. When the Joint Chiefs proposed a huge increase in troops, mining of North Vietnam's major ports, and expansion of the war into Laos and Cambodia in March 1967, civilians in the State and Defense Depart-

ments mobilized as they had not before to head off what they viewed as a perilous expansion of the war. They disagreed themselves on what should be done about the bombing, but they generally agreed that henceforth the major effort should be south of the twentieth parallel, and there was some sentiment that it might be stopped altogether. By this time, the ground strategy was also under fire. Assistant Secretary of Defense John McNaughton warned of the "fatal flaw" of approving more and more troops "while only praying for their proper use." At the very minimum, he added, an upper limit should be imposed on American forces. But he urged McNamara to go further. The "philosophy of the war should be fought out now, so everyone will not be proceeding on their own major premises, and getting us in deeper and deeper."[23]

McNamara himself took the lead against expansion of the war in the spring of 1967. In a draft presidential memorandum of May 19, 1967, the secretary went further than the Pentagon and State Department civilians, advancing positions the authors of the Pentagon Papers accurately describe as "radical." Warning that the JCS proposals would not achieve victory, he sketched out a complex politico-military "strategy" that at least hinted at extrication. The bombing should be cut back to the area below the twentieth parallel. A firm ceiling should be placed on ground troops, after which the United States should more actively seek a political settlement. He proposed a scaling down of objectives, affirming that the United States should not be obligated to guarantee an independent, noncommunist South Vietnam. He spoke of compromise, even involving "inter alia, a role in the south for members of the VC," and without naming names proposed "major personnel changes within the government."[24]

Despite this widespread dissatisfaction, there was no change in strategy or even serious discussion of a change in strategy. There are several major reasons for the persistence of this bureaucratic and strategic gridlock. Certainly, the military tradition of autonomy of the field commander inhibited debate on and possible alteration of the ground strategy. Although greatly concerned with the cost and consequences of Westmoreland's excessive use of firepower, Army Chief of Staff Johnson deferred to the field commander. "I would deplore and oppose any intervention from the Washington level to impose limitations on further firepower application," he reassured Westmoreland. He would go no further than suggest that it might be "prudent" to "undertake a very careful examination of the problem."[25]

More important was the leadership style of the commander in chief. Lyndon Johnson's entirely political manner of running the war, his consensus-oriented modus operandi, effectively stifled debate. On such issues as bombing targets and bombing pauses, troop levels, and troop use, by making

concessions to each side without giving any what it wanted, he managed to keep dissent and controversy under control.[26]

The president and his top advisers also imposed rigid standards of loyalty on a bitterly divided administration. Unlike Franklin Roosevelt, Johnson had no tolerance for controversy, and he imposed on his advisers the "Macy's window at high noon" brand of loyalty made legendary by David Halberstam.[27] Unfortunately, the two men who might have influenced him, McNamara and Secretary of State Dean Rusk, shared his perverted notions of team play. "I don't believe the government of a complicated state can operate effectively," McNamara once said, "if those in charge of the departments of the government express disagreement with decisions of the established head of that government." Whenever someone dissented, it made more difficult the attainment of the larger group goals.[28] In-house devil's advocate George Ball later recalled that McNamara treated his dissenting memos rather like "poisonous snakes." He was "absolutely horrified" by them, considered them "next to treason." It is now obvious that when McNamara himself became a dissenter in 1967 it was an excruciating experience for him.[29]

Finally, and perhaps even more important, is what might be called the MacArthur syndrome, the pervasive fear among civilians and military of a repetition of the illustrious general's challenge to civilian authority. Johnson, as noted, lived in terror of a military revolt and did everything in his power to avert it. "General, I have a lot riding on you," he blurted out to Westmoreland in Honolulu in February 1966. "I hope you don't pull a MacArthur on me." At Honolulu, Westmoreland later recalled, Johnson carefully sized him up, eventually satisfying himself that his general was "sufficiently understanding" of the constraints imposed on him and was a "reliable" and "straightforward soldier who would not get involved in the politics of war."[30]

An encounter in July 1967 is even more revealing of the delicate game being played between the general and his commander in chief. An increasingly frustrated and restive Westmoreland reminded the president that he had made every effort to "ease his burden by my conduct and demands." But he added an only slightly veiled warning that he must think of his own requirements first. Johnson flattered Westmoreland by expressing great admiration for the way he had handled himself. He cleverly sought to appease the general by hinting that he did not always favor his civilian advisers over his military.[31]

Themselves learning from Korea, the Joint Chiefs carefully refrained from anything even smacking of a direct challenge to civilian authority. Although they remained deeply divided on the conduct of the war, they continued to present unified proposals to the civilians, thus stifling debate within their own ranks. A sophisticated politician skilled in bureaucratic maneuver, General Wheeler's approach was political rather than confrontational and emphasized

short-term acquiescence and silence. Hopeful of eventually getting strategic license by gradually breaking down the restrictions imposed by the White House, he encouraged Westmoreland to continue to push for escalation of the war and to accept less than he wanted in order to get his "foot in the door." Wheeler also implored the field commander to keep his subordinates quiet. If escalation were to occur following reports of military dissatisfaction, he warned, critics would conclude that the military was "riding roughshod" over civilians. Officers must understand the "absolute necessity for every military man to keep his mouth shut and get on with the war."[32] Thus, rather than confront their differences directly, the president and his top military leadership dealt with each other by stealth and indirection.

In various ways, between July 1965 and August 1967, debate was stifled and dissent squelched. When Army Chief of Staff Johnson warned in a speech that the war might last 10 years, Barry Zorthian later recalled, "He got his ass chewed out. That was denied awfully fast."[33] On the "orders" of Amb. Henry Cabot Lodge, also a critic of Westmoreland, Marine Commandant Gen Wallace Greene, in a "deep backgrounder" in Saigon in August 1966, affirmed that it would take 750,000 men and five years to win the war with the prevailing strategy. The reaction, Greene later recalled, was "immediate, explosive, and remarkable." An "agitated" and "as usual, profane" president demanded to know "what in the God-damned hell" Greene meant by making such a statement. The commandant was forced to issue denials, and the White House denied the existence of studies leading to such conclusions.[34]

Deeply alarmed with the ground strategy by mid-1966, Marine general Victor Krulak sought to change it. Certain that the strategy of attrition played to enemy strengths, he proposed an alternative that would have combined protection of the South Vietnamese population with the slow liberation of Vietcong-controlled villages. Krulak was well connected in Washington, and with the blessings of Greene and Commander in Chief Pacific, Adm U. S. Grant Sharp, he took his proposals to McNamara, Averell Harriman, and the president himself. As Krulak later recalled it, McNamara made only "brief comment." Harriman expressed interest in his proposals for pacification. But he got nowhere with Johnson. When he mentioned that attacks on North Vietnamese ports might be combined with an altered ground strategy, the president "got to his feet, put his arm around my shoulder, and propelled me firmly toward the door."[35]

Even in the spring of 1967, with the secretary of defense now in open revolt against what had once been called "McNamara's war" and civilians and military deeply divided against each other, there was no change of strategy and indeed no discussion of change at the top levels. Johnson continued to fear that adoption of the military's program might provoke a larger war. On the

other hand, like his national security adviser, Walt Rostow, he felt that McNamara's dovish proposals went "a bit too far" to the other extreme. Alarmed by what Rostow called "the dangerously strong feelings in your official family," he sought, like his national security adviser, a "scenario" that could "hold our official family together in ways that look after the nation's interest and make military sense."[36] Characteristically, he avoided a confrontation between the positions of the JCS and McNamara. There was no discussion of the issues at the top levels. He delayed a decision for months, and when he decided, he did so on a piecemeal basis, carefully avoiding debate on the larger issues. Thus, according to the authors of the Pentagon Papers, the debate (if indeed that word can properly be used) "floundered toward a compromise."[37] The president approved an expansion of the bombing but stopped well short of mining North Vietnamese ports. He refused to approve expansion of the war into Laos, Cambodia, and North Vietnam. He agreed to deploy only 55,000 additional ground forces, but he refused to set a ceiling and he scrupulously avoided discussion of the larger issue of how and for what purposes the troops would be used.

The debate that could not occur within the administration furiously took place in Congress in August 1967 in hearings before Sen. John Stennis's Preparedness Subcommittee. Frustrated from above and under growing pressure from increasingly restive officers below, the JCS in August 1967 mounted the closest thing to a MacArthur-like challenge to civilian authority, abandoning Wheeler's cautious approach and taking their case to Congress.[38] The original intent of the hearings was to "get McNamara" and force Johnson to escalate the war.[39] Ironically, McNamara came to see hearings designed to "get" him as an opportunity to combat growing military pressures for expanding the war without violating his own rigid standards of loyalty to the president. In a strange, almost surreal way, the Stennis Subcommittee hearings became the forum for the debate that could not take place within the inner councils of the government.

According to one account, the Stennis hearings caused a near revolt on the part of the Joint Chiefs. As journalist Mark Perry tells it, McNamara's attack on the bombing in his testimony before the committee on August 25 provoked a special emergency meeting of the Joint Chiefs at which a decision was reached to resign en masse. That decision was allegedly reversed the following morning after General Wheeler had second thoughts. "It's mutiny," Perry quotes him telling his colleagues. "In any event," he is said to have added, "if we resign they'll just get someone else. And we'll be forgotten." Perry's story has sparked considerable controversy and has been emphatically denied by the two living members of Johnson's Joint Chiefs of Staff.[40]

Whatever the case, the Stennis hearings represented what Johnson had most feared since the start of the war, division within his administration and the threat of a military revolt backed by right-wingers in Congress. Remarkably, he was able to contain it. He "resolved" the strategic differences between his subordinates as he had resolved them before—without addressing the fundamental issues. He kicked the now obviously dissident McNamara downstairs to the World Bank and tossed the JCS a bone by authorizing a handful of new bombing targets. But he refused to confront head-on the larger issues of either the air or ground wars.

Publicly, the president dealt with the problem of divisions within his official family by vehemently denying their existence. There were "no quarrels, no antagonisms within the administration," he said. "I have never known a period when I thought there was more harmony, more general agreement, and a more cooperative attitude."[41] Administration officials followed to the letter the script written by their president. Years later, McNamara admitted that he "went through hell" on the Stennis hearings.[42] Yet at a White House meeting, he praised his adversary General Wheeler for a "helluva good job" before the Stennis subcommittee and observed that the small differences between himself and the JCS were "largely worked out."[43] Wheeler publicly dismissed rumors that the JCS had contemplated resignation with a terse: "Bull Shit!"[44]

To the end, Johnson continued to deny that significant differences had existed within his administration, and no one could have written a better epitaph for a hopelessly flawed command system than its architect, the man who had imposed his own peculiar brand of unity on a bitterly divided government. "There have been no divisions in this government," he proudly proclaimed in November 1967. "We may have been wrong, but we have not been divided."[45] It was a strange observation, reflecting a curiously distorted sense of priorities. And of course it was not true. The administration was both wrong and divided, and the fact that the divisions could not be worked out or even addressed may have contributed to the wrongness of the policies, at huge costs to the men themselves—and especially to the nation.

By the time the divisions over strategy became acute in late 1967, Johnson's attention was drawn inexorably to the impending collapse of his support at home. Vietnam makes abundantly clear that a—perhaps the—central problem of waging limited war is to maintain public support without arousing public emotion. One of the most interesting and least studied areas of the war is the Johnson administration's unsuccessful effort to do precisely this. Vietnam was not fundamentally a public relations problem, and a more vigorous and effective public relations campaign would not have changed the outcome. Still, what stands out quite starkly from an examination of this topic is the small, indeed insignificant, role played by public opinion in the decisions for

war in July 1965 and the strangely limited and notably cautious efforts made by the Johnson administration between 1965 and 1967 to promote public support for the war.

In examining the extensive White House files for June and July 1965, the researcher is immediately struck by the almost negligible attention given to domestic opinion in the discussions leading to Johnson's decisions for war. At a meeting on July 21, George Ball, the major opponent of escalation, resorted to the obvious analogy, using charts from the Korean War to warn the president that public support could not be taken for granted. Admonishing that the war would be protracted, Ball reminded the group that as casualties had increased between 1950 and 1952, public support had dropped from 56 percent to 30 percent. A long war, he also predicted, would generate powerful, perhaps irresistible pressures to strike directly at North Vietnam, risking dangerous escalation.[46]

Interestingly, no one responded to Ball's warning, but on those few other occasions when the issue came up, the tone was much more optimistic. At another point in the same meeting, McGeorge Bundy observed that the nation "seemed in the mood to accept grim news." In another meeting, Marine Corps Commandant Greene predicted that the nation would support the commitment of as many as 500,000 men for as long as five years.[47]

The issue also received a brief and revealing hearing at a meeting on July 27. Playing the role of devil's advocate, Johnson asked his advisers if Congress and the public would go along with 600,000 troops and billions of dollars being sent 10,000 miles away. Only Secretary of the Army Stanley Resor responded, laconically observing that the Gallup Poll showed that Americans were "basically behind our commitment." But, Johnson persisted, "if you make a commitment to jump off a building and you find out how high it is, you may want to withdraw that commitment," a remarkably prescient observation. No one responded, however, and nothing more was said. His mind apparently made up, the president dropped a crucial question and went on to something else.[48]

Why this absence of discussion of an issue that turned out to be so important? The answer, in one word, seems to have been *complacency*. Since World War II, the executive branch had successfully managed public opinion on most major foreign policy issues. It had kept a potentially troublesome press in line by appealing to its patriotic instincts, by making it a partner in the national security state, by flattery and favors, and when these failed, by pressures and reprisals. Government bureaucrats had become increasingly adept at analyzing and manipulating public opinion. Perceiving the growing importance of foreign policy elites, they used various means to sway them, giving interest groups special briefings, appointing them to consultative bodies or even to

high office. To conduct private campaigns for its policies, the government mobilized agencies such as the CIA-funded citizen's groups and, on especially urgent issues, ostensibly private groups such as the Committee for the Marshall Plan. Postwar administrations were never free from criticism, but in no case was a major foreign policy initiative frustrated by lack of public support.[49]

Perhaps because of this record of success, those political scientists who developed the theories of limited war so much in vogue in the 1950s and 1960s all but ignored the problem of public opinion. After considerable discussion, Robert E. Osgood conceded that because of their traditional approach to issues of war and peace, Americans might have difficulty accepting limited war. Without indicating how the problem could be resolved, he went on to assert that limited wars must be fought because they provided the only viable military alternative in the nuclear age.[50]

The complacency of top administration officials was reinforced in the summer of 1965 by what seemed clear signs of public support for US policy in Vietnam. Polls even suggested a hawkish mood, a solid plurality of 47 percent favoring sending more troops to Vietnam.[51] Drawing a sharp distinction between the political liabilities that had bedeviled France in the First Indochina War and the political advantages of the United States in 1965, McGeorge Bundy assured Johnson that the American public, although unenthusiastic, was reconciled to the US role in Vietnam. "While there is widespread questioning and uneasiness about the way in which we may be playing that role, the public as a whole seems to realize that the role must be played," Bundy concluded.[52]

What about the "lesson" of Korea raised by Ball on July 21, that public support would erode if the war dragged on and casualties increased? The administration seems to have dismissed the Korean analogy, perhaps because it felt it could get what it wanted in Vietnam without the travail and agony of Korea. Johnson and his advisers acted in the expectation that "reason and mutual concessions" would prevail, Bill Moyers later conceded; that Hanoi could be enticed or intimidated into negotiating and a drawn-out war avoided.[53] Thus, a fatal miscalculation about North Vietnam's response to US escalation may have been behind an equally fatal miscalculation about US public opinion.

The administration also misread the significance of the budding peace movement. Rusk compared the campus protest of the spring and early summer of 1965 to the 1938 Oxford Union debate, observing that most of those who "took the pledge" in the 1930s subsequently entered military service without protest.[54] McGeorge Bundy later admitted that "we simply hadn't estimated the kinds of new forces that were loose in the land in the middle 1960s. I don't think anybody foresaw in 1964 and 1965 the overall cresting of feeling which had begun in 1964 at Berkeley."[55]

Equally striking—although perhaps less surprising—is how little the administration did in the first years of the war to mobilize public support. Originally anticipating that the president would at least call up the reserves and declare a national emergency, administration officials in June 1965 had proposed a "full scenario" of actions to prepare the nation for war. A presidential message was to be drafted and plans laid for consultation with Congress. McNamara proposed creating a blue-ribbon task force to explain the war and generate public support. Presidential aides even suggested the formation of a citizens' committee like the Committee for the Marshall Plan to build elite support. White House adviser Horace Busby urged Johnson to go out and rally the public in the mode of a Franklin Roosevelt or Winston Churchill.[56]

The president rejected all these proposals. He undoubtedly feared that a public debate on Vietnam at this crucial time might jeopardize major pieces of Great Society legislation then pending in Congress. And he really did not want to risk what he later called "the woman I really loved" [the Great Society] for "that bitch of a war on the other side of the world."[57]

But there were larger and more important reasons intimately connected to prevailing theories of the way limited wars should be fought. Johnson also feared that mobilizing the nation for war would set loose irresistible pressures for escalation and victory that might provoke the larger war with the Soviet Union and China, perhaps even the nuclear confrontation that the commitment in Vietnam had been designed to deter in the first place. The administration thus concluded, as Rusk later put it, "that in a nuclear world it is just too dangerous for an entire people to get too angry and we deliberately . . . tried to do in cold blood what perhaps can only be done in hot blood." "I don't want to be drastic and cause tension," the president told the National Security Council on July 27.[58]

Indeed, for McNamara, the US official who gave practical application to limited war theory, Vietnam was the very prototype of the way wars must be fought in the nuclear age. "The greatest contribution Vietnam is making," the secretary of defense observed early in the war, "is developing an ability in the United States to fight a limited war . . . without arousing the public ire," almost a necessity, he added, "since this is the kind of war we'll likely be facing for the next fifty years."[59]

For a variety of reasons then, Johnson gambled that without taking exceptional measures he could hold public support long enough to achieve his goals in Vietnam. "I think we can get our people to support us without having to be provocative," he told his advisers.[60]

The United States therefore went to war in July 1965 in a manner uniquely quiet and underplayed in "cold blood." The president ordered his July 28 decisions implemented in a "low-key" way. He announced the major troop in-

crease at a noon press conference instead of at prime time. It was even lumped in with a number of other items in a way that obscured its significance.[61]

With the exception of several hastily arranged, typically Johnsonian public relations blitzes, the administration persisted in this low-key approach until the late summer of 1967. It created no special machinery to monitor and manipulate public opinion. It took only a few modest steps to promote public support, leaving much of the work to nominally private groups. More often than not, its public relations efforts were reactive and defensive and, as the war wore on, increasingly vindictive.

The administration's understanding of its public relations problems at the outset of the war combined naïveté and myopia with a good measure of perceptiveness. The problem with the Saigon government, some officials reasoned, was its "mushy" public relations program rather than its chronic instability and palpable incompetence.[62] Popular uneasiness with the war was attributed to misunderstanding. The American people and elites, even editors and publishers, did not comprehend how this limited war differed from earlier wars, officials lamented: "We are still looking for the 'front,' still talking largely in terms of battles, number of casualties, tonnage of bombs."[63]

On the other hand, some of Johnson's advisers clearly perceived that public support, although broad, was fragile. There seemed little understanding of the larger policies upon which intervention in Vietnam was based. The public was "extremely vulnerable to rumor, gossip, and quick reverses," and each new initiative fed exaggerated expectations for a settlement that, when not quickly realized, led to disillusionment. The administration seemed always on the defensive. "We only plug holes and run as fast as we can to stay even," Assistant Secretary of State James Greenfield conceded. Some lower-level officials also shrewdly perceived that the key to ultimate success was not the skill of their public relations activities but signs of progress in Vietnam. "What we need more than anything else is some visible evidence of success for our efforts to defeat the Viet Cong, deter Hanoi, and . . . bring peace to the Vietnamese countryside."[64]

Assuming that education rather than exhortation was the key to public support, administration officials mounted a quiet, behind-the-scenes campaign. No Office of War Information was created, and no dramatic programs were undertaken to rally the public to the cause. A New York public relations firm was hired to improve the image of the Saigon government. The booklet "Why Vietnam?" was sent to every member of Congress and to every major newspaper, and a film by the same name, originally designed for military recruits, was sent out to nearly 500 high schools and colleges and shown on a number of commercial television stations. Administration officials conducted briefings for state governors and put together packets of materials that could

be used to defend the war. They closely monitored press and congressional debates, watching for and answering criticisms. The administration dealt with the budding peace movement by ignoring it, going out of its way to avoid "any impression of an overly worried reaction" to major demonstrations in November 1965.[65]

To a considerable degree, the government privatized its selling of the war. With administration advice and assistance, the Young Democrats mounted drives on college campuses in support of US policy. The Junior Chamber of Commerce arranged half-time ceremonies at local and nationally televised football games to include salutes to the men fighting in Vietnam. The administration persuaded the American Friends of Vietnam (AFV), the so-called Vietnam lobby, to launch a multifaceted program to boost support for the war and helped it secure the funds to do so. Indeed, in the first six months of the war, the AFV spearheaded the administration's public relations campaign.[66]

While privatizing the propaganda campaign, the president and his advisers contented themselves with responding to critics in a way that was peculiarly Johnsonian. To deflect attention from Sen. J. William Fulbright's early 1966 televised hearings on Vietnam, Johnson, amidst great fanfare, hustled off to Honolulu for a "summit" meeting with South Vietnamese premier Nguyen Cao Ky. A compulsive reader, viewer, and listener, the president himself seemed at first intent on and then increasingly obsessed with answering every accusation and responding to every charge. When Gen Matthew Ridgway came out against the war, the commander in chief ordered Army Chief of Staff Johnson to get statements of support from two World War II heroes, generals Omar Bradley and J. Lawton Collins.[67] Much valuable time was consumed preparing a detailed "dossier" on hostile columnist Walter Lippmann to demonstrate that he had opposed earlier Cold War "successes" such as the Truman Doctrine and the Berlin Airlift. Harried White House staffers spent hours answering line for line criticisms from journalists and congressmen.[68]

Despite growing concern with the steady erosion of public support, the administration deviated only slightly from its low-key approach in 1966 and early 1967. Before the congressional elections of 1966, Johnson himself mounted a speaking tour of the Midwest, emphasizing, among other things, that American boys in the field were not being given the support they deserved. To get around the increasingly critical major metropolitan newspapers, he sought to get his message out to Middle America by granting special favors to the editors of local newspapers. Just before the elections, he donned the cap of commander in chief, flying off to preside over a conference at Manila of the seven nations fighting in Vietnam, then visiting each ally separately and using the publicity thereby generated to rally support for his policies.[69]

Such efforts were no more than temporarily and modestly successful, however, and by mid-1967, the administration belatedly realized that its most urgent crisis was at home. The president's job approval rating declined steadily through 1966 and into 1967. More ominous, the number of those who thought sending troops to Vietnam was a mistake increased sharply, raising disturbing parallels to Korea.[70] Still more unnerving was the mood of the nation, anxious, frustrated, and increasingly divided. This "pinpoint on the globe [Vietnam]," old New Dealer and Johnson adviser David Lilienthal lamented, was "like an infection, a 'culture' of some horrible disease, a cancer where the wildly growing cells multiply and multiply until the whole body is poisoned."[71]

Signs of waning support left the administration deeply troubled. Johnson complained about his inability to get across his message: "It is hell when a president has to spend half of his time keeping his own people juiced up."[72] He and his advisers particularly worried about public perceptions, fed by the press, that the war had become a stalemate.[73] The president groped for some magic formula to reverse the spread of disillusionment, on one occasion longing for "some colorful general like McArthur [sic] with his shirt neck open" who could dismiss as "pure Communist propaganda" the talk of a stalemate and go to Saigon and do battle with the press.[74] "A miasma of trouble hangs over everything," Lady Bird Johnson confided to her diary. "The temperament of our people seems to be, 'you must get excited, get passionate, fight it and get it over with, or we must pull out.' It is unbearably hard to fight a limited war."[75]

Writing to Johnson in late 1967, Undersecretary of State Nicholas deBelleville Katzenbach raised the perplexing question: "Can the tortoise of progress in Vietnam stay ahead of the hare of dissent at home?"[76] Katzenbach's Aesopian analogy suggests the extent to which by late 1967 the two strands of our story had come together. And it made clear the dilemma faced by Lyndon Johnson. To stave off collapse of the home front, progress must be demonstrated in Vietnam; yet such progress might not be possible without clear signs of firm public support at home.

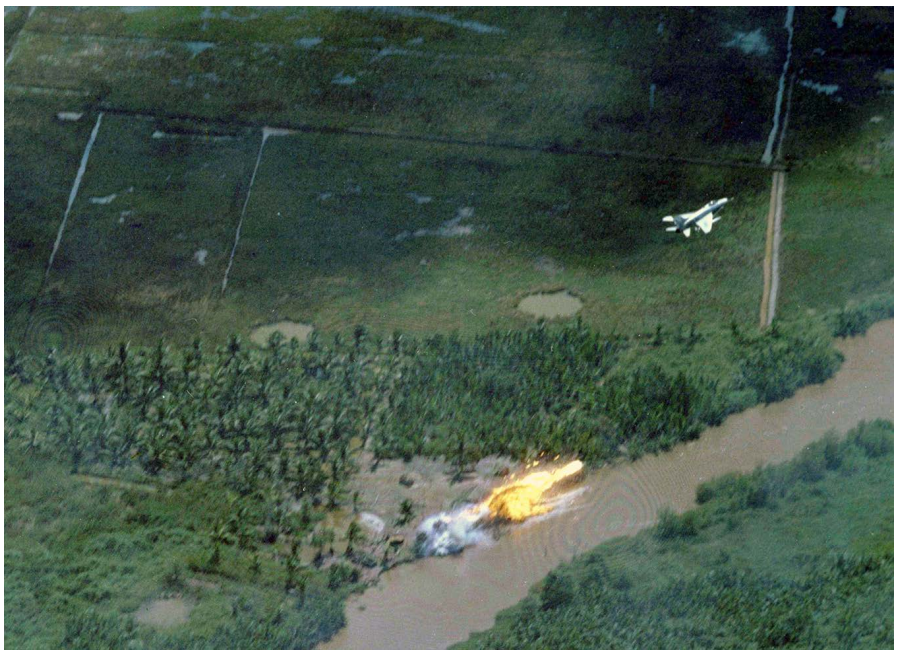
By late 1967, Katzenbach and numerous other civilian advisers were pressing Johnson to resolve the dilemma by doing what he had thus far adamantly refused to do: address directly the issue of how the war was being fought. A now blatantly dissident McNamara on November 1 warned that stubborn persistence in the present course would not end the war and might bring about dangerous new pressures for drastic escalation or withdrawal. Going beyond his proposals of May 19, he pressed for an indefinite bombing halt. He further advocated stabilizing the ground war by publicly fixing a ceiling on force levels and by instituting a searching review of ground operations with the object of reducing US casualties and turning over more responsibility to the South Vietnamese.[77]

From inside and outside the government, numerous civilians joined McNamara in urging Johnson to check dissent at home by changing the ground strategy. Katzenbach, Bundy, McNamara's top civilian advisers in the Pentagon, a group of establishment figures meeting under the auspices of the Carnegie Endowment, and the president's own "Wise Men" agreed that Westmoreland's search-and-destroy strategy must be abandoned. Warning, as the Wise Men put it, that "endless, inconclusive fighting" was the "most serious single cause of domestic disquiet," they proposed instead a "clear-and-hold" strategy that would be less expensive in blood and treasure. Such a strategy, they reasoned, might stabilize the war at "a politically tolerable level" and save South Vietnam "without surrender and without risking a wider war." They also suggested an incipient form of what would later be called *Vietnamization*, urging that a greater military burden should be gradually shifted to the South Vietnamese.[78]

Speechwriter Harry McPherson and presidential adviser McGeorge Bundy went still further, getting closer to the heart of the flaws of Johnson's exercise of presidential powers in wartime. McPherson gently chided his boss for expanding the bombing to head off military criticism. "You are the Commander in Chief," he affirmed. "If you think a policy is wrong, you should not follow it just to quiet the generals and admirals."[79] Bundy pressed Johnson to take control of the war. He should arrange a "solid internal understanding" between Rusk, McNamara, and the Joint Chiefs on the bombing, a "basic command decision" to settle the issue once and for all. He should also initiate a careful review of the ground strategy at the "highest military and civilian levels." Conceding that it was a "highly sensitive matter" to question the field commander, Bundy went on to say that if the strategy was not wise, "the plans of the field commander must be questioned." Now that the principal battleground was domestic opinion, the "Commander in Chief has both the right and duty . . . to visibly take command of a contest that is more political in character than any in our history except the Civil War (where Lincoln interfered much more than you have)." It was essential, the former national security adviser warned, to end the confusion and conflict in government and steady the home front.[80]

Johnson was not moved by the urgent appeals of his advisers. He continued to fear the risks of an expanded war, and he was unsympathetic to repeated JCS appeals for expansion of both air and ground operations. But he also doubted that McNamara's proposals would bring results. "How do we get this conclusion?" he scrawled on a memo where the secretary had predicted that a bombing halt would lead to peace talks. "Why believe this?" he noted, where McNamara predicted a "strong possibility" that North Vietnam would stop military activities across the DMZ after a bombing halt.[81]

As before, he refused to make the hard decisions, and he refused to take control of the war. Unwilling to admit that his policy was bankrupt, he continued to delude himself into believing that he could find a solution along the middle route. He continued to take recommendations from each side without giving in to either. He rejected the JCS proposals for expanding the air war, agreeing only to follow through with bombing targets already approved and then stabilize the war at that level. But he flatly rejected McNamara's most radical proposal, a bombing halt. In regard to ground operations, he would go no further than privately commit himself to review Westmoreland's search-and-destroy strategy at some undetermined point in the future.[82]



An F-100 pilot from the 90th Tactical Fighter Squadron targeted communist forces in South Vietnam with napalm in March 1966. US Air Force photo.

To resolve the dilemma posed by Katzenbach, Johnson attempted to slow down the runaway rabbit of dissent at home rather than speed up or shift the direction of the turtle of progress in Vietnam. In the late summer and early fall of 1967, he did what he had previously refused to do: he mounted a large-scale, many-faceted public relations campaign to rally support for the war. From behind the scenes, administration officials helped to organize the Committee for Peace with Freedom in Vietnam, an ostensibly private organization headed by former Illinois senator Paul Douglas, the principal aim of which

was to mobilize the "silent center."[83] A Vietnam Information Group was established in the White House to monitor public reactions to the war and deal with problems as they surfaced.[84] Johnson's advisers supplied to friendly senators, including some Republicans, information to help answer the charges of congressional doves.

Believing that his major problem was a widespread perception that the war was a stalemate, the president designed much of his public relations campaign to persuade a skeptical public that the United States was in fact winning. He ordered the embassy and military command to "search urgently for occasions to present sound evidence of progress in Viet Nam."[85] US officials dutifully responded, producing reams of statistics to show a steady rise in enemy body counts and the number of villages pacified and publishing captured documents to support such claims. The White House even arranged for influential citizens to go to Vietnam and observe the progress firsthand. As part of the public relations offensive, Westmoreland was brought home in November, ostensibly for top-level consultations, in fact to reassure a troubled nation. In a series of public statements he affirmed that "we have reached an important point where the end begins to come into view."[86]

The Communist Tet Offensive of 1968 cut the base from under the administration's public relations campaign. On January 31, 1968, the North Vietnamese launched a series of massive, closely coordinated attacks throughout the cities and towns of South Vietnam. As perhaps nothing else could have, the Tet Offensive put the lie to the administration's year-end claims of progress. Polls taken in late 1967 had shown a slight upswing in popular support for the war and even in the president's approval rating, but in the aftermath of Tet, support for the war and especially for the president plummeted and popular convictions of a stalemate became deeply imbedded.

Tet also forced Johnson to confront his strategic failure. After nearly two months of high-level deliberations focusing for the first time on crucial issues of how the war was being fought, he rejected new JCS proposals to expand the war and instituted some of the measures proposed by his civilian advisers in late 1967. He stopped the bombing beneath the twentieth parallel and launched major new initiatives to open peace negotiations. He placed a firm upper limit on the numbers of ground troops and removed Westmoreland from command in Vietnam, kicking him upstairs to the Joint Chiefs of Staff. He and his top advisers agreed that to ease pressures at home responsibility for the ground war should be shifted as rapidly as possible to the Vietnamese. Johnson's belated intervention came too late and did not go far enough to end the war, however, and he passed on to his successor a far more complex and intractable problem than he had inherited.

To return to the question we began with: Why was the Vietnam War fought as it was? Certainly, Johnson's own highly personal style indelibly stamped the conduct of the war. The reluctance to provide precise direction and define a mission and explicit limits, the unwillingness to tolerate any form of intragovernmental dissent or permit a much-needed debate on strategic issues, the highly politicized approach that gave everybody something and nobody what they wanted and that emphasized consensus more than success on the battlefield or in the diplomatic councils: all these were products of a thoroughly political and profoundly insecure man, a man especially ill at ease among military issues and military people. The determination to dupe or co-opt advisers and the public rather than confront them candidly and forcefully also was a clear manifestation of the Johnson style, as was the tendency toward personalization of the domestic debate. Johnson repeatedly denied that Vietnam was his war. It was "America's war," he insisted, and "if I drop dead tomorrow, this war will still be with you."[87] In one sense, of course, he was right. But in terms of the way the war was fought, Vietnam was far more his than he was prepared to admit or even recognize.

Limited war theory also significantly influenced the way the war was fought. Korea and especially the Truman–MacArthur controversy stimulated a veritable cult of limited war in the 1950s and 1960s, the major conclusion of which was that in a nuclear age where total war was unthinkable limited war was essential. Robert McNamara, McGeorge and William Bundy, and Dean Rusk were deeply imbued with limited war theory, and it determined in many crucial ways their handling of Vietnam. Coming of age in World War II, they were convinced of the essentiality of deterring aggression to avoid a major war. Veterans of the Cuban Missile Crisis, they lived with the awesome responsibility of preventing nuclear conflagration, and they were thus committed to fighting the war in "cold blood" and maintaining tight operational control over the military. They also operated under the mistaken assumption that limited war was more an exercise in crisis management than the application of strategy, and they were persuaded that gradual escalation offered the means to achieve their limited goals without provoking the larger war they so feared. Many of their notions turned out to be badly flawed.

It would be a serious mistake, however, to attribute American failure in Vietnam solely or even largely to the eccentricities of Johnson's personal style or the false dogmas of limited war theory. A considerable part of the problem lies in the inherent difficulty of limited war. Limited wars, as Stephen Peter Rosen has noted, are by their very nature "strange wars."[88] They combine political, military, and diplomatic dimensions in the most complicated way. Conducting them effectively requires rare intellectual ability, political acumen, and moral courage. Johnson and his advisers went into the conflict

confident—probably overconfident—that they knew how to wage limited war, and only when the strategy of escalation proved bankrupt and the American people unwilling or unable to fight in cold blood did they confront their tragic and costly failure. Deeply entangled in a war they did not understand and could find no way to win, they struggled merely to put a label on the conflict. "All-out limited war," William Bundy called it, "a war that is not a war" some military officers complained.[89] McPherson phrased it in the form of a question: "What the hell do you say? How do you half-lead a country into war?"[90]

The search for labels suggests, I think, the fundamental difficulties of limited war, and we must recognize in retrospect that there are no easy answers to the problems Johnson and his advisers confronted. The key military problem, Rosen contends, is "how to adapt, quickly and successfully, to the peculiar and unfamiliar battlefield conditions in which our armed forces are fighting."[91] That this was not done in Vietnam may reflect the limited vision of the political and military leaders, but it will not be easily done elsewhere. Nor is there any clear cut answer to the dilemma of domestic opinion. Fighting in cold blood seemed not to work in Vietnam. But there is no assurance that a declaration of war or partial mobilization was the answer. Johnson and Rusk's reservations about the dangers of a declaration of war were well taken, and congressional sanction in the War of 1812 and the Mexican War did nothing to stop rampant and at times crippling domestic opposition. However much we might deplore the limitations of Johnson's leadership and the folly of limited war theory, they are not alone responsible for failure in Vietnam. Even in the post–Cold War world, we would be wise to accept Lady Bird Johnson's 1967 lament as a caveat: "It is unbearably hard to fight a limited war."

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Notes

1. See, for example, Guenter Lewy, *America in Vietnam* (New York: Oxford University Press, 1978); Harry G. Summers Jr., *On Strategy: The Vietnam War in Context* (Carlisle Barracks, PA: Strategic Studies Institute, 1981); and Andrew Krepinevich, *The U.S. Army in Vietnam* (Baltimore: Johns Hopkins University Press, 1986).

2. Wayne S. Cole, "American Entry into World War II: A Historiographical Appraisal," *Mississippi Historical Review* 43, no. 4 (March 1957): 615.

3. Andrew Goodpaster, oral history interview, Lyndon Baines Johnson Library, Austin, TX.

4. Stephen Peter Rosen, "Vietnam and the American Theory of Limited War," *International Security* 7, no. 2 (Fall 1982): 96.

5. Bundy to Johnson, 5 November 1965, Lyndon Baines Johnson Papers, Lyndon Baines Johnson Library, National Security File, Bundy Memoranda, Box 5.

6. Bundy to Johnson, 10 November 1967, Johnson Papers, Diary Backup, Box 81.

7. Henry Brandon, *Anatomy of Error: The Inside Story of the Asian War on the Potomac, 1954–1969* (Boston: Gambit, 1969), 164; and David Halberstam, *The Best and the Brightest* (New York: Random House, 1972), 248, 633.

8. There is no good study of the civil-military conflict of the 1960s. For examples of the growing hostility, see Hanson Baldwin, "The McNamara Monarchy," *Saturday Evening Post*, 9 March 1963), 8–9; Arleigh Burke to John McCain, 18 March 1963, copy in Hanson Baldwin Papers, Yale University Library, Box 9; and for civilian hostility toward the military, see James G. Nathan, "The Tragic Enshrinement of Toughness," in *Major Problems in American Foreign Policy,* vol. 2: *Since 1914*, ed. Thomas G. Paterson (Lexington, MA: Heath, 1984), 577–78.

9. Nathan, "Tragic Enshrinement of Toughness," 570–71.

10. For Johnson's populist observations on the military, *see* Doris Kearns, *Lyndon Johnson and the American Dream* (New York: St. Martin's Press, 1976), 262.

11. Rosen, "Vietnam," 96.

12. Rosen, 90–99.

13. Quoted in Nathan, "Tragic Enshrinement of Toughness," 569.

14. Rosen, "Vietnam," 93–96.

15. Michael Davidson, "Senior Officers and Vietnam Policymaking," *Parameters* 16 (Spring 1986): 55–57; see also "The Management Team," *Time* (5 February 1965), 22–23; and "Joint Chiefs Wear a Different Hat," *Business Week* (30 July 1966), 68–72.

16. Lawrence J. Korb, *The Joint Chiefs of Staff: The First Twenty-Five Years* (Bloomington: Indiana University Press, 1976), 160.

17. Valenti's admonition is in Valenti to Johnson, 14 November 1964, quoted in Brian VanDeMark, *Into the Quagmire: Lyndon Johnson and the Escalation of the Vietnam War* (New York: Oxford University Press, 1990), 260n.

18. Some of the Joint Chiefs later claimed that they gave Johnson accurate estimates of what would be required. *See* Hanson Baldwin, oral history interview, US Naval Institute Library, Annapolis, MD, 710–11; Wallace Greene to Baldwin, 25 September 1975, ibid.; and Greene handwritten notes, Wallace M. Greene Papers, Marine Corps Historical Center, Washington, DC. For JCS disappointment at Johnson's refusal to mobilize the reserves, see Hanson Baldwin, "Military Disappointed," *New York Times*, 29 July 1965. For JCS minimizing of the difficulties, *see* Record of LBJ meeting with JCS, 22 July 1965, and record of meeting in cabinet room, 22 July 1965, both in Johnson Papers, Meeting Notes File, Box 1. Wheeler's "foot-in-the-door" strategy is articulated in Wheeler to Westmoreland, 2 June 1966, Backchannel Messages, Westmoreland/CBS Litigation Files, Record Group 407, Federal Records Center, Suitland, MD, Box 20.

19. See especially Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York: Free Press, 1989), particularly chapters 3 and 4.

20. Krulak to Wallace M. Greene, 19 July 1965, Victor Krulak Papers, Marine Corps Historical Center, Washington, DC, Box 1.

21. Mark Perry, *Four Stars* (Boston: Houghton Mifflin, 1989), 156–58. Charles F. Brower, IV, "The Westmoreland 'Alternate Strategy' of 1967-1968" (unpublished paper in possession of author), argues that as early as March 1967, Westmoreland himself was profoundly dissatisfied with the attrition strategy and "proposed an alternate strategy for Vietnam which implicitly recognized the weaknesses of attrition."

22. Krulak to Robert Cushman, 25 May 1967, Krulak Papers, Box 1.

23. John McNaughton to McNamara, 6 May 1967, *quoted* in Neil Sheehan et al., *The Pentagon Papers as Published by the New York Times* (New York: Bantam, 1971), 534.

24. McNamara Draft Presidential Memorandum, "Future Actions in Vietnam," 19 May 1967, Johnson Papers, National Security File, Country File, Vietnam, Boxes 74-75.

25. Harold Johnson cable to Westmoreland, 20 October 1967, Backchannel Messages, Westmoreland/CBS Litigation Files, Box 20.

26. Johnson developed this technique into a fine art, of course, and it was his primary modus operandi in dealing with his various advisers, but the tendency itself is all too common in Vietnam policy making and indeed in the American political system. For the way in which Richard Nixon operated in similar fashion, *see* George C. Herring, "The Nixon Strategy in Vietnam," in *Vietnam as History: Ten Years after the Paris Peace Accords*, ed. Peter Braestrup (Washington, DC: University Press of America, 1984), 51–58.

27. "I don't want loyalty. I want loyalty," Halberstam reports him saying. "I want him to kiss my ass in Macy's window at high noon and tell me it smells like roses." Halberstam, *Best and the Brightest*, 434.

28. *Quoted* in Henry Trewhitt, *McNamara* (New York: Harper & Row, 1971), 237.

29. George Ball, oral history interview, LBJ Library. McNamara's disillusionment with the war seems to have begun much earlier and to have run much deeper than most scholars have assumed. See, for example, Averell Harriman memoranda of conversations with McNamara, 14, 28, 30 May; 22, 31 August; 26 November 1966; all in W. Averell Harriman Papers, Manuscript Division, Library of Congress, Box 486, and Harriman memorandum of conversation with McNamara, 10 October 1966, ibid., Box 520. See also Paul Hendrickson, "Divided against Himself," *Washington Post Magazine*, 12 June 1988, 20–31.

30. Gen William Westmoreland, interview with Paul Miles, 7 January 1971, Paul Miles Papers, US Military History Institute, Carlisle Barracks, PA.

31. Westmoreland historical briefing, 12 July 1967, William C. Westmoreland Papers, US Army Military History Institute, Carlisle Barracks, PA, Box 29.

32. Wheeler to Westmoreland, 2 June 1966, to Westmoreland and Sharp, 13 February 1967, to Sharp and Westmoreland, 6 March 1967, Backchannel Messages, Westmoreland/CBS Litigation File, Boxes 15, 16, 17.

33. Barry Zorthian, oral history interview, LBJ Library.

34. Leonard Chapman, oral history interview, Marine Corps Historical Center, Washington, DC; *New York Herald-Tribune*, 22 August 1966; and Greene, message to author, 9 May 1988.

35. Krulak to Greene, 1 February 1967, Krulak Papers, Box 1; and Victor Krulak, "A Conflict of Strategies," *U.S. Naval Institute Proceedings* (November 1984): 85–87.

36. Walt Rostow memoranda, 19, 20 May 1967, Johnson Papers, National Security File, Country File, Vietnam, Boxes 74–75.

37. Sheehan et al., *Pentagon Papers*, 539.

38. As early as 1966, Hanson Baldwin had detected among some Army officers growing criticism of the military leadership in Washington. By 1967, some military dissidents contemptuously dismissed the Joint Chiefs as the "five silent men" and ridiculed their "Charlie McCarthy answers" to LBJ's questions. *See* Baldwin to C. M. Peeke, 6 September 1966, Baldwin Papers, Box 13, and unpublished article, ibid., Box 29; also, *New York Times*, 13 and 24 July 1967.

39. Robert Ginsburgh memorandum for the record, 14 August 1967, Johnson Papers, National Security File, Name File/Col. Ginsburgh, Box 3.

40. Perry, *Four Stars*, 163–64. Perry's source for the story is an unnamed "former JCS flag rank officer." His account has been confirmed by a senior officer close to one of the deceased members of the JCS, but denied by Gen Wallace Greene and Adm Thomas Moorer. Actually, rumors of a possible resignation en masse first surfaced at the time McNamara's departure was announced in late 1967 and were heatedly denied by administration officials. See *New York Times*, 29 November and 2 and 4 December 1967.

41. *Public Papers of the Presidents of the United States: Lyndon Baines Johnson, 1967* (Washington, DC: GPO, 1968), II, 816–17.

42. McNamara deposition for Westmoreland Trial, copy in LBJ Library, 113, 176, 322.

43. Record of meeting, LBJ, McNamara, Wheeler, Rusk and Rostow, 19 August 1967, Johnson Papers, Meeting Notes File, Box 1.

44. *Washington Post*, 29 December 1967.

45. Tom Johnson notes on NSC meetings, 29 November 1967, Johnson Papers, Tom Johnson Notes on Meetings, Box 1.

46. George W. Ball, *The Past Has Another Pattern* (New York: Norton, 1982), 400; Larry Berman, *Planning A Tragedy: The Americanization of the War in Vietnam* (New York: Norton, 1982), 109; and notes on meeting, 21 July 1965, Johnson Papers, Meeting Notes File, Box 1.

47. Ibid.

48. Berman, *Planning a Tragedy*, 119.

49. See especially Richard Barnet, Roots of War (Baltimore: Penguin, 1973), 266–306; and Michael Leigh, *Mobilizing Consent: Public Opinion and American Foreign Policy* (Westport, CT: Greenwood Press, 1976), 99–106.

50. Rosen, "Vietnam," 85–86.

51. VanDeMark, *Into the Quagmire*, 163–64.

52. Bundy memorandum for the President, 30 June 1965, "France in Vietnam, 1954, and the U.S. in Vietnam, 1965-a Useful Analogy," Johnson Papers, National Security File, NSC History: Deployment of Major U.S. Forces to Vietnam, July 1965, Box 43.

53. Bill Moyers, "One Thing We Learned," *Foreign Affairs*, 46, no. 4 (July 1968): 662. A number of senior advisers interviewed by a RAND analyst in 1983 could not recall Ball's presentation at the 21 July meeting. Rusk later discounted Ball's estimates of casualties; McNamara claimed not to have seen his charts. David Di Leo, "Rethinking Containment: George Ball's Vietnam Dissent" (unpublished manuscript in possession of author), 275.

54. Memorandum of conversation, Rusk and Harold Holt, 28 April 1965, "Asia and the Pacific: National Security Files, 1963-1969," (Frederick, MD, 1988), Reel 1, Frame 152.

55. Quoted in William Conrad Gibbons, "The 1965 Decision to Send U.S. Ground Forces to Vietnam" (presentation, International Studies Association, 16 April 1987).

56. Record of meeting, 19 July 1965, Johnson Papers, National Security File, Country File, Vietnam, Box 15; Busby to LBJ, 21 July 1965, Johnson Papers, Busby Files, Box 3; and Kathleen J. Turner, *Lyndon Johnson's Dual War: Vietnam and the Press* (Chicago: University of Chicago Press, 1985), 149.

57. Kearns, *Johnson and the American Dream*, 251.

58. Rusk's statement is in Michael Charlton and Anthony Moncrieff, *Many Reasons Why: The American Involvement in Vietnam*, 2nd ed. (New York: Hill and Wang, 1989), 115; and Johnson statement in notes on National Security Council meeting, 27 July 1965, Johnson Papers, Meeting Notes File, Box 1.

59. *Quoted* in Barbara Tuchman, *The March of Folly* (New York: Random House, 1984), 326.

60. Notes on NSC Meeting, 27 July 1965, Johnson Papers, Meeting Notes File, Box 1.

61. Notes on NSC Meeting, 27 July 1965; and Turner, *Dual War*, 149–51.

62. Memo for the record, 4 August 1965, Johnson Papers, National Security File, Country File, Vietnam, Boxes 196–197.

63. James Greenfield and William Jorden memorandum for Bill Moyers, 13 August 1965, Johnson Papers, National Security File, Country File, Vietnam, Boxes 196–197.

64. Memorandum for the record, 4 August 1965; memorandum of discussion in Moyers's office, 10 August 1965; Greenfield and Jorden memorandum for Moyers, 13 August 1965; all in Johnson Papers, National Security File, Country File, Vietnam, Boxes 196–197; Chester Cooper to Moyers, 13 August 1965, National Security File, Country File, Vietnam. Box 22.

65. Moyers memorandum, n.d., Johnson Papers, National Security File, Country File, Vietnam, Box 194; Benjamin Read to Bromley Smith, 10 August 1965, ibid., Box 21; and press release, 5 November 1965, Richard Dudman Papers, Manuscript Division, Library of Congress, Washington, DC, Box 13.

66. Chester Cooper memorandum, 10 September 1965, Johnson Papers, National Security File, Country File, Vietnam, Box 22; and Melvin Small, *Johnson, Nixon, and the Doves* (New Brunswick, NJ: Rutgers University Press, 1988), 46–48.

67. Harold Johnson memorandum for the record, 20 July 1966, Harold Johnson Papers, US Military History Institute Library, Carlisle Barracks, PA, Box 127.

68. Walt Rostow to LBJ, 9 May 1966, Johnson Papers, Walt Rostow memos, Vol. 2; and Moyers to Arthur Krock, 15 September 1966, Moyers Office Files, Johnson Library.

69. Turner, *Dual War*, 164–66.

70. Hayes Redmon memorandum to Moyers, 27 September 1966, Moyers Office Files, Box 12.

71. Entry dated 4 October 1966, in David Lilienthal, *The Journals of David Lilienthal*, vol. 6, *Creativity and Conflict, 1964–1967* (New York: Harper & Row, 1976), 296.

72. Notes on meeting with Bob Thompson, 21 August 1967, George Christian Files, Johnson Library, Box 3.

73. Earle Wheeler cables to William Westmoreland, 2 and 30 August 1967, and Westmoreland to U. S. Grant Sharp and Wheeler, 3 and 12 August 1967, Backchannel Messages, Westmoreland/CBS Litigation File, Box 20. Also, Tom Johnson notes on LBJ meeting with Jim Lucas, 14 August 1967, Johnson Papers, Tom Johnson Notes, Box 1.

74. Notes on meeting, 19 August 1967, Johnson Papers, Meeting Notes File, Box 1.

75. Lady Bird Johnson diary entry, 5 January 1967, Lady Bird Johnson, *A White House Diary* (New York: Holt, Rinehart and Winston, 1970), 469.

76. *Quoted* in Larry Berman, *Lyndon Johnson's War: The Road to Stalemate in Vietnam* (New York: Norton, 1989), 106.

77. McNamara to LBJ, 1 November 1967, Johnson Papers, National Security File, Country File, Vietnam, Box 75.

78. Katzenbach to Johnson, 16 November 1967, quoted in Berman, *Johnson's War*, 106–7; Jim Jones notes on meeting, 2 November 1967, Johnson Papers, Meeting Notes File, Box 2; Bundy to Johnson, 10 November 1967, Johnson Papers, Diary Backup File, Box 81; William Depuy to Westmoreland, 19 October 1967, William Depuy Papers, US Army Military History Institute, Carlisle Barracks, PA, Folder WXYZ(67); and "Carnegie Endowment Proposals," 5

December 1967, Matthew B. Ridgway Papers, US Army Military History Institute, Carlisle Barracks, PA, Box 34A.

79. McPherson to Johnson, 27 October 1967, Harry McPherson Office Files, LBJ Library, Box 53.

80. Bundy to LBJ, 10 November 1967, Johnson Papers, Diary Backup, Box 81.

81. Handwritten notes on McNamara memo to LBJ, 1 November 1967, Johnson Papers, National Security File, Country File, Vietnam, Box 75.

82. Johnson memorandum for the record, 18 December 1967, in Lyndon B. Johnson, *The Vantage Point* (New York: Holt, Rinehart and Winston, 1971), 800–01.

83. For the Douglas Committee, see Douglas to Joseph Alsop, 22 August 1967, Joseph Alsop Papers, Manuscript Division, Library of Congress, Washington, DC, Box 76; Abbott Washburn memo, 29 September 1967, Johnson Papers, National Security File, Name File (Roche), Box 7; and *Washington Post*, 19 October 1967.

84. For the Vietnam Information Group, see Rostow to LBJ, 15 August 1967, Johnson Papers, National Security File, Name File, Box 7; George Christian to LBJ, 22 August 1967, Johnson Papers, Office Files of Fred Panzer, Box 427; and Harold Kaplan to Rostow, 9 October 1967, National Security File, Country File, Vietnam, Box 99.

85. Rostow to Ellsworth Bunker, 27 September 1967, Johnson Papers, DSDUF, Box 4; and Eugene Locke to Johnson, 7 October 1967, Johnson Papers, National Security File, Country File, Vietnam, Box 99.

86. Quoted in Richard P. Stebbins, *The United States in World Affairs, 1967* (New York: Harper & Row, 1968), 68.

87. Quoted in Berman, *Lyndon Johnson's War*, i.

88. Rosen, "Vietnam," 83.

89. Bundy is quoted in Charlton and Moncrieff, *Many Reasons Why*, 120; the military officers are quoted in Hanson Baldwin, "Magaziner," 16 December 1965, Baldwin Papers, Box 27.

90. McPherson is quoted in Walter LaFeber, *America, Russia, and the Cold War*, 5th ed. (New York: Knopf, 1985), 254.

91. Rosen, "Vietnam," 83.

France and the Armistice of 1918*

Robert A. Doughty

As future militarly professionals, it is important for you to study not only the waging of war but also the making of peace. All too often, military professionals become enamored with putting "steel on a target" or seizing an objective and fail to think through the challenges of terminating a conflict or shaping the "outcome" of that conflict. As our recent experience in Iraq suggests, terminating a conflict sometimes can be more difficult and costly than accomplishing a mission. Our experience also has reminded us that the manner in which a conflict is terminated can shape its long-term outcome.

By itself the phrase *conflict termination* is a cold, technical term that implies a simple and direct process. Most political and military leaders who are on the victorious side obviously prefer an ending similar to that of World War II when the Germans and the Japanese surrendered. In reality, conflict terminations can assume many forms, including surrenders, cease fires, truces, and armistices, all of which can end a conflict locally, temporarily, or permanently. None of these methods of conflict termination, however, guarantees or even ensures conflict resolution. In some cases, the manner in which a conflict is terminated can increase chances of the conflict not being resolved.

To gain insights into the challenges of terminating a war, I would like to talk tonight about France and the armistice of November 11, 1918. As I begin, note there were two major events associated with ending the war with Germany: the armistice of November 1918 and the Treaty of Versailles of June 1919. I will talk tonight about France's role in ending the fighting, not in its role in crafting the Treaty of Versailles. I will consider why France accepted the armistice of November 11 and chose not to continue fighting and force Germany to surrender unconditionally. To give my presentation better focus, I am not going to deal with the separate armistices with Austria-Hungary, the Ottoman Empire, and Bulgaria.

To begin, recall how World War I ended. The initial pressure for an armistice came from German military leaders, generals Paul von Hindenburg and Erich Ludendorff, who appealed to German political leaders on September 29 for peace. The request of the two military leaders came in the wake of the Germans having failed to break through Allied lines with the spring offensive that began in March 1918 and the Allies' having seized the initiative in Marshal Ferdinand Foch's counteroffensive of July 1918. In subsequent operations, the Allies drove the Germans out of the territory seized in their spring

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offensive and launched a massive offensive on September 26. Adding to Germany's woes, its allies began falling away. Between September 30 and November 5, Bulgaria, the Ottoman Empire, and Austria-Hungary signed armistices with the Allies and left the war.* In the face of the Allied offensive on the Western Front in late September, the Germans could do little to support their allies or keep them in the war. On the Allied side, however, the arrival of American forces on the battlefield, especially in the Meuse-Argonne offensive, ensured an ever-increasing margin in favor of the Allies. As the strategic balance shifted, Germany saw its hopes for victory disappearing under the weight of Allied personnel and matériel.

Despite the negative turn of events, the Germans conducted a surprisingly effective defense on the Western Front. In the face of mounting losses and increasing Allied combat power, the Germans withdrew, thereby reducing the length of their front line. At the same time they consolidated their combat power by reducing the number of their divisions and filling the remaining units by diverting workers from factories (who previously had escaped conscription), returning wounded soldiers to the front line, sending recently released prisoners of the Russians to the Western Front, and incorporating conscripts from the Class of 1920.[1] They also pushed more divisions into the front line and deployed front-line units in three echelons.

This left few reserves for tactical or operational counterattacks but maintained significant resistance against the Allies. As the Germans withdrew, French intelligence officers noted their deteriorating discipline but also observed their building bridges across the Meuse River, moving weapons and matériel from Belgium toward Germany, and placing explosives on bridges across the Rhine.[2] They identified five different defensive lines between the Franco-Belgian frontier and the Rhine River. While they knew the subsequent defensive lines were not as well prepared as the forward ones, they reported significant efforts in the German rear to strengthen subsequent positions, and they anticipated a massively destructive defense in depth. By November 11, the Germans had reduced their front line some 190 kilometers (km) and the number of divisions in the West, said French intelligence, from 207 to 184. Meanwhile, the number of divisions available behind the front line went from 68 on September 24 to 17 on November 11.[3] Although German defenses resembled, as one German officer said, a "spider's web of fighters,"[4] key French planners believed the enemy somehow would assemble two or three "great maneuver masses" to meet the Allied attack.[5]

*Bulgaria signed the Armistice of Salonica on 29 September, the Ottoman Empire signed the Armistice of Mudros on 30 October, and Austria-Hungary signed an armistice on 3 November 1918.

As for the armistice, the German government sent a note to President Woodrow Wilson on October 3 asking for a peace based on the Fourteen Points.* This diplomatic move occurred, as I mentioned, after generals Hindenburg and Ludendorff had urged the German government on September 29 to ask for an armistice. While fighting continued, Berlin and Washington exchanged notes over the next several weeks. Between October 29 and November 4, Allied political and military leaders met to discuss terms of an armistice with Germany. On November 5, President Wilson, who initially had not consulted other Allied leaders but finally had done so, sent the Germans a note accepting the Fourteen Points as the basis for peace but maintaining reservations about reparations for damages and freedom of the seas. At about the same time, revolution broke out in most major German cities. Finally, on November 11, the Germans signed the armistice and the fighting ended.

Returning to the question of France and the armistice of November 11, French political and military leaders did not lose sight of their war aims in the final month of the war. France had not entered the war with clearly articulated goals, but over time, political and military leaders had accepted three basic goals: regaining the provinces of Alsace and Lorraine that Germany had taken from France in 1871, establishing international conditions that would ensure the postwar security of France, and acquiring reparations from Germany for damages inflicted on France. In the final month of the war, however, France's premier, Georges Clemenceau, had to confront the fatigue of the French people. He told his military assistant on the morning of October 30, "All the people are so tired of this long and terrible war that they would not comprehend or want to comprehend [why] we continue hostilities when the Germans themselves want them ended."[6] France had come perilously close to collapsing in mid-to-late 1917, and even the sweet scent of victory did not guarantee public support for continuing the war until its goals were accomplished.

Additionally, Clemenceau feared the British and Americans would seek a compromise peace with Germany, one that would end the fighting but not guarantee France's security in the future. He feared, as he told his military assistant, that the other Allies could sabotage France's victory.[7] British political and military leaders had made it very clear that Great Britain had its own goals and had doubts about France's motives. Clemenceau knew, as Field Marshal Sir Douglas Haig wrote in his diary, "[T]he British Army would not fight

*Wilson announced his 14-point peace program to a joint session of Congress on 8 January 1918. Eight of those points addressed specific territorial issues among the combatant nations. Five points involved "general principles for a peaceful world": "open covenants (i.e., treaties or agreements) openly arrived at; freedom of the seas; free trade; reduction of armaments; and adjustment of colonial claims based on the principles of self-determination." The final point proposed what became the League of Nations, to ensure the "political independence and territorial integrity [of] great and small states alike." Department of State, "Wilson's Fourteen Points, 1918," accessed 14 July 2018, https://history.state.gov/milestones/1914-1920/fourteen-points.

keenly for what is really not its own affair."[8] Similarly, the United States had designated itself an *associated* power (as opposed to a full-fledged member of the Allied alliance network) and refused to be bound to the demands of France or Great Britain. Additional concerns came from the battlefield performance of the Americans. On his visit to the Meuse-Argonne area on September 28–29, Clemenceau was appalled by the chaos in the American rear and deeply feared the mistakes of Gen John J. Pershing and the Doughboys could cost the French "much blood."[9] When Gen Philippe Pétain submitted a damning report on October 6 about the performance of the Americans in the offensive and warned of a possible disaster,[10] the specter of an American failure allowing the Germans to repair their desperate situation was more than he could bear. Whatever the shortcomings of the Americans may have been, four years of terrible fighting had demonstrated that France could not defeat Germany on its own. Clemenceau had to devise a way to keep the support of France's allies, place realistic demands on the Americans, *and* achieve its war aims.

As the French contemplated the possibility of an armistice, they recognized the decline in their own forces. No one understood this decline better than Marshal Foch, who was appointed supreme commander of Allied forces in March 1918, and General Pétain, the commander of French forces in northeastern France. They knew French soldiers had performed magnificently during the German spring offensive of 1918, but they also knew French combat power had ebbed slowly in the heavy fighting that year. Out of a population of about 38,000,000, France lost about 300,000 soldiers killed or "disappeared" from March through November 1918. The 74,000 soldiers lost in June represented the highest monthly loss in the war since 1914.[11] Heavy losses forced the French to dissolve some divisions and face the horrible prospect of running out of men.

Transferring weapons and equipment to the Americans hampered efforts to increase French combat power. The French and British tried to convince the Americans to amalgamate small units (companies, battalions, and regiments) into Allied divisions and corps, but the Americans wanted to build an army of their own and agreed to amalgamation only on a temporary basis. In exchange for the Americans giving priority to the transportation to Europe of soldiers, not equipment, the Allies—especially France—assumed the responsibility of providing heavy equipment to the Americans. By the end of the war, the French had supplied more than three-quarters of the artillery, tanks, and aircraft used by the Americans.[12] Much of the transfer of equipment occurred when French soldiers desperately needed additional support to sustain their momentum and keep them moving forward.

In the final weeks of the war, the French offensive gradually lost momentum. Heavy casualties and mental and physical exhaustion reduced their

combat power. Poor roads and communications interrupted the delivery of food and supplies, and unusually heavy rains soaked the soldiers, many of whom suffered from the flu. Gen Émile Fayolle, commander of the Reserve Army Group, which consisted of Gen Eugène Debeney's First Army and Gen Charles Mangin's Tenth Army, noted in his diary the difficulty of continuing the advance.

Fayolle's concerns are notable, because in the final weeks of the war the French had only four armies between the British north of St. Quentin and the Americans in the Argonne Forest, and he commanded two of those armies. In early October, he noted the seizing of St.-Quentin and Laon and the unfavorable German situation. The Germans, he wrote, "will be obliged to withdraw before winter to the Meuse [River]." Yet, as the French pushed forward over the next two weeks, their attacks made only small gains. On October 17, Fayolle noted, "The attack of Debeney has yielded little." Two days later, he noted Mangin's attack had made "little progress." The advance slowed further in subsequent days. On October 24, Fayolle wrote, "The attack of Debeney is not moving," and the following day that Mangin's attack was "not very useful." On October 30, he noted Debeney's attack had "yielded few results," and the following day he added, "And still nothing. It's messed up." On November 1, he complained, "I fear that we are attacking on too large a front with insufficient means. Better to concentrate our efforts on a limited number of points." The next day he noted, "The Boches are still holding in front of us."[13] Fayolle feared the Germans would not stop fighting until they had no other choice.

The combat log of Fayolle's Reserve Army Group recorded heavy fighting but only small advances in the final days of October and first days of November.[14] Not until November 5 did the Germans resume their withdrawal and the pace of the French advance increase. The French launched their last attack on the night of November 9–10. After crossing the Meuse River just west of Sedan, soldiers of the 163rd Division (part of the Central Army Group) gained a precarious foothold on the northern bank of the river. The intensity of the fighting clearly demonstrated that German resistance had not ended.[15] Yet, the 163rd Division was about 100 km from the German frontier, 200 from the Rhine River, and 500 from Berlin.

As diplomatic messages about an armistice flooded the world's capitals in late October, French soldiers sensed the approaching end of the war and became more cautious. On October 20, a French general officer told Col Émile Herbillon, the liaison officer between the French government and military, "The poilu is pleased to see that a victorious peace is close, but he also says to himself, 'This is not the moment for me to have my face smashed.'"[16] As German resistance continued, rumors circulated through French ranks that German women had been chained to machine guns and forced to fight to their

death.[17] Formal reports on soldiers' morale, which were derived from reading letters written by soldiers, reflected their desire for an end to the four years of fighting. After receiving news of the Germans having sent their first note to Wilson about an armistice, French soldiers wrote many letters home about the prospect of peace, and as the possibility of peace became more likely, their comments became more numerous. Morale reports from individual divisions documented the soldiers' anxiety. In many French divisions the number favoring an immediate peace tripled or quadrupled those favoring a "complete victory."[18] The difference between an immediate peace and a complete victory, of course, pertained to whether Allied forces halted their advance along the German frontier or fought their way into Germany. In some divisions, the number of soldiers favoring a complete victory was small. On November 8, staff officers from the 71st Division reported the results of reading 2,360 letters: "The correspondents expect the signature very soon of Germany on the armistice. . . . Three soldiers desire to continue [the war] until its destruction."[19] Like American soldiers in World War II who dreaded the possibility of invading Japan and who welcomed the dropping of the atomic bomb, French soldiers dreaded the possibility of having to fight their way into Germany and preferred an armistice that would end the fighting and give the Allies significant advantages. Whatever steps France took to terminate the conflict, those steps had to take into account the will and capability of French forces.

But what did French leaders know about developments in Germany? As the end of the war approached, French intelligence provided political and military leaders an enormous amount of information. Consider the main channels of information. The French had established intelligence-gathering stations in Annemasse and Belfort, France, both of which were near the border of Switzerland. They also had military attachés in Switzerland and the Netherlands, two neutral countries that occupied key positions around Germany. And they used radio listening sites (including at least one in a Belgian enclave in the Netherlands) to monitor official and unofficial communications inside Germany. Among other activities, military attachés collected newspapers from most major German cities, and they talked to businessmen, military officials, and tourists who traveled through Germany. Officers at the intelligence-gathering sites (especially Annemasse) interviewed numerous "repatriated" soldiers from Alsace and Lorraine who had deserted from the German army. Officers at the sites and military attachés also managed a variety of "agents" who operated in Germany as well as in neutral countries. One extensive study of French intelligence, for example, credits the French with having about 200 agents in the Netherlands.[20] Additionally, the French had access to British intelligence, especially in the sharing of important informa-

tion at Folkestone.* The French and British had agreed in October 1914 on the general function and structure of Folkestone, and not long after Foch's appointment as supreme commander, he attempted to centralize Allied intelligence more and strengthen the role of intelligence specialists at Folkestone.[21] Important information from French and British sources thus flowed through huge openings (Switzerland and the Netherlands) on the German frontier.

What did the French learn? Perhaps the most important piece of information pertained to the deteriorating morale and discipline of German soldiers. Although German morale appeared to rise in May 1918 (with the German offensive on the Chemin des Dames), it deteriorated thereafter, especially after the Allied counteroffensive on July 18. Intelligence reports painted a picture of soldiers losing trust in their officers and hope for victory. Numerous reports from German prisoners (those who were captured on the battlefield or deserted) described the "very bad" morale of German soldiers. Those who had been prisoners of the Russians and then sent to the Western Front or those who had been wounded and then hastily returned to the front line seemed to have especially bad morale. Many of those losing all hope deserted. Some found their way into Allied lines; others bought forged papers and tried to enter neutral countries.[22] The French also received reports of mutinies and refusals to attack. According to one report, two German infantry regiments mutinied in Köln in late October, refused to leave the city, and sang the Marseillaise.[23] Additional reports catalogued increasingly poor relations between Bavarian and Prussian soldiers. One report described the mutiny of a Bavarian regiment and a subsequent bayonet fight between the regiment and a Prussian unit.[24] Clearly, cohesion in the German army was cracking.

Despite the decline in morale, German defenses did not collapse. In mid-October, the French general officer who was Pétain's director of operations told an American liaison officer,

> A few days ago it was to be hoped that the German Army would crack and be routed. They have been put in difficult positions, but they have shown great skill in extricating themselves and there has not been any route [sic] or even disorder, but rather a well-conceived, orderly retirement everywhere they have retired and their rear guards have functioned excellently. The machine gun groups they have invariably left behind have acted with great skill and greatly hampered our following of the Germans. Of course the newspapers are full of a different sort [of information], but you must remember [that information] is for the consumption of the crowd. . . . The German Army has had some serious situations to meet and up to now they have met them well. A great reduction of moral[e] in their army is not apparent. The rear guards act with good judgment and yield us very few prisoners.[25]

*Folkestone, a town on the British coast, was the home of a combined British, French, and Belgian office where the allies coordinated intelligence efforts. *See* Emmanuel Debruyne, "Espionage," *1914–1918 Online (*website), 8 October 2014, https://encyclopedia.1914-1918-online.net/article/espionage.

On November 1, General Edmond Buat, Pétain's chief of staff, told an American liaison officer, "The Boche army is far from licked. He is going to retire to a shorter line."[26]

As the Germans withdrew but kept fighting, the French carefully tracked the increasingly dire situation and poor morale of German civilians. Unlike the French and Belgians, German civilians had not suffered widespread destruction of their homes and communities, but they had suffered from the effects of the Allied blockade and aerial bombing and by the enormous consumption of resources by fighting forces. Regular reading of numerous German newspapers revealed increasing anxiety and desperation in Germany, as well as strikes and public demonstrations. Using a variety of sources, the French tracked the Germans' rationing of bread, potatoes, and meat. They tracked the increasing death toll from the effects of poor nutrition, tuberculosis, and Spanish flu. They tracked the Germans' shortage of munitions and resources for the war.[27] They also tracked subtle but important changes in the public's attitude. A Swiss doctor who spent three months in Germany examining the internment of Allied soldiers had refused earlier in the war to provide information to French intelligence, but in late 1918, he finally spoke to French agents. He said Germany had changed more in the previous three months than it had in the previous three years. He noted the many shortages and the closing of many businesses. "Theft," he observed, "has become a public calamity." The intelligence summary noted that if the situation worsened, the German people would revolt.[28]

An intelligence summary on October 30 concluded that the outcome of the war was "no longer in doubt."[29] Two days later another intelligence summary said one could expect the "combat spirit" of German soldiers to increase as they defended their "own soil," but this final effort could be "only of short duration."[30] General Buat, Pétain's chief of staff, believed on November 1 that the end of the war was near. He said, "Yes we are likely to have an armistice with Germany very soon—a matter of days. But it is not because the German Army is defeated or likely to be defeated in the near future. The reason lies within; the reason is the internal situation of Germany."[31] In an early, eerie articulation of the "stab in the back" theory, an intelligence summary said, "Alone among the elements that have collapsed, the German Army remains standing, but to its rear is an exhausted nation that no longer supports it, and to its front are adversaries stronger than ever. Nothing can save it."[32] Some of those in French intelligence believed, as a colonel in Pétain's headquarters observed, that the "once proud, haughty [German] people" could "leave their army in the lurch."[33]

French leaders nonetheless had grave concerns about the Germans fighting to the bitter end. As the Allied offensive slowed in early October and Al-

lied leaders revealed aspects of their demands on Germany, General Ludendorff, who had suffered a momentary collapse in late September, regained his composure and advised the German government to continue fighting. He advocated a battle of annihilation or an *Endkampf* that involved a massive mobilization of the German people and an enormously destructive final battle.[34] Given the wide-open windows in Switzerland and the Netherlands through which the French viewed internal German developments, information about the possibility of a final battle of annihilation quickly reached France. Intelligence came from newspapers as well as diplomatic and military sources, some of which emphasized Germany having organized itself as an "impregnable fortress."[35] Information about the possibility of a final destructive battle also came from prisoners. One German sergeant, a prisoner, laughed when questioned about the Allies penetrating into German territory. He said, "Never, they will not cross the Rhine, the dear Rhine, because the German people will never accept such a disgrace. The day when [they are] pushed to the end, they will rise in mass, they will be invincible."[36]

Though the French sensed the end of the war was near, a wealth of information did not reveal what the Germans actually would do or how long the war would last. As late as November 7, intelligence reports emphasized preparations in Germany "for a supreme struggle of unknown duration" but noted the lack of German national unity or agreement on waging such a struggle.[37] This ambiguity created great concern among French leaders. In February 1919, Clemenceau told a parliamentary commission, "If we had been better informed, we would have imposed much harsher conditions."[38] In reality, better information would have made little difference since the Germans themselves did not know what they were going to do.

Given the desire of the French people for peace, fatigue of the French army, specter of a massively destructive final campaign, and possibility of the other Allies sabotaging France's victory, what could France do to accomplish its goals? Several strategic alternatives came from the collapse of Austria-Hungary in late October. This collapse not only left Germany virtually alone in the war against the Allies but also increased Germany's vulnerability. First, there was the possibility of an attack into southern Germany. On November 5, the day after Austria-Hungary accepted an armistice, the Allied Supreme War Council, led by Marshal Foch, approved the launching of an operation into southern Germany with about 30 Italian and five French and British divisions. Planners foresaw a two-pronged invasion through regions of Austria heavily populated by ethnic Germans, one across the Alps from Innsbruck and the other along the Danube River from Linz.[39]

Whatever the strategic opportunities may have been, it was clear an Italian-dominated drive across Austria into Bavaria would be neither simple nor easy,

especially with winter approaching. An intelligence summary on November 4 noted Germany's efforts to encourage rebellion in Austria-Hungary or even to send troops to maintain order in Austria.[40] Moreover, the Italians demonstrated little enthusiasm for the campaign, and the French premier, Georges Clemenceau, had to intervene personally "numerous" times to gain their cooperation.[41] A frank assessment came from General Buat, Pétain's chief of staff, in a conversation with an American liaison officer. The American recorded Buat's words and facial expression: "Do you think the Italians would go to Bavaria? (Smiling knowingly), not on your life—never—. So what have you left? The French and British. Yes they'll go but there are not very many of them [only five divisions] and so practically the threat is not so serious as it sounds. It is a menace, an important menace, the idea of attacking Germany from the south, but it's a moral—a mental menace—more than a physical menace."[42] German military leaders recognized the difficulty of an attack across Austria, and in a meeting with the German chancellor on October 17 General Ludendorff downplayed the danger from an attack into southern Germany.[43] Ironically, the threat of such an invasion ultimately had a greater effect on the morale of German civilians and the outbreak of revolution in Bavaria than it did on the strategic thinking of German military leaders.

The French also considered the possibility of strategic bombing. Throughout the war the French had been reluctant to bomb German cities because their own cities were close to the front lines and German cities more distant. Additionally, French commanders were unwilling to consider an independent role for heavy bombers; they wanted aircraft to support their sorely pressed troops.[44] In the final months of the war most French bombs fell beyond the Western Front in a triangular area bounded by Amiens, Metz, and Mézières, but some fell on German cities along the Rhine River (Mannheim, Mainz, Koblenz, etc.) in attacks on factories and in reprisal raids.[45] With the collapse of the Austrians, new opportunities for strategic bombing emerged. The French recognized heavy bombers could fly one-way from France to Prague and by reducing cities in southern Germany to "ashes" could reveal the "horrors of war" to the German people. The French also recognized heavy bombers could fly out of Prague and inflict significant damage on Berlin.[46] In the final days of the war, the French began preparing for such a campaign. Although they had sufficient aircraft to damage some German cities, they knew they did not have enough aircraft for a war-winning campaign. Building the air fleet for such a campaign would take at least a year and would consume an enormous amount of resources. Thus, neither strategic bombing nor an offensive into southern Germany offered realistic possibilities for ending the war quickly.

Even though the news was filled with reports about a possible armistice, the French had no choice but to prepare for a massively destructive final cam-

paign, should the threatened "supreme struggle of unknown duration" occur. They made a special effort to gain even greater output from their hard-pressed factories, especially artillery, tanks, and aircraft. Additionally, they looked to their colonies for new sources of manpower for an offensive into Germany. Soldiers from Indochina and Africa already had reinforced the French army. Many of these colonial subjects had performed superbly, a fact not overlooked by French leaders who cringed at the prospect of running out of soldiers from metropolitan France. Clemenceau optimistically talked about adding 100,000 Senegalese soldiers to the French army.[47] Strong resistance in France's colonies, however, demonstrated the colonial subjects' reluctance to become part of a "supreme struggle."

Practically speaking, the only realistic alternative for continuing an offensive into Germany came from the Western Front. French political and military leaders recognized the enormous challenges of a drive into Germany, across the Rhine, and toward Berlin. Yet, the Allies had no plans for crossing the Rhine River, even though—as Foch later asserted—"Once this barrier was conquered, Germany was at the mercy of the Allies."[48] In fact, they had no significant bridging capability and their planning involved little more than maps with arrows drawn across them. When one considers the enormously detailed planning completed in World War II for crossing the Rhine River, one can only conclude that the Allies expected to seize intact bridges across the Rhine, much as American forces did at Remagen in World War II. One does not have to be an accomplished strategist to realize that crossing the Rhine could have become one of the most difficult and costly operations of the war, especially if the Germans had fought a final battle of annihilation. For obvious reasons, the French preferred to do something other than fight their way across the Rhine.

One alternative was to destroy the German army with a massive thrust from Lorraine into its rear. Initial planning for such an offensive began in early September 1918 and foresaw 30 divisions attacking across a front of 60 km. Final plans anticipated the offensive beginning on November 14 or, in other words, three days after what became the day of the armistice. Though planning proceeded, many practical problems appeared in an operation that looked good on paper but tough on the ground. The region had few railways and roads, and the French encountered formidable challenges in getting units and supplies assembled for the offensive. In the aftermath of the Meuse-Argonne offensive, they also had trouble getting as much American participation as they desired.[49] Despite the Germans' vulnerability, the French did not accelerate preparations and launch the incompletely prepared offensive. As Foch later observed, an offensive in Lorraine could have succeeded only if German resistance collapsed in front of it. In his memoirs, he noted the offen-

sive initially would encounter only small enemy forces and have a "brilliant start and a rapid advance of several dozen kilometers." After this, however, "it would undoubtedly encounter the devastation that was already slowing the march of the other armies. It would add its efforts to theirs, it would enlarge, reinforce them without changing their nature."[50] The offensive also ran the risk of failing and thereby reviving the Germans' will to fight.

Instead of a relatively narrow thrust into the German rear, Marshal Foch preferred converging attacks along the Western Front by the French, British, and Americans. In essence, he sought a series of blows to keep the Germans off balance, prevent them from shifting reserves from one part of the front to another, and keep them from reviving or reconstituting their forces. He illustrated this strategy by punching with his right fist, then his left, and then again with right, followed by a powerful kick. Recognize that this campaign strategy took advantage of American power on the right and British success on the left. It also kept the increasingly fatigued French army in the fight and gave the enemy no respite. In essence Foch wanted to maintain relentless pressure on the Western Front and expected the Germans eventually to collapse under this relentless pressure. Whether the collapse came from the German people leaving their army in the lurch or from the German army losing its cohesion and discipline was important to Foch but not enough for him to oppose an armistice.

As Foch kept pressure on the Germans, Allied leaders met to discuss armistice terms. What was the purpose of this armistice? Clemenceau answered this question in discussions with other Allied leaders on October 31. He said, "One should not confuse the terms of an armistice with the conditions of peace. The armistice has the objective of assuring the victorious armies such a situation that their superiority is clearly established."[51] In private discussions with the president of the Third Republic, Raymond Poincaré, however, he had insisted that while terms of an armistice should be "prudent and moderate," the terms of a peace would not be.[52] In short, Clemenceau wanted an armistice that would ensure the Germans could not resume fighting but would leave the Allies free to dictate harsh terms in a subsequent peace treaty. Such an armistice, he thought, would ensure termination of the conflict, enable France to achieve its war aims, and create a situation in which the conflict could be resolved.

The terms for an armistice with Germany came together in a relatively hasty manner at the end of October.[53] Though the process ostensibly was an Allied one, Clemenceau and Foch played important roles and ensured France's victory was not "sabotaged." Foch first proposed armistice terms on October 8 and then discussed them behind closed doors with Clemenceau and Pétain. With Clemenceau's concurrence, Foch convened a meeting of the other Al-

lied military leaders on October 25 and then, acting on his own as supreme commander, modified the list. The modified terms were discussed and approved by Allied political leaders from October 29 through November 4. British and Italian representatives at these meetings expressed concerns that Foch was asking too much and thereby risked delaying or torpedoing any chances of a halt to hostilities.[54] Although the final list of terms differed somewhat from Foch's initial proposal, the terms ensured the Germans could not resume hostilities after accepting an armistice. That is, the Germans had to agree to evacuate the territories they had seized (including Alsace and Lorraine), leave their heavy weapons and equipment behind, permit the Allies to occupy bridgeheads across the Rhine River, and relinquish control of the Rhineland (the left bank of the Rhine) as a guarantee for reparations.

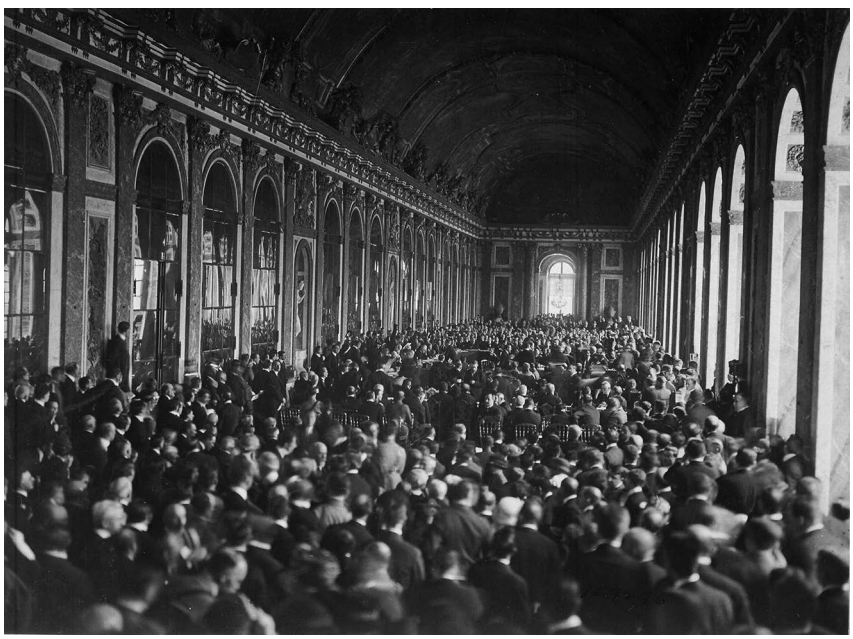
Among those privy to the private thoughts of Clemenceau, Foch, and Pétain was Gen Henri Mordacq, Clemenceau's military assistant. He notes that on November 11, he heard no one, including military leaders, express regrets about not continuing the war.[55] As Pierre Renouvin has noted, a few French leaders expressed reservations about ending the war too quickly, but in the actual discussion of terms, none of them objected to the armistice. Renouvin also notes that the best known critic of the armistice, Poincaré, primarily feared "false negotiations" by the Germans and did not call for an invasion of Germany and a signing of the armistice in Berlin.[56]

As the terms of the armistice were being crafted, the main objection to an armistice came from General Pershing. Though Pershing had concurred on October 25 with the main terms of the armistice, he later had doubts, and on October 30 he wrote, "I believe the complete victory can only be obtained by continuing the war until we force unconditional surrender from Germany." In that same letter he expressed support for an armistice with terms "so rigid that under no circumstances could Germany again take up arms."[57] When an American colonel delivered Pershing's letter to Foch, the French marshal was leaving shortly for a meeting of the Supreme War Council and could spend only a few minutes with him. After reading the letter quickly, Foch instructed the American to "tell General Pershing that I am in agreement with his views, and he need not be anxious regarding this matter; what I am demanding of the Germans is the equivalent of what he wants and when I have finished with them they will be quite powerless to do any further damage."[58] Foch clearly had no desire to derail the armistice.

A few days before the armistice, Clemenceau and Foch met to discuss the terms, and the Tiger asked the Marshal if he had any reservations about signing the armistice. Foch responded that rejecting the armistice and continuing the war would be "gambling for high stakes." He foresaw another fifty- to a hundred-thousand French soldiers being killed for "very questionable re-

sults," and he saw no need for any further bloodshed.[59] Foch said the same thing to Col Edward M. House, Wilson's personal envoy, in the final days of the war. He said, "Fighting means struggling for certain results. If the Germans now sign an armistice under the general conditions we have just determined, those results are in our possession. This being achieved, no man has the right to cause another drop of blood to be shed." When queried by the British prime minister, David Lloyd George, on how long it would take to drive the Germans across the Rhine if they refused to sign the armistice, Foch responded, "Maybe three, maybe four or five months. Who knows?"[60] In none of these discussions did Foch suggest delaying the armistice.

Foch met with the German delegates on the morning of November 8 near Rethendes, northeast of Paris. After receiving the armistice terms offered by Foch, the Germans complained strongly about their severity. Much to the surprise—and pleasure—of the French, however, they—after getting permission from Berlin—accepted the tough terms. On November 11, they signed the armistice and the fighting ended. By yielding bridgeheads across the Rhine to the Allies and by abandoning much of their heavy equipment, the Germans gave up any capability they may have had to continue the war; they also opened the way for Clemenceau to seek harsh terms in the Treaty of Versailles.



Representatives met in the Hall of Mirrors at Versailles to finalize the 1918 Armistice under the Treaty of Versailles, 28 June 1919. Courtesy of National Archives (no. 531150).

In retrospect, the armistice terminated the conflict, but it did not resolve it or prevent a future conflict. It also did not ensure France's security in the postwar period. One powerful myth that came out of the armistice was the famous "stab in the back" myth. German critics of the armistice (people such as Adolf Hitler) insisted the German army had not been defeated but instead had been stabbed in the back by German politicians. To use another phrase, German politicians had left the army in a *lurch*. On the other side of the hill, French critics of the armistice insisted the armistice had ended the war prematurely. Within days after the signing of the armistice, critics charged Foch with having accepted a "premature" peace and complained about France's not launching an offensive in Lorraine. They watched with regret as German forces returned to Germany, sometimes as cohesive units without the stigma of defeat. At the end of November, the American liaison officer to Pétain's headquarters participated in a discussion that included Pétain's chief of staff (General Buat) and his operations officer (General Duval); he reported "their great regret that the war had not continued for almost two weeks." In that same report, the American liaison officer reported the assessment of a French colonel in Pétain's headquarters: "Viewed in the light of history, it is quite possible that it will appear that the war terminated a little prematurely and thus left the seed for further difficulties, difficulties which might have been entirely obviated by a crushing military defeat of the German Army."[61] As the colonel predicted, the French official history of the events of 1918 lamented the suspension of hostilities, which had enabled the Germans to avoid a "certain and irremediable disaster."[62]

After the war, Pétain reinforced criticisms of the supposedly premature peace by saying he had asked Foch to delay the armistice. He insisted—long after the opportunity for action had passed—that he had asked Foch to delay the armistice and launch the Lorraine offensive. Seeking to enhance his own reputation, Pétain disingenuously, I believe, highlighted Foch's having missed an opportunity to end the war decisively, not his own inability to make such an ending possible. Some of France's leading historians of the Great War (Pierre Renouvin, Jean-Baptiste Duroselle, and Guy Pedroncini) have examined Pétain's claim and found no evidence of his having urged Foch to delay the armistice.[63] While Pétain may have met privately with Foch and urged him to launch the Lorraine offensive before completing an armistice, he did not do so in writing or in meetings with other people present or with minutes being taken. He also did not convey his reservations to key members of his staff. In the dining room of Pétain's headquarters, officers openly criticized Foch *and* Pétain for not unleashing the Lorraine attack and crushing the German army. An American liaison officer, who witnessed the discussions, observed an officer, Col Node Langlois, object to the criticisms. The French

colonel insisted every effort had been made to organize the attack but roads and railways had proved inadequate. He likened the situation to driving a horse until it had spent its last ounce of strength and dropped in its tracks.[64]

In reality, France's willingness (and Foch's willingness) to accept an armistice in November 1918 rested on the weakened condition of French forces, as well as the uncertain support of its allies. By late September the cumulative effect of four years of war and the extraordinary demands of halting the Germans' spring offensive and launching a counteroffensive had drained the French of much of their combat power and effectiveness. The French army, the "horse," had been pushed to its limit; not even an opportunity to deliver a death blow to the German army could breathe new life into it.

As French forces struggled to advance, Marshal Foch recognized that General Pétain could not charge forward in Lorraine and would advance only when given additional resources at the expense of the Americans in the Meuse-Argonne and the French on other portions of the front. He also did not expect the British or Americans to assume the main burden of a massive offensive given British doubts about French motives and given Pershing's difficulties in marshaling and employing his forces. And he saw little chance of Allied forces, composed primarily of Italian troops, advancing into southern Germany. By maintaining pressure on the Germans on a broad front along the Western Front, he expected the Germans eventually to yield. And by demanding and getting bridgeheads across the Rhine River, he ensured the Allies would not have to fight their way across the Rhine. In essence, Foch chose the option that ensured victory for the Allies while minimizing the cost in soldiers' lives. His option, however, allowed the German army to remain together and for reactionaries later to claim it had been stabbed in the back. In the end his option had a profound effect on the remainder of the twentieth century.

What does all this mean to us today? First, it suggests the complexities of ending a conflict. Under the most optimum circumstances, the Allies and the French could have continued the war, destroyed the German army, and avoided any possibility of a myth of a stab in the back. Yet, the French did not have the confidence in their own forces, or in those of their allies, to risk the cost and failure of a march to Berlin. Instead, French leaders favored placing continued pressure on the Germans and waiting for the German government or military to yield. Though a few political and military leaders expressed doubts privately about the armistice, none argued publicly for rejecting an armistice and seeking a complete victory. US leaders may face similar difficult choices in the future and, even if they prefer a complete victory, may have to accept an armistice, truce, or cease-fire.

Second, it reminds us that options during wartime are shaped by the capabilities of a country's or an alliance's forces, not just the weaknesses or failures of opponents. The French had performed magnificently against the German spring offensives of 1918, but by October they had reached the limits of their endurance. Continuing the advance against the Germans would have required significant rest and refitting, as well as the clearing of significant obstacles and the building of important roads and railways. France's options, thus, were limited by the capabilities of its forces, not by the absence of grand ideas. Such limitations will undoubtedly influence American options at some point in the future.

Third, it suggests the difficulty of drawing a line between political and military domains in the making of peace. Marshal Foch saw controlling the Rhine as an essential part of any armistice or peace. His desire for bridgeheads across the Rhine and guarantees from the Germans, however, raised questions about the political future of the Rhineland and brought sharp clashes among Allied political leaders and between Clemenceau and Foch. Separating political issues from military issues is always complex in a war, but it can be even more difficult in the crafting of an armistice or a peace. And adding religious extremism to the process can only complicate the process.

Fourth, it shows us the limits of intelligence. The French had remarkably good intelligence about the internal situation of the Germans, but this intelligence did not paint a complete picture of the enemy and left political and military leaders with significant concerns about the eventual outcome of the war. It was relatively easy to measure the Germans' military capability, but it was difficult, if not impossible, to predict what the Germans actually would do. Intelligence is never perfect and can never erase ambiguity completely. Political and military leaders in the future will be fortunate to have as much information about opponents as the French had.

Finally, it reminds us that hope is always part of an armistice: hope that the killing will stop; hope that the destruction will end; hope that peace will endure. All of you know that the hopes of 1918 and 1919 were eventually smashed in 1939 when an even more destructive war began. In France's case, its most important war aim, security, did not come from the armistice of November 11 or the Treaty of Versailles. Instead came disillusionment, distrust, anger, and eventually another war. Over the decades, historians have pondered whether a different ending in 1918 may have produced a more enduring peace. Let us hope that historians will not have as many doubts about the termination of future American conflicts.

In conclusion, while the prospect of Germany's unconditional surrender appealed to French leaders such as Clemenceau and Foch, obtaining one—to

use a phrase from World War II—seemed a "bridge too far."* The exhaustion of French soldiers, the specter of greater casualties, and doubts about France's allies compelled French leaders to seek an end other than unconditional surrender. What they got was a temporary victory, one that seemed permanent at the time, but one that later proved illusory at best. They achieved conflict termination, but they did not achieve conflict resolution.

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*This is a reference to the 1977 film *A Bridge Too Far* that depicts the failed Allied Operation Market Garden of September 1944, which sought to capture a series of German-held bridges in the Netherlands.

Notes

1. *See* État-Major de l'Armée, 2me Bureau A, Situation Générale à la date du 30 septembre 1918, S.H.D. 7N680; Attaché Militaire en Hollande, Communiqué au Service de Folkestone, La Haye, 22 août 1918, Interrogatoire d'un déserteur, S.H.D. 16N1306; G.Q.G. des Armées du Nord et du Nord-Est, État-Major, 2e Bureau, No 35.016, Bulletin de Renseignements, 25 septembre 1918, S.H.D. 6N282; G.Q.G. des Armées du Nord et du Nord-Est, Service de Renseignements aux Armées, S.R. de Belfort, No 252/1, Compte Rendu des Renseignements, 6 septembre 1918, S.H.D. 23N89; and État-Major de l'Armée, 2me Bureau A, Résumé des Renseignements Parvenues dans les 24 heures, 26 septembre 1919, S.H.D. 7N680.

2. Attaché Militaire en Hollande, Communiqué au Service de Folkestone, La Haye, Renseignements sur la Belgique, 16 septembre 1918, S.H.D. 16N1306; Attaché Militaire en Hollande, Communiqué au Service de Folkestone, La Haye, Renseignements sur la Belgique, 28 octobre 1918, S.H.D. 16N1306; and G.Q.G. des Armées du Nord et du Nord-Est, No 240/1, Service de Renseignements aux Armées, S.R. du Belfort, Compte Rendu des Renseignements, 28 août 1918, S.H.D. 23N89.

3. G.Q.G., 2e Bureau, Répartition des divisions Allemandes sur le front occidental à la date du 24 septembre 1918, Annexe no. 771, 467; G.Q.G., 2e Bureau, 24 octobre 1918, Remarques sur le repli Allemand, Annexe no. 781, 478–79; G.Q.G., 2e Bureau, Note sur les Forces allemandes en ligne et en réserve, 6 novembre 1918, Annexe no. 778, 474–75; and G.Q.G., 2e Bureau, Répartition des divisions Allemandes sur le front occidental à la date du 11 novembre 1918, Annexe no. 774, 470. All are in: *Rapport du Maréchal Commandant en chef les Armées françaises du Nord est du Nord-Est sur les Opérations en 1918, La Campagne Offensive (18 juillet-11 novembre)*, Ve Partie, Offensives d'ensemble des armées alliées et Poussée vers la Meuse (26 septembre-11 novembre) (Paris: Imprimerie nationale, 1921).

4. *Quoted in* Wilhelm Deist, "The Military Collapse of the German Empire: The Reality Behind the Stab-in-the-Back Myth," trans. E. J. Feuchtwanger, *War in History* 3, no. 2 (1996): 204.

5. Maj Paul Hedrick Clark to Gen John J. Pershing, Report no. 234, 1 November 1918, 607, Special Collections in US Military Academy Library.

6. Henri Mordacq, *L'Armistice du 11 novembre 1918* (Paris: Plon, 1937), 205.

7. Mordacq, 166; and Henri Mordacq, *Le ministère Clemenceau, Journal d'un témoin*, 4 vols. (Paris: Plon, 1930–1931), 2:297.

8. Robert Blake, ed., *Private Papers of Douglas Haig, 1914–1919* (London: Eyre and Spottiswoode, 1952), 334.

9. Georges Clemenceau, *Grandeurs et misères d'une victoire* (Paris: Plon, 1930), 59; Mordacq, *Le ministère Clemenceau*, 2:243–50, 258–60; and Raymond Poincaré, *Au service de la France*, vol. 10, *Victoire et Armistice 1918* (Paris: Plon, 1933), 10:368, 373–75, 388.

10. Mordacq, *Le ministère Clemenceau*, 2:258.

11. France, Ministère de la Défense, État-Major de l'Armée de Terre, Service Historique, *Inventaire Sommaire des archives de la Guerre, Série N 1872-1919* (Troyes: Imprimerie La Renaissance, 1975), 212–13.

12. *See* Robert Doughty, *Pyrrhic Victory: French Strategy and Operations in the Great War* (Cambridge, MA: Harvard University Press, 2005), 505; and André Kaspi, *Le temps des américains, 1917–1918* (Paris: Publications de la Sorbonne, 1976), 243–52.

13. Émile Fayolle, *Cahiers secrets de la grande guerre* (Paris: Plon, 1964), 304–9.

14. *Journal de Marche et Opérations du G.A.R.*, 18 février au 11 novembre 1918, 169–72, S.H.D. 26N18.

15. Alain Fauveau, "Le dernier combat: Vrigne-Meuse, 10 et 11 novembre 1918," *Revue historique des Armées*, no. 251, 2e trimestre 2008, 24–26.

16. Émile Herbillon, *Souvenirs d'un officier de liaison pendant la guerre mondiale: du général en chef au gouvernement*, 2 vols. (Paris: J. Tallandier, 1930), 2:335.

17. Bruno Cabanes, *La victoire endeuillée: La sortie de guerre des soldats français (1918–1920)* (Paris: Seuil, 2004), 29–30.

18. See the reports from the 8th, 26th, and 125th divisions on 19, 21, and 22 October, respectively, in S.H.D. 16N1487.

19. G.Q.G. des Armées du Nord et du Nord-Est, Service Spécial (Contrôle Postal aux Armées), 31 DI (3^{O} A), N^{O} 804/CP, 8 novembre 1918, S.H.D. 16N1487.

20. Olivier Lahaie, "Renseignement et services de renseignements en France pendant la guerre de 1914-1918," PhD dissertation, Université de Paris IV, 2005, 4 vols. with annexes, 3:1851, 2:902–5, 2:918.

21. Lahaie, "Renseignement and services de renseignements," 2:905–16.

22. É.M.A., 2me Bureau-S.R., Annemasse, No 17017, 15 octobre 1918, Compte Rendu, S.H.D. 16N1275.

23. Attaché Militaire en Hollande, La Haye, 24 octobre 1918, Renseignements sur la Belgique, S.H.D. 16N1306.

24. G.Q.G. des Armées du Nord et du Nord-Est, Service de Renseignements aux Armées, S.R. du Belfort, 15 août 1918, No 227/1, Compte Rendu des Renseignements, S.H.D. 23N89.

25. Clark to Pershing, Report no. 219, 13 October 1918, 566–67. Colonel Émile Herbillon, the liaison officer between the French military and the government, recorded similar views in his diary. *See* Herbillon, *Souvenirs d'un officier de liaison*, 2:328, 337.

26. Clark to Pershing, Report no. 234, 1 November 1918, 607.

27. See H.30, Epidémie de grippe dans l'armée allemande, 31 juillet 1918, S.H.D. 6N81; G.Q.G. des Armées du Nord et du Nord-Est, Service de Renseignements aux Armées, S.R. de Belfort, No 231/1, Compte-Rendu des Renseignements, 19 août 1918, S.H.D. 23N89; É.M.A., 2me Bureau, Annemasse, No 16580, Presse Allemande, La Vie en Allemagne, 30 Septembre 1918, S.H.D. 16N1274; É.M.A., 2me Bureau, Annemasse, No 17110, 19 octobre 1918, Compte Rendu, S.H.D. 16N1275.

28. G.Q.G. des Armées du Nord et du Nord-Est, Service de Renseignements aux Armées, S.R. du Belfort, 4 août 1918, No 216/1, Compte Rendu des Renseignements, 6, 8, S.H.D. 23N89.

29. É.M.A., 2ème Bureau A, Situation Militaire, 30 octobre 1918, S.H.D. 7N680.

30. É.M.A., 2ème Bureau A, Résumé des Renseignements, 1 novembre 1918, S.H.D. 7N680.

31. Clark to Pershing, Report no. 234, 1 November 1918, 607.

32. É.M.A., 2ème Bureau A, Situation Militaire, 30 octobre 1918, S.H.D. 7N680.

33. Clark to Pershing, Report no. 219, 13 October 1918, 568.

34. Michael Geyer, "Insurrectionary Warfare: The German Debate about a Levée en Masse in October 1918," *Journal of Modern History* 73, no. 3 (September 2001): 474–75, 488–92, 496–97, 502.

35. État-Major de l'Armée, 2me Bureau, S. R. Annemasse, No 16398, 30 septembre 1918, S.H.D. 16N1274.

36. É.M.A., 2ème Bureau, Prisonniers de guerre en France, "vers" 1 novembre 1918, S.H.D. 6N81.

37. É.M.A., 2ème Bureau, No 113, Résumé des Renseignements, 7 novembre 1918, S.H.D. 7N680.

38. Quoted in Pierre Renouvin, *L'Armistice de Rethondes, 11 novembre 1918* (Paris: Gallimard, 1968), 267.

39. É.M.A., 3ème Bureau A, Note sur le plan d'action militaire de l'Entente, 2 novembre 1918, S.H.D. 6N81; G.Q.G.A, Procès de réunion, 4 novembre 1918, *AFGG*, 72, 757–59; É.M.A., 3ème Bureau A, Note au sujet de la situation crée par la capitulation de l'Autriche, 30 octobre 1918, S.H.D. 6N71. See Carte Ethnographique de l'Autriche Hongrie, n.d., S.H.D. 14N49.

40. É.M.A., 2ème Bureau, Résumé des Renseignements, 4 novembre 1918, S.H.D. 7N680.

41. Mordacq, *Le ministère Clemenceau*, 2:332.

42. Clark to Pershing, Report no. 234, 1 November 1918, 607.

43. Grosse Sitzung vom 17 Oktober 1918, Nr. 57, *Amtliche Urkunden zur Vorgeschichte des Waffenstillstandes 1918* (Berlin: Deutsche Verlagsgesellschaft für Politik und Geschichte, 1928), 143–44.

44. Philippe Bernard, "À propos de la stratégie aérienne pendant la première guerre mondiale: mythes et réalitiés," *Revue d'histoire moderne et contemporaine*, XVI (juillet-septembre 1969), 365–71.

45. René Martel, *L'Aviation française de bombardement* (Paris: Hartmann, 1939), 262–76.

46. Général de Goÿs, "Preface," in *L'Aviation française*, Martel, xiv–xv.

47. Mordacq, *Le ministère Clemenceau*, 2:337.

48. Ferdinand Foch, *Mémoires*, 2 vol. (Paris: Plon, 1931), 2:269.

49. Traduction d'un télégramme, É.M. Mirecourt à É.M. Provins, 9 novembre 1918, Annex no. 826, 157; and G.Q.G.A., Le maréchal Foch, commandant en chef les armées alliées, à Monsieur le général commandant en chef les armées du Nord et du Nord-Est, 29 octobre 1918, Annex no. 800, 112. Both in *Rapport du Maréchal*, VIe Partie, *Préparation d'une offensive en Lorraine*.

50. Foch, *Mémoires*, 2:264.

51. Conseil Supérieur de Guerre, 1è Séance de la 3è Session, tenue à Versailles le 31 octobre 1918, à 15 heures, p. 4, S.H.D. 6N64.

52. Poincaré, Au Service de la France, 10:378.

53. The French already had spent considerable time and effort in developing terms for an armistice and a peace. *See* Joseph Joffre, *Mémoires du maréchal Joffre (1910–1917)*, 2 vols. (Paris: Plon, 1932), 2:369–81.

54. David Lloyd George, *War Memoirs*, 2 vols. (London: Odhams, 1938), 2:1956.

55. Henri Mordacq, *La vérité sur l'armistice* (Paris: Tallandier, 1929), 55, 65.

56. Renouvin, *L'Armistice de Rethondes*, 256–60.

57. John J. Pershing, *My Experiences in the World War*, 2 vols. (New York: Stokes, 1931), 2:367.

58. T. Bentley Mott, *Twenty Years as Military Attaché* (New York: Oxford University, 1936), 267.

59. Mordacq, *La vérité sur l'armistice*, 58.

60. Charles Seymour, *The Intimate Papers of Colonel House: The Ending of the War* (Boston: Houghton Mifflin, 1928), 91. Seymour is quoting from a letter from Paul Mantoux to Colonel House, 6 July 1920. Foch later said it would have taken at least six months to seize bridgeheads across the Rhine. *See* René Lhopital, *Foch: L'Armistice et la Paix* (Paris: Plon, 1938), 110.

61. Clark to Pershing, Report no. 254, 29 November 1918, 662, 661.

62. AFGG 72, 338–39; and Rapport du Maréchal, VIe Partie *Préparation d'une offensive en Lorraine*, 30.

63. Renouvin, *L'Armistice de Rethondes*, 255–67; Guy Pedroncini, *Pétain: Général en Chief, 1917–1918* (Paris: Presses universitaires de France, 1974), 432–33; and Jean-Baptiste Duroselle, *La Grande Guerre des Français, 1914–1918* (Paris: Perrin, 1998), 410–12.

64. Clark to Pershing, Report no. 254, 29 November 1918, 662.

Part V. Military Thought and Reform

Introduction to Part V

Craig F. Morris

How exactly does a revolution in military thought occur? What are the catalysts that drive variations in thinking? When does a change in strategy become transformational? The concept that deviations in culture, technology, or military organization can sometimes lead to revolutionary transformations in military thought is widely accepted. What is not so well understood is the process that leads to such reforms.

To help understand the structure of military transformations, it is sometimes necessary to look beyond the field of military history. In 1970, the scientist turned historian Thomas Kuhn asked an overarching question: "How does the process of science work?" In his answer, Kuhn provided a model for the student of military history. He contended that the basis of all scientific work was a shared consensus on a fundamental theory, which he referred to as a *paradigm*. Normal scientific work proceeds within this paradigm as scientists work to flesh out details. As they conduct experiments, sometimes results conflict with the model, but these are viewed as anomalies to the accepted paradigm. It is only when enough anomalies amass to shake the dogmatic faith that a paradigm shift occurs.

In many ways, the process of military transformation is similar to Kuhn's scientific paradigm shift. There is a military doctrine that is widely accepted by most professionals. Nevertheless, there are radicals who question the accepted paradigm or new technologies that fundamentally call it into question, but these dissenters must fight against the pressure to conform to the accepted ideas of an era. It is only when a wave of skeptics accepts the challengers that a revolution in military thinking occurs. This is not a clear-cut path; it often requires steadfast radical thinkers waging a war against established lines of thinking and, most important, time to accomplish a paradigm shift. Yet when they occur, revolutions in military thought can be a powerful force, catapulting one nation or group ahead of others.

In the long history of the Harmon Memorial Lectures in Military History at the United States Air Force Academy, many noted historians have jousted with this issue. This section of the book features five brave historians attempting to explain this complex phenomenon. When their efforts are combined, we see there are trends that can help explain military transformations. First, it is a process and not an event. Transformations take time to garner the support needed to become accepted doctrine. Next, individual actions are often critical. The old saying of "the right person at the right place" rings true in studying

revolutions in military thought. The combination of insight, charisma, and perseverance are often essential elements. Finally, there is usually a catalyst to start the process. This is often a technological change that spurs new ways of thinking.

The first author in this section is William H. McNeill. His presentation tried to define the structure of military-technical transformations. He concluded that there is a universal process much like Kuhn's argument on scientific revolutions. McNeill argued there is a reticence to change in military thinking; however, the combination of pressure from rivals and the promise of new technologies can overcome this reticence. Individuals, groups, and institutions—in ways that are particular to each situation—shape the nature of the military-technical change. In the end though, military transformations are a process of reticence, overcoming that reticence, and then shaping the new thought and technology in ways that make sense for each culture, nationality, or situation.

Holger Herwig adds to this discussion by exploring how outside influences can shape transformation in military thought, sometimes in undesirable ways. Herwig uses the example of Karl Haushofer's *Geopolitik* and its influence on Adolf Hitler's thinking to demonstrate how revolutions in thought can sometimes be hijacked. During the interwar years, Hitler became an adamant student of Haushofer's ideas based on conflating national power with geography, economics, and a form of Social Darwinism. In this way, Haushofer shared the blame in Nazi Germany's strategy in World War II by giving academic credibility to Hitler's ideas of conquest in the name of building German power.

The third chapter turns toward specific examples with Sir Harry Hinsley's lecture on the revolution in intelligence during World War II. A veteran of the Bletchley Park effort, Hinsley describes the transformation in thinking about intelligence brought about by early computers. He describes this development not as a rapid acceptance of new technology but rather as a process driven by centralizing cryptanalyst operations in one location. This amalgamation of multidisciplines helped overcome fidelity to the old methods of intelligence that the new computers were challenging. Thus, Hinsley describes the evolution of intelligence from a strategic tool to a daily competition between opponents to garner the best information. In this way, he not only demonstrates a revolution in intelligence but also in war itself, with the opening of a new theater of war—the information domain.

Grant Hammond modernizes the story with his chapter on the role of John Boyd in transforming airpower. The key to Hammond's argument is his assertion that "we don't see things as they are, we see things as we are." In other words, military professionals are often tied to the technology and doctrine

they grew familiar with in their early years. When someone like John Boyd challenges those concepts, the first reaction is all too often to shoot the messenger. It is only when the messenger has enough perseverance that attitudes slowly change and a revolution in thought occurs.

Roger Launius concludes the section by analyzing the evolution of American space power. He argues that to understand the then-current state of space policy, one must digest the past. He argues that although technology like intercontinental ballistic missiles and satellites forever added a new realm of warfare, thinking about that domain is colored by historical and outside factors. For instance, at times certain leading thinkers have linked space power policy to the Laws of the Sea as precedent or to Cold War competition as a shaping force in space-power thought. In this way, Launius provides a guide to thinking about doctrinal changes but also forces the reader to consider the possible ramifications when context changes. This helps provide a historical framework for complicated problems like what will happen in the post–Cold War world or if space becomes the domain of multiple competing nations.

In this way, these five authors explore different elements shaping military thought and transformations. It is up to the reader to combine them and draw their own conclusions. What runs through each of the lectures is the concept that military transformations are a process. This process takes time, as thought leaders and change agents need to overcome a reticence built on allegiance to widely accepted ways of thinking. When change does come, it is shaped by factors unique to each situation. As these new ideas become the new paradigm, they become the doctrine that defines warfare in the next era.

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The Structure of Military-Technical Transformation*

William H. McNeill

We live under an extraordinary cloud of uncertainty. Technological changes alter human experience in far-reaching ways many times over in a single lifetime. I, for instance, can remember when radios were squawking toys boys built at home in hope of hearing broadcasts from Schenectady and then, a few years later during the Battle of Britain, came the wonder of Edward Murrow's transatlantic voice, clear as a bell, with bomb explosions muffled in the background. More recently, computers began to sprout around me everywhere, and an array of other novelties that did not exist when I was born, or were unavailable to ordinary people, have altered our daily routines—cars, airplanes, frozen food, plastics, TV, email, fax machines, antibiotics, and many more.

Because technological change is so pervasive and powerful among us—and not least among the military—we are tempted to assume that restless technological transformation is natural and normal. But the historical record shows that this is not so. In times past, most people lived out their lives in accustomed fashion, using the same things their forefathers had used and making no deliberate effort to alter or improve them. Human inventive capabilities, however real, came into play only occasionally and exceptionally, whereas we must adjust to an avalanche of innovation, some of it planned and deliberate, some of it unforeseen and unwelcome.

My assignment at this Sixteenth Military History Symposium† of the United States Air Force Academy is to ask how and why we find ourselves in such an unusual circumstance and, in particular, to explore what it was that provoked the extraordinary military-technical transformation of the Industrial Age that started in the 1840s and, despite some subsequent slowdowns, has spread and accelerated, rather jerkily, ever since.

Let me begin by pointing out that on the face of things, any significant military–technical change is undesirable simply because it makes trouble and increases risk. To use a new weapon effectively, fighting men have to change their habits and learn new skills. This is bothersome in itself; and, in practice, success is never sure ahead of time. In war, sensible persons therefore shy away from compounding the risk and uncertainty created by the enemy, by

*Harmon Memorial Lecture #53, 2011.

†For many years, the Department of History at the Air Force Academy hosted a biannual military history symposium, and when a Harmon lecture fell on the year of the symposium—as it did in 1994—the speaker aligned the subject of his talk with the theme of the symposium. USAFA discontinued the military history symposium series after its final event in 2009.

the weather, and by all the other friction of war and rigorously refrain from trying anything new. Instead, prudent fighting men rely on experience, adhere carefully to time-tested ways, and, in short, behave exactly like Colonel Blimp. He became an object of cartoon ridicule in the 1930s, yet Colonel Blimp's frame of mind constituted the norm of sane military management in past ages.* How did he get so out of step with our times?

The changeability of military technology since the 1840s is all the more surprising because this was a time when military men encased themselves in ever thicker layers of bureaucracy—and bureaucracies are not usually inclined to innovation. After all, agreeing with one's bureaucratic superiors is the way to get ahead, while conforming to precedent can keep the unambitious out of trouble. And when an awkward problem arises, it can always be referred to a committee, thereby postponing action indefinitely. Routine is, therefore, at the heart and core of bureaucratic behavior; yet, from the 1880s important segments of the military bureaucracies of the most-powerful nations of the world systematically began to encourage radical technical innovation. This occurred in spite of obvious risks and ever mounting costs, as one improved weapon system after another displaced its predecessors in rapid and apparently endless succession. Odd behavior indeed, and all the more so since many expensive innovations were soon scrapped as obsolete and never used in action. Moreover, when new weapons were employed in World Wars I and II, they did not bring easy victory but instead magnified destruction enormously, hurting winners as well as losers. Why did it happen? How did long-standing national rivalries boil over into such a risky and unsettling arms race?

An historian is always tempted to look for similar experiences in the deeper past, and plausible historical parallels to the arms races of the industrial era can be found. Two eras in particular occur to me as faint foreshadowing of the modern experience. One came in the Hellenistic age, when rival rulers employed a handful of military engineers to build increasingly powerful siege engines and larger and larger war ships. A second period of rapid and deliberate technological change occurred in China under the Sung dynasty (960–1279), when gunpowder weapons and a galaxy of other military inventions (especially naval) burst upon the scene.

But both these outbreaks of technical instability turned out to be relatively short-lived. Hellenistic engineers quickly reached technical limits of size, strength, and resilience set by the wood and fiber available for their catapults and ships, and the political rivalries that had stimulated that arms race disap-

*The Colonel Blimp cartoons were drawn by the New Zealand political cartoonist David Low starting in 1934. His Colonel Blimp character was a satire of the British military officer as pompous, jingoistic, and ultraconservative.

peared once the Romans established their military supremacy throughout the Mediterranean coastlands. In the Far East the pattern of events was different. Sung officials' efforts to encourage military invention in hope of warding off barbarian assault failed. Instead, after borrowing some high-tech, up-to-date weaponry from their enemies, the Mongols were able to complete their conquest of China in 1279, and after the Mongols were driven out of China in 1368, subsequent Chinese regimes regularly preferred diplomacy to war and were cautious—though never completely inflexible—in investing in new military technology.

But, of course, the Mongol storm was not confined to China, and their conquests spread knowledge of the explosive force of gunpowder throughout Eurasia. Among the peoples whose traditional ways of war were thus affected, the European response was by far the most radical and persistent. As a result, China's initial flirtation with systematic pursuit of technological improvement under the Sung dynasty was soon overshadowed by Europeans' enduring enthusiasm for more and better guns, large and small.

In a sense, the modern arms race dates back to the reckless way rival European rulers set out to build wall-destroying artillery in the fourteenth and fifteenth centuries. To begin with, critical skills for casting large metal objects were narrowly circumscribed around the city of Liege, but just as guns were becoming really powerful and comparatively mobile, the breakup of the Burgundian lands after Charles the Bold's death in 1477 divided Europe's gun-casting capabilities between French Valois and German Hapsburg rulers. As a result of this happenstance of dynastic politics, no single monarch or state was ever able to monopolize big guns in Western Europe, whereas in all the other civilized lands of Eurasia, when effective artillery arrived on the scene it was swiftly monopolized by a single ruler. Comparatively vast empires resulted—Ottoman, Safavid, Mughal, Muscovite, and, of course, the Chinese, where, however, big guns were less important than elsewhere simply because the Chinese rulers had no wish to destroy walls their soldiers defended against the continuing nomad danger.

Thereafter, Western Europe remained technologically innovative, largely because state rivalries persisted in nourishing deliberate efforts to improve weaponry and military organization. Any new practice or superior weapons design spread very rapidly from one army to another. This had the effect of maintaining an ever-shifting and ever-precarious balance of power within Europe, whereas in all the rest of Eurasia, once rulers succeeded in monopolizing heavy guns, they saw no reason to tinker with a weapons system that enabled them to break into the stronghold of any defiant local potentate or potential rival who lived within range of their artillery and field army.

The modern history of Japan offers a particularly vivid and convincing example of how dispersed access to guns accelerated military-technical change for about half a century, until a single victor emerged whose policy of restricting access to guns stabilized Japan's new political-military order for the ensuing two hundred years.

Samurai swordsmen and archers found nothing to admire in clumsy guns when this Chinese invention first came to their attention, and the success with which the Japanese repelled massive Mongol invasions in 1274 and 1281 confirmed Japanese warriors in their disdain for newfangled weaponry from abroad. But these attitudes changed abruptly after 1542, when local military leaders realized that the (by then much improved) guns, large and small, that European sailors carried on shipboard as a matter of course offered enormous advantages in the local feuds that had long simmered among them. Japanese craftsmen quickly learned to produce muskets and larger guns as those Europeans employed, and when military rivals hurried to acquire these new weapons in ever larger numbers, the scale and decisiveness of warfare escalated very quickly. Commoners armed with muskets proved able to overwhelm the most expert swordsmen, and within half a century, a low-born warlord, Toyotomi Hideyoshi (d. 1598), was able to crush all rivals and establish his authority throughout the country.

His successors, the Tokugawa Shoguns, sought to maintain their sovereign power and stabilize Japanese society by weaving a complex network of alliances and agreements with local clan leaders throughout the country. All concerned were eager to reaffirm the prestige and privileges of samurai swordsmen whose traditional role in society had been seriously compromised by the sudden importance of musketeers. Accordingly, after repressing a serious revolt (1637–38), the Tokugawa Shoguns proceeded to disarm commoners by confiscating guns and prohibiting their manufacture. In addition, by cutting off contact with the outside world, except for a single Dutch ship permitted to anchor off an island in Nagasaki harbor once a year, the shoguns made sure that unauthorized weapons and other subversive novelties (like Christianity) could not be smuggled into the country.

These measures allowed samurai swordsmen to retain their traditional primacy in Japanese society for the next 200 years, even though a lasting peace deprived them of their function as fighting men. This paradoxical situation was eventually upset when in 1854 Commodore Oliver Perry, largely on the strength of his naval guns, compelled the Japanese government to change its policy of excluding foreigners, thus inaugurating a new era of tumultuous military-political upheaval that climaxed in World War II.

Japan's fluctuation between extremely rapid, violent accommodation to new weapons and a no less remarkable, deliberately contrived stability exag-

gerated a parallel fluctuation in European accommodation to gunpowder weapons. For the radical political-military upheaval that prevailed in Europe, when guns were new, slowed down very perceptibly after 1648, when comparatively well-consolidated states and bureaucratically organized standing armies emerged from the Thirty Years' War. Political rivalries did not disappear, and military-technical change did not come to a complete halt. But the uniformity of equipment and training that made large standing armies more efficient also increased the cost of introducing new weapons very sharply, since many thousands of any new model were required if the benefits of uniformity were not to be lost. This became a very persuasive consideration for all European military administrators. As a result, the small, successive changes of design (cumulatively important, though often trifling in themselves) that had come very quickly in earlier centuries slowed almost to a halt. The fact that the British army used the same musket from 1690 to 1840 aptly illustrates the resulting stabilization of Old Regime armies, for during all those years unchanging muzzle-loading muskets were the principal infantry weapon, and infantry remained the undisputed queen of battles.*

Naval design also attained remarkable stability during these decades, and international rivalries simmered down as well. When the ideological fires fed by Protestant-Catholic controversy subsided, war became little more than the sport of kings, reinforced by the rivalries of merchants along Europe's Atlantic face. By 1750 or so it certainly looked as though Europe too, like Japan after 1636, had adjusted to the shock of gunpowder weaponry and was settling down toward comparative stability in matters of military technology and political structure.

But, as we all know, that was not the way things went. Instead, international rivalries intensified, beginning with the Seven Years' War, 1756–63, followed by the wars of the American Revolution, 1775–83, and rose to a notable crescendo with the wars of the French Revolution and Napoleon, 1791–1815. This succession of wars, in turn, provoked unprecedented efforts to mobilize human and material resources, transforming the economy and society of Europe and inaugurating the Industrial Age in which we live.

Nonetheless, although all the years of war between 1756 and 1815 stretched Old Regime military-political management to the limit, they did not alter weapons in any notable fashion. To be sure, the French had responded to their defeats in the Seven Years' War by improving the design of their field artillery and enjoyed perceptible advantages at Valmy against the Prussians (1792) and at Toulon (1793) against the British as a result. But other armies soon caught

*The British Land Pattern Musket, better known as the Brown Bess, was the standard long gun of British forces from 1722 until 1838. While it had many derivatives, all were .75-caliber flintlock muskets.

up, while other innovations of the war years, such as rockets, observation balloons, and field telegraph, had only marginal importance. The same was true of navies, although the British resort to larger caliber guns, the so-called carronades, prefigured what was later to happen to naval armament, without, however, transgressing the limits set by sails, muzzle-loading cannon, solid shot, and wooden ships.

Despite the Revolution, an almost unbending technological conservatism prevailed in the French armed forces as well as among their politically conservative enemies. This is nicely symbolized by the fact that Napoleon disbanded the balloon observation corps that civilian initiatives had introduced to the French army in the revolutionary year of 1793; and Wellington, after witnessing a trial rocket-firing during which the missiles' erratic course endangered him and other observers, refused to have anything more to do with weapons that, when all went well, doubled the range of existing artillery. (Nevertheless, as "The Star-Spangled Banner" may remind us, the British navy and several continental armies continued to employ rockets, abandoning them only in the 1840s when radically improved guns had begun to match the range and improve upon the accuracy of rocket fire.)

What eventually upset military-technological conservatism was nevertheless an indirect effect of the mounting intensity of warfare that distracted Europe between 1756 and 1815. Demand for iron, uniform cloth, and other commodities assumed unprecedented scale when millions of men were mobilized into armies and navies had to be equipped. When war ended, this demand suddenly ceased, facing the mills, factories, and artisan shops that had supplied Europe's armed forces with a crisis of survival. Many closed down, especially on the continent, where state arsenals had played the principal part in war production. In Great Britain, however, a host of civilian enterprises had supplied both British and continental forces with iron, cloth, and other materials on an unprecedented scale; and many of the forges and factories that had sprouted luxuriantly during the war years succeeded in finding new civilian markets for their products after 1815, though not without undergoing a difficult postwar depression.

The fate of the iron industry was especially important, for the cheapening of iron, thanks to efficient new furnaces built to supply the British navy's voracious appetite for cannon and other hardware (anchors, chains, and the like), permitted the rapid development of new civilian markets. In particular, steam engines, steamships, and railroads soon were constructed largely of iron, while bridges and new forms of heavy machinery also expanded the civilian demand. What we have learned to call the First Industrial Revolution,

based principally on coal and iron, thus moved into high gear, and with it dawned the Industrial Age with which this conference is concerned.*

At first, the military market was noticeably absent. After 1815, demobilization and military cutbacks everywhere prevailed. Military men were not inclined to experiment with novelty of any kind, and civil administrators were interested mainly in reducing the cost of the armies and navies that each government chose to maintain. For a while, efforts at making the Concert of Europe into a Holy Alliance against revolution affected diplomacy and perhaps helped to dampen the rivalries that had emerged from the peace settlement. At any rate, peace and stability were widely wished for after the storms and strains of Revolutionary War, and no responsible authority entertained the notion of trying to upset the balance of power by trying to improve upon existing weapons systems.

This postwar era ended abruptly in 1841 when key figures in the French navy came to feel that their nation and service had been humiliated by failure to support the French protégé, Mehmed Ali of Egypt, in his collision with the Ottoman Sultan and the British navy. Mehmed Ali (1769–1848) was an Albanian soldier of fortune who seized control of the Ottoman province of Egypt in 1805 and then relied mainly on French advisers to help him modernize the country. His army, trained and equipped along European lines, soon proved far superior to any rivals in the eastern Mediterranean, and when the Ottoman Sultan imprudently attacked his overmighty subject in 1838, Egyptian victories quickly threatened to topple the Ottoman regime. But the British were unwilling to see a French protégé installed in Constantinople and by using their Mediterranean fleet to blockade Egypt made it impossible for Mehmed Ali to supply his army by sea. Land communications were inadequate, so the Egyptian army had to withdraw and submit to a settlement dictated by the European powers. French assent to this upshot was very grudging and came only after King Louis Philippe refused to risk war in support of Mehmed Ali, thereby provoking the angry resignation of his fiery, patriotic prime minister, Adolphe Theirs.

Memory of this humiliation rankled, and one of Louis Philippe's sons backed French naval officers when they proposed a simple way to counter Great Britain's galling naval preponderance. Their plan was to install steam engines in French warships, thus allowing them to move against the wind without having to tack. The British immediately felt exposed to cross-Channel invasion, since by choosing a time when the direction of the wind would prevent sailing vessels from matching the mobility of steam-powered ships, even

*The First Industrial Age is commonly accepted as the period beginning around 1760 in Great Britain and then spreading to other nations when muscle-powered tools were replaced by power-driven machines like the steam engine, resulting in industrial, social, economic, and military changes.

a few of the remodeled French ships could neutralize the Royal Navy's numerical superiority. With this, the fat was in the fire. Not surprisingly, the British Admiralty swiftly matched the French by installing steam engines of their own, and the superior industrial base and political tradition that Britain had inherited from the Napoleonic Wars made it comparatively easy for them to maintain superiority at sea despite a succession of other French efforts to renew the challenge by launching further technical innovations one after another.

Until the 1880s, British responses to French initiatives remained reluctant. Any significant change in naval technology meant that the Royal Navy's existing stock of battle ships, and the skills of sailing and fighting them, lost part of their value. Change was troublesome and costly. It was also distasteful. Spic-and-span sailing vessels had to take dirty coal on board so that nasty steam engines could spew the sails with even dirtier smoke. Equally distressing was that aristocratic naval officers had to accept uncouth mechanics as colleagues in managing their ships.

But despite heartfelt regret, by the 1840s Britain's traditional reliance on wooden walls was no longer possible. Another French technical invention made that evident to all concerned. As early as 1822, a French army officer, Henri-Joseph Paixhans, succeeded in designing a gun that could fire explosive shells safely and published a book explaining how his shell guns could easily destroy any wooden warship. In a trial firing two years afterward, Paixhans's guns did indeed destroy an old hulk, just as he had predicted. Thereupon, after appropriate deliberation lasting some 13 years, the French navy decided in 1837 (just before the humiliation of 1841) to install the new shell-firing guns on shipboard. The Royal Navy and other European navies, including the Russian, swiftly followed suit.

From that time onward, naval officers realized that sea battles, as they had known them, were a thing of the past. Lying yardarm to yardarm in the approved Nelsonian fashion and firing broadsides of solid iron shot until the less efficient (or merely unlucky) ship was pounded into submission had become impossible. One or two hits from exploding shells sufficed to cripple any ship (and set it on fire), as the Russians demonstrated at Sinope in 1853 by shelling the Turkish navy into oblivion in a few hours. That meant, all of a sudden, that the Russian navy could sail to Constantinople unopposed, and it was this prospect that persuaded the French and British governments to cooperate in sending ships and soldiers to help the Turks, thus launching what became known as the Crimean War (1854–56).

From many points of view, this short and half-forgotten war marks the point in European history when the systematic technological conservatism that had dominated military management since 1648 broke down. The French and British navies both accepted the premise that wooden ships had become

obsolete and competed in building steam-powered, armored vessels of wildly diverse designs, intended to carry enormous mortars and other heavy artillery for attacking the Russians' fortified naval base of Sevastopol. But existing steam engines were comparatively weak and consumed a great deal of coal so that naval vessels still had to rely on sails for long-distance cruising. Awkward hybrids therefore prevailed in naval design for the next 30 years before sails could be abandoned.

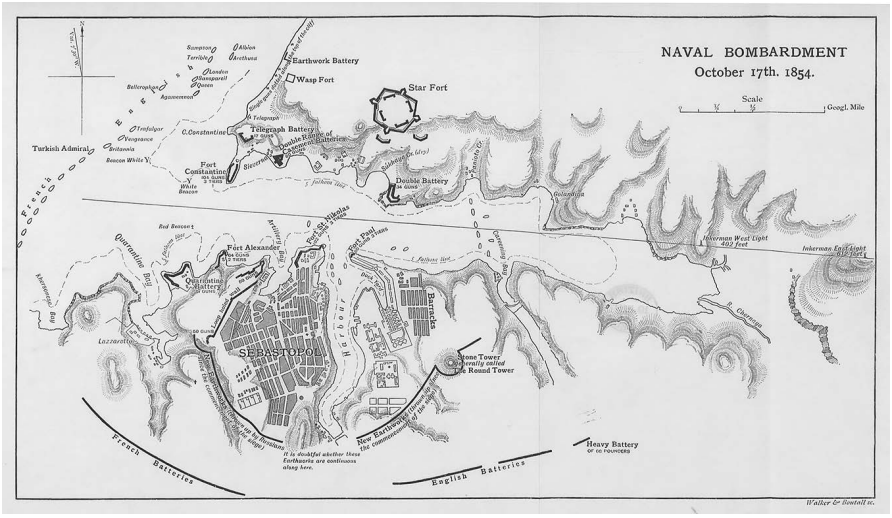

Illustration depicting Crimean War naval bombardment of 17 October 1854. Originally appeared in Sir Leopold George Heath, *Letters from the Black Sea during the Crimean War, 1854-1855 . . . With illustrations* (London: R. Bentley & Son, 1897).

On land, the technological impact of the Crimean War was rather more significant. In the first place, acute problems in meeting sudden increases in the demand for handguns provoked Europeans to imitate what came to be known as the American System of Manufacture for small arms, thus introducing mass production methods to the armaments industry on a really large scale.* This was, I suppose, the most fundamental step yet taken in the industrial arms race, liberating an important segment of military supply and design from the shackles of artisan modes of production. Thereafter, it became

*The American System of Manufacturing refers to the adoption of machine-made interchangeable parts in the nineteenth century. This system had two important factors. First, the use of machines allowed semi-skilled labor to manufacture parts to standard tolerances. Next, the use of standardized parts meant machines could be put together rapidly and parts replaced as they broke. The production system started in the American small-arms industry and is known as the American System to differentiate it from the European systems that mostly relied on skilled artisans to build individual weapons.

comparatively cheap and easy to modify small arms while still retaining the benefits of uniformity even when supplying hundreds of thousands or even millions of men. In addition, the Crimean War brought civilian entrepreneurs to the forefront of artillery design and manufacture. Thereafter, private pursuit of profit began to reinforce national rivalries in encouraging technological change in armaments, thus assimilating military technology to the competitive model that already prevailed in the civilian marketplace.

Details of these transformations demonstrate vividly the indirect and unpredictable paths of change in human affairs. Mass production, for instance, began with the War of 1812 when the American government found itself desperately short of muskets, largely because the French had supplied American forces in the Revolutionary War from across the Atlantic. A corps of artisans able to turn out standard muskets therefore did not exist in the United States when war with Britain in 1812 created a sudden need for such weapons. Ingenious Yankees in the Connecticut River Valley eventually responded by inventing automatic and semiautomatic machines—the so-called American System of Manufacture—that could make gun parts accurately enough to allow a workable weapon to be assembled from interchangeable parts. Invention and installation of such machinery took a while, and assembly lines were not fully operational until about 1850. The new machines were costly and often wasted material but turned out gun parts far faster than had previously been possible. Moreover, workers tending the machines needed no special skill. European gunsmiths, by contrast, used simple hand tools—hammer and file for the most part—and were economical of raw materials, but since handmade parts were never exactly the same, each gun had to be carefully fitted together with delicate filing and other time-consuming adjustments.

American gunmakers, of course, had only a relatively modest market for their standardized products at home. Hoping to expand his sales, one of them, Samuel Colt, brought his wares to the London Exhibition of 1851, where he astonished the public by disassembling revolvers, scrambling the parts and then reassembling and firing his pistols. The possibility of mass production of standardized gun parts was therefore familiar in Western Europe when the Crimean War provoked a sudden surge in demand for small arms. But established artisan methods set sharp limits on how quickly production could be increased, since training skilled gunsmiths took time. On top of that, both English and French armies were experimenting with muzzle-loading rifles, using a new bullet invented by another Frenchman, Capt Claude-Étienne Minié, in the mid-1840s. Rifles were more accurate and carried more than smooth-bore muskets, but to attain these advantages, existing smooth-bore muskets had to be rifled—another exacting task for the limited number of gunsmiths who could do the job. Under these circumstances, British gun-

smiths tried to take advantage of their situation by raising prices, with the resulting public controversy delaying instead of accelerating output.

This experience persuaded the British government to mechanize small-arms manufacture by importing milling machines from the United States. Accordingly, a new arsenal to manufacture military rifles was set up at Enfield in 1855 and became fully operational four years later, after the war was over. Other forms of mass production were easier to organize, so that, for instance, a machine set up for the purpose in the Woolwich arsenal began to turn out 250,000 Minié bullets a day and a second machine combined bullet and cartridge into a single package at a comparable rate. The advantages of mass production were just as obvious to other governments so that within a decade of the time mechanized rifle production at the new Enfield Arsenal came on line, similar establishments arose in all the other leading countries of Europe and spread to Turkey and Egypt as well.

Increased rates of manufacture made the introduction of new designs for small arms feasible again. The difference was enormous, for when first France (1866), and then Prussia (1869), decided to reequip their armies with modern, up-to-date rifles, it took only four years to provide every soldier with the improved weapons. By contrast, when in 1840 the Prussians had decided to reequip their army with an older design of breech-loading rifle—the so-called needle gun, invented by Johann Nikolaus von Dreyse—it took 26 years to complete the changeover. The artisans Dreyse employed to manufacture the new weapons could not produce more than 10,000 a year; and even when the resources of the state arsenals were brought to bear, production only increased to about 22,000 per annum. By comparison, in 1863, when the Prussians were still straining to complete their 1840 program, the new Enfield arsenal turned out 100,370 rifles in a single year, routinely and without any exceptional emergency to spur extra effort.

Long-standing obstacles to technological change of small arms were thus swept away, and inventors rapidly developed increasingly effective rifle (soon, also, machine-gun) designs so that, from time to time, European armies continued to reequip their infantrymen—by the millions. Each such change required new drill, new tactics, and new logistics to match the guns' increasing appetite for ammunition. Under the circumstances, familiar routines began to blur, and established rules for the conduct of battle became obsolete as the experience of World War I eventually showed. But until 1914, most army officers refused to admit that anything had happened to upset their battle plans. Instead, they left technological change to a handful of specialists and assumed that radically improved infantry weapons would have no important effect on how soldiers would have to behave in battle.

But military men were not left to their own devices when it came to changes in artillery design. Instead, the yawning gap between what they expected and what turned out to be the case in 1914–18 widened even further because the manufacture of artillery and other heavy weapons became inextricably entangled with the pursuit of private profit.

This began when individual industrialists decided to apply civilian skills to the manufacture of guns, believing that it would be easy to produce a better weapon than the muzzle-loading cannon that government arsenals turned out. On the continent, it was Alfred Krupp of Essen who pioneered the manufacture of technically superior breech-loading steel artillery. Like Samuel Colt, he announced his technological prowess by exhibiting a few samples at the London Exhibition of 1851. But at first he had difficulty persuading governments to buy his product, partly because steel guns were expensive, partly because they sometimes suffered from casting flaws and fractured unexpectedly, and mostly because military procurement officers were accustomed to acquiring artillery from state arsenals and distrusted the crass and selfish motives of an upstart manufacturer like Alfred Krupp who, after all, expected to make money from selling his guns. Egypt was his first customer (1855); Prussia rather reluctantly followed with a trial batch of 300 guns; but only when the Russians placed far larger orders after 1863 did breech-loading steel artillery really begin to displace bronze muzzle-loaders. Range and rate of fire for field artillery began to increase accordingly; and a long series of improvements occurred very rapidly thereafter as private firms and state arsenals competed with one another in introducing new designs.

But field artillery was limited by the fact that guns had to be light enough for horses to pull them cross-country. No comparable limit affected naval artillery, and the race between ship's armor and big guns, therefore, became more technologically significant than anything happening to field artillery. The pace of naval change was enormously enhanced by the fact that during the Crimean War two venturesome private manufacturers in England, William Armstrong and Joseph Whitworth, decided it was time to bring military engineering up to the level of civil engineering by showing the government's arsenal how to make bigger and better guns. They both had the resources at their command to design and build prototypes that were in fact superior to existing arsenal products. But persuading military procurement officers to buy newfangled weapons was another matter. Armstrong and Whitworth trumpeted rival claims for the superiority of their guns, and public tests of armor-piercing capability showed both strengths and weaknesses in their competing designs. Intense controversy arose between Whitworth and Armstrong as well as between those who preferred to entrust the manufacture of big guns to state employees and those who argued that private manufacturers,

tainted though they might be by greed, ought to be preferred if their products were indeed superior. Official policy waffled, and, after a brief flirtation with William Armstrong (persuading Whitworth to give up gun making), the British armed services reverted in 1864 to arsenal production. Thereupon, thanks initially to vigorous sales in the United States, where the Civil War created sudden demand for his big guns, Armstrong developed an international market for his wares, rivaling (and ere long also collaborating with) Alfred Krupp's parallel enterprise.

After his dismissal from official appointment as Engineer of Rifled Ordnance, Armstrong's relation with the Admiralty became intensely ambivalent. He always nourished the hope of selling guns, turrets, and other heavy equipment to the Lords of the Admiralty once again, yet more than once, he whipsawed the Royal Navy into unwelcome new expenditures in the arsenal by equipping foreign navies with guns (or complete warships) that outperformed existing British models. From the point of view of the managers of the Royal Navy, he thus matched at home the continued challenge from the French, who from time to time invested in new weapons that promised to make the existing British fleet obsolete.

By the 1880s, resulting uncertainty had become acute. British arsenal designs and production persistently lagged behind innovation originating privately or in French arsenals. In particular, two technical changes—one French, one German—made the latest 80-ton muzzle-loading monster guns that British battleships were carrying hopelessly obsolete. First, between 1881 and 1887 the French chose to challenge British naval preponderance by concentrating their naval construction entirely on fast, long-range cruisers, designed for commerce raiding, supplemented by even faster torpedo boats for short-range operations. British ships were too slow to catch the new French cruisers on the high seas, and British naval guns fired too slowly to be able to hit an approaching high-speed boat before it came into torpedo range. Thus, in spite of all its expensive efforts at technological modernization, the Royal Navy once again faced the prospect of being unable to safeguard the Channel or to protect British commerce from the French.

The second problem was equally intractable. In 1878–79 Krupp introduced a new line of big steel artillery pieces, suitable for naval use and designed to take advantage of slow-burning, smokeless propellants that had recently been perfected. Demonstration firings showed military observers from all the leading countries of the world that Krupp's new guns completely outclassed muzzle-loaders like those Woolwich Arsenal was producing. Obviously, from a British point of view, something drastic had to be done, and quickly, to preserve the Royal Navy's power and effectiveness.

This was the setting in which the naval arms race assumed a new character, becoming far more expensive, far more radical, and far more important for the national economy of Great Britain and for other countries that chose to challenge British naval preponderance. In a word, what happened was that the modern military-industrial complex came to birth when a small group of technically minded British naval officers, of whom Captain John Arbuthnot Fisher was the ringleader, began to foment and hasten technological changes, believing that if official funds and policy actively promoted improvement in weapon systems, British skill and industrial capacity would suffice to keep the Royal Navy ahead of all rivals indefinitely.

The effect was drastic. Instead of responding sluggishly and regretfully to innovations arising privately or in French arsenals, the Admiralty began to challenge inventors and manufacturers to come up with appropriate new devices and, before long, helped them to meet development costs for particularly promising innovations. In a sense, this was no great departure from established routines. The Admiralty had long been accustomed to specify the size, shape, and other characteristics of warships constructed in official dockyards, and the Woolwich Arsenal built naval guns to specification as well. Ever since iron and steam had begun to supplant wood and sails, specification for new ships involved departure from former patterns—sometimes very drastic. But by and large, before the 1880s, specified innovation merely transferred (with adjustments) existing civilian technologies to naval construction. Naval technology had consistently lagged behind, largely because those in charge were so loathe to abandon old ways and accustomed routines.

But a reckless new spirit, welcoming and accelerating innovation, took root in the 1880s, when Fisher and others like him inaugurated what may be called "command technology" and soon applied it across the entire spectrum of naval purchases. In effect, they reversed older relationships between inventors and military procurement officers. Instead of waiting until someone came along with a new device, as army and navy officers had been accustomed to do, and challenging the innovator to prove that the cost and trouble of changeover was worth it, the British Admiralty began to define what it wanted in the way of new performance characteristics and then required arsenal personnel to compete with private manufacturers to see who could most nearly match their desires. Invention, thus, became deliberate and organized, with the result that innovation in naval technologies soon outstripped civilian engineering in important fields like the development of hydraulic machinery, steam turbines, diesel engines, optical glass, radio communications, and electrical control systems—not to mention more obvious matters like steel metallurgy and the chemistry of explosives.

In 1886, when the Admiralty was first authorized to buy materiel from private manufacturers whenever the arsenal could not provide an equivalent item, no one foresaw that the Royal Navy would become as intimately intertwined with heavy industry as it did. But in fact, the arsenal was critically handicapped after 1886 because the massive investment needed to go over to using steel as raw material for guns and ships was never made. Krupp had shown in 1887 that long-barreled, breech-loading steel guns were indisputably superior. Armstrong and the French—both a new private firm, Schneider-Creusot, and arsenal gunmakers—responded by investing in steel-making and gun-manufacturing plants; but the Woolwich Arsenal was never granted the necessary funds for this radical changeover, so that naval procurement increasingly went to private sources.

Naval officers were not prepared to buy abroad nor to depend solely on Armstrong for supplying steel guns and other heavy equipment for their ships. They solved that problem by inducing England's leading steelmaker, Vickers, to enter the armaments market in 1888 and sought to play one firm off against the other thenceforth. As the scale of successive naval building programs increased—and increase they did, thanks to foreign competition, first from the French, then from Germany, the United States, and Japan—price ceased to be decisive in more and more instances. Often only one supplier had the capability of making a particular item. Oftener still, decision of which contracts to award to which firm became an overtly political act. Naval building became a recognized way to counteract the business cycle by keeping men at work in periods of depression. Even more telling, naval contracts exempted English steelmakers and other heavy engineering firms from having to compete on world markets with cheaper American and German producers. Navy expenditures (supplemented, but on a comparatively modest scale, by army purchases) became a critical balance wheel for the entire national economy. Indeed, according to Arthur Marder, on the eve of World War I as much as a sixth of the male workforce of Great Britain was employed by the Navy or by prime contractors for the Navy.

Similarly powerful military-industrial complexes swiftly formed in France and Germany and emerged in the United States as well, without, however, attaining comparable weight in the economic-political life of our nation until during and after World War II. In Japan, on the contrary, the military-industrial complex had been of prime importance for the national economy and for politics ever since the Meiji restoration in 1868. But before World War I, the Japanese were still catching up with European technology, and their version of command technology, therefore, involved less outright invention and more borrowing (with minor adaptation) than was the case in England, Germany, and France.

I will not attempt to deal with more recent perturbations and turning points in the history of the wars, arms races, and recurrent military-technical transformations that have followed. Other papers in this series will shed light on diverse aspects of that vast subject.* Instead, I wish to conclude with some brief reflections on the process as a whole, aimed at addressing the theme assigned to me: the structure, or perhaps better, structures, of society and politics that provoked and sustained the radical changes of the past 150 years.

First and most obvious, rivalries among sovereign states were an essential ingredient, and when such rivalries provoked actual warfare, the pace of technical change regularly intensified. This needs no argument. Without the French-British rivalry, the naval history of the nineteenth century, with which I have been mainly concerned in this lecture, would be inconceivable, and this rivalry was what created the world's first self-transforming military-industrial complexes—on both sides of the Channel. The French always relied more on technologically proficient engineers in state service and never gave their successive naval building programs the consistent political support the Navy enjoyed in Britain, largely because the French army, with far less technologically varied demands on industrial production, always came first. But despite these differences, military purchasing also played a critical role in the development of the French economy in the nineteenth century, and by the 1890s, the French, like the Germans, had brought private industry into an increasingly close partnership with the state.

At the same time, the actual expression of the state rivalries of Europe depended on what a few key personalities decided at particular times and places. Thus, the almost whimsical way William Armstrong decided to use the resources of his engineering firm to build better guns after reading a newspaper report about how a single field artillery piece had affected the outcome of the Battle of Inkerman had consequences far beyond anything he conceived of when he first sketched how he proposed to build bigger and better gun barrels by sweating layers of wrought iron around one another. Similarly, if Fisher had been more scrupulous in obeying his naval superiors, the public outcry that arose when he secretly primed a well-known journalist with facts about the sorry state of the Royal Navy's armaments in 1884 would not have resulted in the passage of an expanded naval budget—the first of a series of escalating budgets, each supported by a carefully contrived publicity campaign in which newspapermen, naval officers, industrialists, politicians, and other interested parties soon learned to cooperate.

See Stephen D. Chiabotti, ed., *Tooling for War: Military Transformation in the Industrial Age: Proceedings of the Sixteenth Military History Symposium of the United States Air Force Academy* (Chicago: Imprint Publications, 1996).

Were all these interested parties preordained to coalesce into Great Britain's military-industrial complex? And was that complex preordained to provoke parallel structures in France, Europe, and other countries, including our own? Or did individual decisions and the happenstance of particular response to specific situations have the unintended and unforeseen effect of bringing them together? No one can answer that question with certainty. What happened, happened, but it seems to me that personal decisions, with a heavy freight of unforeseen consequences, were what drove the process as a whole. If key personalities had been different, the course of events would surely have been different too—perhaps diverging only slightly, perhaps fundamentally. For instance, would Germany have set out to rival England's navy without Adm Alfred von Tirpitz, Kaiser Wilhelm II, and the writings of Capt Alfred Thayer Mahan? Would World War I have been fought had the policies of the Kaiser's government not persuaded France, England, and Russia to bury their differences and form the Triple Entente? Or would we have atomic warheads today if refugees from Europe had not persuaded Albert Einstein to sign a letter that alarmed President Franklin Roosevelt in 1939? These and many other accidents of human encounter have sustained the arms race ever since it took on its modern form in the 1880s. Would things have turned out approximately the same anyway?

I find it impossible to believe that personal decisions in critical situations did not alter outcomes in detail and, through the cumulation and conjunction of details, shape and reshape the arms race fundamentally. I also find it obvious that what key individuals hoped and expected to achieve by their decisions seldom or never matched up with what happened. Instead, unexpected and unforeseen responses to particular decisions prevailed—universally and perpetually. The reactive process was enormously complex, limited only by the diffusion of information (and misinformation) among participants. Purposes were essential inasmuch as they governed everyone's actual decisions. But results were always surprising—sometimes radically, embarrassingly different from what had been intended. After all, the Kaiser lost his throne, the Royal Navy bungled the Battle of Jutland, and we find ourselves burdened by nuclear warheads and afraid what others may do if and when they acquire access to these almost unimaginably powerful explosives.

The effect so far has been to make international relations more dangerous and unpredictable than they were when wars were fought with weapons long familiar to all concerned. In addition, costs have escalated sporadically but ineluctably matched in our time only by the escalation of medical costs. Eventually, limits to both forms of extravagance will surely assert themselves. Conscious policy is likely to remain ineffective in shaping long-term results, as hitherto. Changes in the process itself will have to occur, perhaps through the

involvement of competing interests and groups that are now largely inert or, alternatively, by some sort of (presumably atomic) catastrophe that might end human life entirely or merely end the industrialized arms race by establishing a world monopoly of capital weapons.

As I said at the beginning, we live in an exceptionally uneasy age and need to reflect on how the process of weapons development became so unmanageable exactly when deliberate invention of specific improvements of particular weapons became routine. We need to confront the irony whereby the rational triumphs of deliberate, organized invention became increasingly irrational in their aggregate effect. We even need to wonder about unending technical change and our capacity to endure it—individually, collectively, and ecologically.

I therefore leave you with much to think about and no ready answers. Time will tell, as always. That is mildly comforting to an elderly historian like me. I fear it will merely irritate the technically proficient, can-do officers and cadets of my audience, trained, as you are, to take command of the situation and to solve most of your problems by ordering up new, more powerful machines.

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The Demon of Geopolitics
Karl Haushofer, Rudolf Hess, and Adolf Hitler*

Holger H. Herwig

Shortly after midnight on April 23, 1945, a special SS detachment marched a small group of men out of the Lehrter Street Prison in Berlin—on special orders from the newly appointed city commandant, Joseph Goebbels. They directed the inmates to a nearby pile of rubble. They executed them one by one, by way of a single shot through the back of the head. One of the prisoners clutched in his hands a sheaf of paper on which were scratched some poems, which would later become known as the *Moabit Sonnets*.† Number 38 is entitled "The Father." Its last stanza reads as follows:

But my father broke away the seal.
He did not see the rising breath of evil.
He let the daemon soar into the world.

The author was Albrecht Haushofer. The father was Karl Haushofer. The breath of evil was Adolf Hitler. The daemon was geopolitics.

Almost a year to the day, again around midnight, Karl Haushofer and his wife, Martha, committed double suicide on their farm near Ammer Lake, Bavaria. Both took arsenic. Martha then managed to hang herself from a tree branch; Karl had not the strength to follow suit. He left behind a detailed, colored map drawn to scale as to where his son, Heinz, could find the bodies. And a suicide note, in which he gave precise instructions: he desired "no form of state or church funeral, no obituary, epitaph, or identification of my grave." He closed more than half a century of service as officer, academic, publicist, and political adviser with the words: "I want to be forgotten and forgotten."

And he was—for almost 50 years. After 1945, geopolitics was considered to be just another discredited "Nazi science," one best forgotten. But the Cold War and the emergence of oil-rich Third World nations as independent global actors again brought up the topic of geopolitics—the relationship between human beings and their geography, their government, their history, and the natural world. As did Henry Kissinger in *The White House Years*. The breakup of the Soviet Union and the rise of China further accentuated the geopolitical

*Harmon Memorial Lecture #53, 2011.

† The *Moabit Sonnets* consist of 80 sonnets written by Albrecht Haushofer from Christmas 1944 until his death while being held in solitary confinement.

debate. As did international piracy and terrorism. Thus, unsurprisingly, in 1999 two British academics, Colin Gray and Geoffrey Sloan, published what truly was the first scholarly investigation into *Geopolitics, Geography and Strategy* since 1945—to which I contributed a chapter on "Haushofer, Hitler and Lebensraum."

There is today virtually not an issue of any major English-language journal or magazine, not a national television news broadcast that does not include the concept of geopolitics. A random search of the internet search engine Google using the phrase "Institutes of Geopolitics" brought 921,000 hits. Investigation into the catalog of the Library of Congress for just the past decade revealed a plethora of "geopolitical" titles: *Geopolitics of Oil*, *Geopolitics of Energy*, *Geopolitics of Super Power*, *Geopolitics of the Green Revolution*, *Geopolitics of Hunger*, *Geopolitics and Geoculture*, *Geopolitics and Maritime Power*, *Geopolitics of the Nuclear Age*, *Geopolitics of Information*, *Geopolitics of Strategic and Critical Materials*, and *Geopolitics of Domination*, just to name a few. There is even a multinational research combine to investigate sovereignty issues in the Arctic, entitled "Geopolitics of the High North." Thus, I would like today to analyze the roots of *Geopolitik* in order to put that nebulous construct into historical perspective.

Karl Haushofer was the very personification of the Wilhelmian stereotype, *General Dr. von Staat*, as the Nobel novelist Thomas Mann famously put it: revered military officer, academic, and civil servant. He was born in 1869 into a family of academics, ranging from landscape painters to economists to geologists, who taught at both the Technical University and the Ludwig-Maximilians University at Munich. When lack of private wealth prevented young Karl from pursuing his dreams of becoming an architect or an artist, he chose the military, in his case the prestigious 1st Field Artillery Regiment Prinz-Regent Luitpold.* Haushofer's true intellectual inclinations came out in 1908, when he was selected to review the Bavarian War Academy curriculum as part of a sweeping reform planned from Berlin. Two issues stood out for him: he, the artillery specialist, vehemently rejected Chief of the General Staff Helmuth von Moltke's call to remove "nonmilitary sciences" from the curriculum, arguing that the army's best and brightest needed to learn especially constitutional law and international law to prepare them for the wars of the future. Second, he was incensed by Berlin's query whether geography should be abolished as a mandatory subject. He demanded instead both an increase and a change in the nature of geography courses. Rote map exercises needed to yield to economics, financial mobilization, statistics, and transportation ge-

*The First Field Artillery Regiment Prinz-Regent Luitpold was one of two artillery regiments assigned to the 1st Royal Bavarian Division. The Division was formed in 1815 and saw action in the Austro-Prussian War, the Franco-Prussian War, and World War I.

ography. He recommended as required reading Friedrich Ratzel's *Political Geography* (1897). Third, he denounced the Kriegsakademie as little more than a "drill barracks" due its large number of students, which meant that they remained anonymous to their instructors and were judged merely on standardized examinations and field exercises.

What might well have been a successful but hardly eventful career was interrupted by two seminal experiences: in 1908 Haushofer was chosen to be Bavaria's first military observer to Japan, and in 1914 he was reactivated to serve in the Great War.

Japan was the proverbial eye-opener. Haushofer took as his role model Yamagata Aritomo—field marshal, home minister, twice prime minister—because this member of the *genrō* managed to evade the "bright lights of public scrutiny" and operate from the behind the scenes, quietly and unobtrusively. In short, Haushofer's role in the 1920s and 1930s. He sent 15 lengthy reports home. Therein, he lauded the Japanese school system, a perfect fusion of youth, state, army, and throne. It stressed history, gymnastics, ethics, and veneration of the elders. National holidays, flag days, remembrance days, imperial holidays, and festivals for fallen warriors under the patronage of royal princes bonded students to army, state, and throne. Officers, court officials, and civil servants sat on school oversight committees. And, this Clausewitzean social trinity was brought about not by force or coercion but rather "unobtrusively" by "nourishment" from state, parliament, and the public.

In 1913 Haushofer expanded his reports from Japan into a dissertation at Munich University, *Dai Nihon* (Great Japan). His aim, as he stated in the first sentence of the first chapter, was to direct Central Europe's attention to the "rejuvenation" that Japan had brought about with the "storm of steel" that its wars with China and Russia had generated. And to its annexation of Korea, this "debilitated body of 12 million people under the leadership of about 400,000 privileged loafers"—and of 500 American missionaries. Moreover, he hoped that the book would counter Norman Angell's pacifist *Great Illusion*. Nations, Haushofer lectured, rose and fell through wars. "The law of the world is unceasing struggle, not interminable stagnation." Meiji Japan for the rest of his life was *the* model: the unified command power of a 2,000-year-old dynasty; the warrior ethic of a 4,000-family samurai leadership caste; the ready willingness of the individual to sacrifice for family, country, and emperor; the cult of suicide (*bushido*) that mandated "moderation" in life; and the "fortunate blood mixture" of Malayan, Mongolian, and Ainu elements. "Germany Awake," to borrow a later phrase, was the central message.

August 1914 inaugurated the second seminal experience in Haushofer's life. He was thrilled at the news of war—his wife, Martha, noted in her diary that he looked 10 years younger. He was under no illusion—the war, as he had

discussed with Lord Kitchener at Calcutta in 1909, would "last at least three years." While commanding a munitions column in Alsace, he took a broad view of events, declining to concentrate on the mere mechanics of warfare (*Kriegshandwerk*) and thereby to reduce the struggle to ordnance on target. Instead, he saw the war, as Clausewitz had argued, as "a true political instrument." Albeit, this was the wrong war, at the wrong time, and with the wrong ally (moribund Austria-Hungary rather than vigorous Russia and Japan). The euphoria of the July Days to him was little more than a "hysterical straw-fire." Germany's violation of Belgian neutrality had been a diplomatic disaster; the bloody battles in Alsace, the result of "a mutilated Schlieffen Plan." The home front, as he had predicted in *Dai Nihon*, had not been prepared for "a long suffering and persevering." Above all, Haushofer felt that no grand, global concept had guided the decision to go to war. Instead, pride and vanity had ruled the day. As had what he called "Austrian half-wittedness," "Slavic arrogance," "French revanchism," "British lust for power and wealth," and "German parvenu sins." By the end of 1917, he had despaired of Wilhelmian Germany. "You see how ready for a Caesar I am," he wrote his wife, Martha, "and what kind of a good instrument I would be for a Caesar, if we had one and if he knew how to make use of me."

The entry of the United States into the war in April 1917 snapped his self-control. "Better to die European," he viciously wrote Martha, "than to rot American." He quickly developed "a fiery, deeply burning hate" against the Republic. He rejoiced when Lenin and "the Bolshevik filth" ended Wall Street's "slavery of banks and capital" in Russia. America, this "deceitful, ravenous, hypocritical, shameless beast of prey," had entered the war simply to stuff its "insatiable dollar-greedy stomach." The Old World, he mused, had first "blessed" the New World with syphilis; now the New World was returning the favor with Yankee imperialism. "Americans are truly the only people on this world that I regard with a deep, instinctive hatred." There was only one escape: "I hope that the yellow race will avenge us." Strangely, he, the budding geopolitician, never undertook a rational analysis of the war potential of the Central Powers as compared to that of the Entente, including the United States.

Haushofer's anti-Americanism was paralleled by a new strain of anti-Semitism. At first directed primarily against the "Eastern Jews" (*Ostjuden*), it soon spread to the rest of the Reich's Jewish population—less than 1 percent of the national total. He spoke in his letters to his half-Jewish wife of the Jews' "treason against Volk, race and country." He derided their alleged refusal to fight for Germany. He decried their "cultural pessimism." He despised their putative war profiteering. He wished them removed from the body politic. He returned to a familiar topic. "A man! A kingdom, an imperial crown for a man worthy of the name!"

Most importantly, in view of his postwar career, Haushofer developed a deep alienation from the home front. He strongly believed that "real men" fought at the front and that only real men could guide the nation's future after the war. The front experience became the common bond, one that developed camaraderie, obedience, selflessness, sacrifice, service to the fatherland, and care for fellow man. That community of warriors, that community of the trenches, bonded Haushofer to Hess and to Hitler.* Domestic betrayal, revolution, and the "stab-in-the-back" of November 1918 further cemented that bond.

In July 1919 Haushofer defended his *Habilitationsschrift* (a second dissertation) on the "Basic Contours of the Geographical Development of the Japanese Empire 1854-1919" under the supervision of the renowned Antarctic explorer Erich von Drygalski. Of course, in family tradition, he passed the *venia legendi* summa cum laude. The next month, he was appointed an unsalaried lecturer at Munich University. But student and professor soon parted ways. Drygalski noted already in his formal evaluation of the *Habilitation* that it was not traditional "physical geography" in the manner of Karl Ritter, Ferdinand von Richthofen, and Alexander Supan, but rather "political geography," that is, a combination of Ratzel's "human geography" and Rudolf Kjellén's "organic state theory," or *Geopolitik*. Drygalski had hit the nail on the head.

So, what precisely is *Geopolitik*? Haushofer could never explain it. His attempts frustrated even Rudolf Hess due to the nebulosity of his vocabulary. Haushofer was the master of adverbial clauses and of tapeworm sentences, all punctuated by liberal sprinklings of Latin.

Col Herman Beukema, US Army, of the West Point faculty, once described Haushofer's strained attempts to disguise simple geography with political mysticism as "creating an atmosphere of profundity through the deliberate obfuscation of the general reader." In other words, German academia. Let me offer a sample from Haushofer:

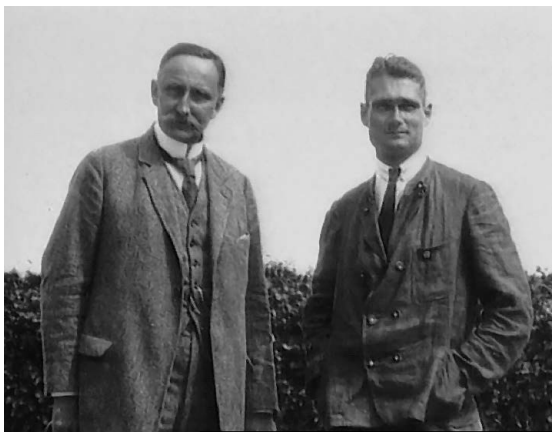
> Lebensraum is the partial area of the earth's surface, a piece of the earth's surface, observed in accordance with its natural or artificial borders, regarding the preservation of the life of the life-forms (human beings, animals, plants) found therein (certain life-forms).

Mark Twain would have loved such "Awful German Language." All we can say is that in some 500 publications, Haushofer sought to combine traditional disciplines such as geography, history, economics, demography, political

* Walter Richard Rudolf Hess (1894–1987) was an early Nazi party member as well as a friend, confidant, and "longstanding personal aide to Hitler," who was appointed deputy leader of the Nazi party. In 1941 he flew to Scotland under mysterious auspices, was arrested, tried, and sentenced to life imprisonment for conspiracy and crimes against peace. *See* United States Holocaust Memorial Museum, "Rudolf Hess," n.d., https://www.ushmm.org/wlc/en/article.php?ModuleId=10007113.

science, and anthropology into a new "science." Much of it he took from established writers.

Thus, from Friedrich Ratzel, he adopted the notion of space or territory (*Raum*). It soon became *Lebensraum*. Ratzel sought to develop political geography into a discipline designed to trace man's evolution over time as it related to his physical geography. The state, "part man and part soil," was basically a "form of the distribution of life on the earth's surface." For Ratzel, Charles Darwin's "struggle for survival" came down to a simple "struggle for space." Or, as he once put it, "bio-geography." Under Haushofer's tutelage, Hess and Hitler read Ratzel's *Political Geography*. And they did so "with the sacred fire of passion."



Karl Haushofer, left, and Rudolf Hess circa 1920. Bundesarchiv Koblenz und Berlin.

From Sir Halford Mackinder, Haushofer seized upon the concept of the "heartland," a term first used by the British geographer in 1919.* Thereby, the nations of the world were arrayed into two camps—the robbers of the inner Euro-Asian steppe and the sea robbers of the maritime states peripheral to the heartland. The two spheres were eternally at loggerheads. Political power in this world, Mackinder argued, was the product of "geographical conditions, both economic and strategic," as well as the "relative number, virility, equipment, and organization of the competing people." That was Holy Script to Haushofer.

From Rudolf Kjellén, inventor of the term *geopolitics*, Haushofer took the term *Autarky*, or national self-sufficiency. For the Swedish political scientist,

*Sir Halford Mackinder was an English geographer, academic, and politician. He served as the first principal of the University of Reading and as the director of the London School of Economics. He is regarded as a founding father of geostrategy.

the state was "a biological revelation, a living being." State and power were synonymous. States were held together by neither laws nor constitutions but rather by the "categorical imperative of expanding their space by colonization, amalgamation, or conquest."

From the Pan-Germans, Haushofer borrowed the notion of pan-regions, beginning with the concept of "Central Europe and moving from there to Eurafrica." Ratzel had been one of the founders of the Pan-German League and instrumental in its demand that the new Reich after 1870 acquire "elbow room."

And what did Haushofer add to this heady brew? Basically, the notion of frontiers or borders. He rejected his generation's faith in legal guarantees of borders as well as the concept of "natural" physical borders, and even that of "biologically correct borders." Instead, borders were temporary halts, breathing spells, for virile nations on the march. Borders were fluid, dynamic. Especially European history, from ancient Rome to modern Russia, was full of examples of states that used existing borders as political devices to expand their sphere of influence. Haushofer carefully declined to spell out the algebra of that expansion. Hitler did not.

Haushofer's seemingly productive academic career suffered a severe jolt and took a radical turn with the so-called Beer-Hall Putsch at Munich in November 1923. When Hitler was incarcerated at Landsberg Fortress Prison for his part in the plot to overthrow the "defeatist" government in Berlin, Hess, at the urging of Haushofer, came out of hiding in Austria and surrendered to the Bavarian police—to be with the "master," the "chief," the "tribune," Adolf Hitler.* And to help Hitler write his memoir of the putsch—eventually entitled *Mein Kampf*. Every Wednesday between June 24 and December 12, 1924, Prof. Dr. Haushofer made the 100-kilometer-long round trip from Munich to Landsberg. Once each morning and once each afternoon he offered what he called the "young eagles," Hess and Hitler, hours of intense personal mentoring. He had them read the historians Leopold von Ranke and Heinrich Treitschke, the philosophers Karl Marx and Friedrich Nietzsche, the Social Darwinist Houston Stewart Chamberlain, the geographer Ratzel, the political scientist Rudolf Kjellén, Otto von Bismarck, Carl von Clausewitz—and, of course, his own *Dai Nihon*, as well as the first issues of his *Journal of Geopolitics*. "Landsberg," Hitler once confided to Hans Frank, the wartime governor general of Poland, "was my university education at state expense."

"Bringing Haushofer and Hitler together," Joachim Fest, Hitler's most prolific biographer, observed, "is the most important . . . personal contribution

*For his leadership of the failed putsch of 8 November 1923, Hitler was sentenced to a five-year prison term. He ended up only serving 264 days of that sentence.

that Rudolf Hess made to the creation and the face of National Socialism." Despite Hitler's claims in *Mein Kampf* that he had come to Munich in 1913 with his *Weltanschauung* fully in place, Landsberg was the crucible where he refined his basic antidemocratic, anti-Semitic, Social Darwinist, and racial-biological thoughts. In the winter of 1941–42 Hitler uncharacteristically, albeit indirectly, gave credit to Haushofer, Hess, and Landsberg. "Without my imprisonment, *Mein Kampf* would never have been written; and, if I may say so, during this time, after constant rethinking, many things that had earlier been stated simply from intuition for the first time attained full clarity." For Karl Haushofer, mission accomplished.

Like a dry sponge, Hitler soaked up what Haushofer offered. The concept of *Lebensraum*, for example, was not in circulation in National Socialist terminology up to 1923. Haushofer used it routinely, including the term in the first issue of the *Journal of Geopolitics* in January 1924. It then cropped up regularly after 1924, in both volumes of *Mein Kampf* and in Hitler's unpublished "Second Book." Much of the vocabulary of Haushofer's *Dai Nihon* became Hitler's own: war as the true test of a nation's will to live; Social Darwinism and the struggle for survival; might as the ultimate arbiter in international relations; Machiavellian cunning as the art of statecraft; life as a Hobbist choice of black and white, rise or fall, life or death.* The German historian, Karl Dietrich Bracher, stated it clearly: "Hitler's geopolitical conception in its Haushoferian form made its way into *Mein Kampf* via Hess" at Landsberg. There what Haushofer's friend, Rudolf Italiaander, called "the peculiar triad Haushofer-Hess-Hitler" was forged.

Father Edmund Walsh, the Georgetown University professor of geopolitics who knew Haushofer best, stated that at Landsberg a "new strain" of thought and word ushered forth from Hitler. That strain included Haushofer's concepts not only of *Lebensraum* and *Autarky* but also of outward security, forward frontiers, border regions, the struggle to balance land and sea power, and the role of geography as a determinant of military strategy and war (*Wehr-Geographie*). In chapter 14 of *Mein Kampf* ("Eastern Orientation or East Policies") one can almost feel the presence of Haushofer. Terms such as *territorial formation*, *territorial conquest*, *territorial policies*, *noblest carriers of the blood*, *accidental borders*, *momentary borders*, and *constriction of Lebensraum* mingle with concepts such as "corrective and educational military training," "acquisition of the requisite soil," "borders are created by human beings and altered by human beings," "the most sacred right in this world is

*A Hobbist would adhere to the teachings of the philosopher Thomas Hobbes, perhaps especially his assertions that individuals and groups have a natural right to pursue selfish interests and that an absolute ruler has a special role to play in providing order to society.

the right to soil," and "Germany will either become a world power or cease to exist." It was pure Karl Haushofer.

Haushofer's role in the Third Reich has been the subject of much myth-making. Let us dismiss out of hand the wildest rumors—that Hess was Haushofer's illegitimate son; that Hess and Haushofer were lovers; that Haushofer wrote *Mein Kampf*; that Haushofer was Hitler's "brain"; and that Haushofer at Munich ran an "Institute of Geopolitics" employing a staff of 1,000 to write policy for Hitler. Half a century after the fact, we can also dismiss the charges prepared against Haushofer at the International Military Tribunal at Nuremberg by the Office of the US Chief of Counsel—namely, that "Haushofer was Hitler's intellectual godfather"; that "Hitler was only a symbol and a rabble-rousing mouthpiece"; and that the "intellectual content" of Nazi policy "was the doctrine of Haushofer."

What *can* we document? After Hitler's "seizure of power" in 1933, Haushofer basked in the glow of the Führer's glory. He was on radio, the *Deutsche Welle* and *Bayerischer Rundfunk*; he had his articles placed in the "Aryanized" Ulstein newspaper empire; his *Journal of Geopolitics* soared to an annual circulation of 700,000; he was president of his own German Academy and the League for the Preservation of Germanism Abroad; he played a prominent role in the Academy of German Law, the National Socialist Union of Teachers, the National Socialist Union of Professors, the National Socialist Union of Students, the German Labor Front, and the Strength Through Joy Program. In 1935 he became a "Fostering Member" of I. Battalion, I. SS Standarte-Munich. He reveled in all this. As Albrecht Haushofer wrote in another of the *Moabit Sonnets*, "My father was blinded still by the dream of power."

In personal terms, Haushofer's former student, now Deputy Führer Hess, provided the "Jewish-tainted" Haushofer family with "letters of protection" against the Aryan paragraphs of the Civil Service Reconstruction Law, the Nürnberg Racial Laws, and the follow-up legislation to Crystal Night. And Haushofer became rich, earning (in addition to his military pension) as much as 200,000 Marks per year. A skilled laborer earned 2,000 for his services to the Third Reich.

In terms of policy, Haushofer supported Hitler's decision to quit the League of Nations; the murder of Ernst Röhm and 89 SA leaders in the so-called Night of the Long Knives; the remilitarization of the Rhineland; rearmament and conscription; and secretly testing weapons in the Soviet Union. He used his former contacts in Japan to help to create the Anti-Comintern Pact in 1936–37. He, and his son Albrecht, advised Hitler at the Munich Conference in 1938—"a happy day in the history of geopolitics." He congratulated Hitler on the Nazi-Soviet Non-Aggression Pact of 1939, calling it a heavy blow against the "anaconda policy of the western Jewish plutocracy." He deemed

the invasion of Poland that same year "a heroic stroke of seldom attained greatness." He played an active role in formulating the "resettling of Baltic Germans" in the East. He informed Hess that the defeat of France in 1940 had radically altered history for the next 1,000 years. "The world holds its breath as once it had done during the coronation of Charlemagne." He regretted only that he was already 70 years old and thus could serve but as "a cultural-political umbrella from behind the scenes." As his role model, Yamagata Aritomo.

Haushofer's world came crashing down on May 10, 1941, when Hess flew off to Scotland. Without a patron, he and the family suffered house searches, arrests, incarceration, and finally death through murder and suicide. At Nürnberg, Haushofer stated that he had acted out his role during the Third Reich "under duress" and mainly to protect his family. Perhaps most cruel of all, when in the late 1930s Karl Haushofer asked his beloved son, Albrecht, professor of geopolitics at Berlin University, whether he, "the father," had managed to spin geopolitics off from geography as a distinct discipline, "I doubt it" was the son's tart reply. Karl grudgingly conceded that he had lacked the ability of the political scientist to turn himself into a "systematizer," into an academic salesman.

Despite my perhaps harshly drawn analyses, I do not want to leave you with the notion that Haushofer-Hess-Hitler were all cut from the same cloth. Karl Haushofer never issued an order to go to war. He never murdered a Jew. He never transported a slave laborer. He never arrested a fellow citizen. He disliked what he called the "street-rabble" populism and anti- Semitism of the Nazis. He disliked their herd mentality. He despised their coarseness. And he regretted that apart from Hess, none of the leading "half-educated" Nazis had ever truly understood his geopolitical theories. For his part, like so many German conservatives, he never understood the brutal, revolutionary power of Adolf Hitler.

Karl Haushofer's life reads much like a classic five-act Greek tragedy: conflict, crisis, climax, dénouement, and resolution. The ultimate tragedy was that, in the words of his son, Albrecht, he "broke away the seal" to the Aladdin's lamp of geopolitics for Hess and Hitler and "let the daemon soar into the world." What to the professor were abstract academic concepts, to the "tribune" became an uncompromising worldview, for the realization of which he was prepared to use the most brutal application of force. Tragedy, also, was that the seeds that Haushofer planted at Landsberg grew into the turgid, twisted logic of *Mein Kampf*. That book would eventually sell 12.45 million copies, be translated into 16 languages, and even boast a braille edition. Albrecht Haushofer later in life commented that "the most fatal aspect" of his father's "missionary service" to the young eagles at Landsberg was that he thereby provided Hitler with "academic credit" for his pseudoscientific theo-

ries. "One has to imagine what it meant in the Bavaria of that time, when a man of my father's stature [general and professor] and popularity constantly traveled out to Landsberg." Haushofer's semiofficial biographer, Hans-Adolf Jacobsen, called him simply the "cultured advertising executive of the Third Reich." Haushofer's desultory defense to Father Walsh in 1945—that he had taken from two of his peers, Sir Thomas Holdich and Sir Halford Mackinder, the maxim "Let us educate our masters"—was apologia at the end of a career; in 1924 it was aspiration meant in earnest.

Should he have been tried at Nuremberg? The historian Dennis Showalter in his study of Julius Streicher, editor of the racist-pornographic *Der Stürmer*, who was in the dock at the International Military Tribunal, argued that popular writers must be judged by their writings' circulation and influence; that publication means recognition and influence; that it mobilizes frustrations and hostilities; that it can play a direct and instrumental role in shaping the future; and that it can translate into acceptance of the author's views within the framework of a new order. Streicher was hanged for these sins. I am still struggling with my hypothetical Haushofer court case!

Born in Hamburg, Germany, on 25 September 1941, Dr. Holger H. Herwig held a dual position at the University of Calgary as professor of history as well as Canada Research Chair in the Centre for Military and Strategic Studies, and is now professor emeritus and fellow emeritus. He received his bachelor of arts degree (1965) from the University of British Columbia and his master's (1967) and doctorate (1971) degrees from the State University of New York at Stony Brook. Dr. Herwig taught at Vanderbilt University in Nashville, Tennessee, from 1971 until 1989. He served as head of the Department of History at Calgary from 1991 until 1996. He was a visiting professor of strategy at the Naval War College, Newport, Rhode Island, in 1985–86, and the Andrea and Charles Bronfman Distinguished Visiting Professor of Judaic Studies at The College of William & Mary, Williamsburg, Virginia, in 1998. A Fellow of the Royal Society of Canada and of the Alexander von Humboldt Foundation in Bonn, Germany, he has held major research grants from the Humboldt Foundation, the National Endowment for the Humanities, NATO, the Rockefeller Foundation, and the Social Sciences and Humanities Research Council of Canada. Dr. Herwig has published more than a dozen books, some of which have been translated into Chinese, Czech, German, Polish, Serbo-Croatian, and Spanish. He has written the prize-winning *The First World War: Germany and Austria-Hungary 1914-1918* and *The Origins of World War I*, with Richard Hamilton. Herwig has coauthored with C. Archer, J. Ferris, and T. Travers *World History of Warfare*; and with David Bercuson *Deadly Seas*; *The Destruction of the Bismarck* and *One Christmas in Washington*. Bercuson and Herwig joined James Cameron for three weeks out in the Atlantic to produce

"James Cameron's Expedition: Bismarck" for the *Discovery Channel*. Additionally, Herwig has teamed with Bercuson for three *History Television* projects: *Deadly Seas* (Screenlife, 1998), *Murder in Normandy* (Paperny Films, 1999), and *Forced March to Freedom* (Paperny Films, 2001). He has most recently published *The Demon of Geopolitics: How Karl Haushofer "Educated" Adolf Hitler* (New York: Rowman & Littlefield, 2016).

The Intelligence Revolution: A Historical Perspective*

Sir Francis Harry Hinsley

In the Second World War, if we leave aside the information they obtained by overt means from embassies, the press, the radio and other such channels, governments received their intelligence from four sources:

1. physical contact in the form of captured documents, the censorship of mail and the interrogation of prisoners;
2. espionage;
3. aerial reconnaissance, particularly aerial photographic reconnaissance; and
4. signals intelligence, SIGINT for short.

About these four sources we should note two preliminary points. Essentially, each of them had always existed. There never was a time when governments did not avail themselves of censorship, captures, prisoners, and spies; aerial reconnaissance was old-fashioned reconnaissance greatly extended by the development of flying since the beginning of this century; SIGINT, in the same way, was the product of the marriage of one of the most ancient of crafts—cryptanalysis—with the advent of wireless communication. In the second place, all governments exploited all these sources in World War II or did their best to do so.

To this extent the outbreak of the war was not at once followed by an intelligence revolution, and this was all the more the case because until the autumn of 1941—for the first two years of the war—the intelligence bodies on both sides achieved roughly equal success or failure. To illustrate this point by reference only to SIGINT, the most valuable and prolific of all the sources, British success in breaking the cypher used by the Germans in the April 1940 invasion of Norway and in reading the Luftwaffe's communications after May 1940 was balanced by the fact that the Germans read between 30 and 50 percent of British naval traffic in the North Sea and the Atlantic during 1940, and a considerable amount of the French army's traffic from the outbreak of war to the fall of France. That the British were reading the high-grade cyphers of the Italian army, navy, and air force from September 1940 to the end of 1941 was offset by Axis successes during most of that period against equivalent British cyphers in the Mediterranean and Middle East.

*Harmon Memorial Lecture #31, 1988.

Axis successes against British cyphers did not cease at the end of 1941. From January 1942 to June 1943 Germany continued to read many of the codes and cyphers associated with the Atlantic convoys. However, the previous rough equivalence of advantage in SIGINT gave way in the autumn of 1941 to massive Allied superiority. It did so in a process by which Axis openings were successively blocked and the Allied penetration of Axis communications, and especially of German communications, was progressively expanded. It was expanded to a degree that had never been achieved before, even in wartime. Leaving aside the decryption of tactical codes and cyphers—confining ourselves to the highest grade decrypts for which London used the codename Ultra and Washington used the code names Ultra and Magic—the Allies were reading from the end of 1942 between 3,000 and 4,000 German signals a day and a large, but somewhat smaller, volume of Italian and Japanese traffic, whereas to Germany, Italy, and Japan virtually all the Allied cyphers had by then been made invulnerable.*

While SIGINT, as a result of the development of radio, was for the first time in history the most prolific as well as the most reliable intelligence source, and since the possession of it made it possible to maximize the benefits and minimize the defects of the other sources, the scale of this transformation enabled intelligence to exercise an unprecedented influence on the course and outcome of the war. In the longer term, as a direct consequence of that experience, it had a profound and permanent effect on the status and the organization of intelligence. Intelligence is unlikely ever again to return to the age of innocence—to that condition of general neglect interspersed with bursts of belated and amateur endeavor in times of crisis—that had characterized it to the middle of the twentieth century.

How, then, was the transformation brought about? In answering this question nothing is more striking than the extent to which both fortune and foresight, both good luck and good judgment, played their part. This point is best illustrated by the long and tangled history of that achievement which was most central to the transformation—the conquest of the German Enigma machine.

The Enigma was Germany's answer to the problems raised by their wish to utilize radio in military operations most effectively. Impregnable cyphers as well as the capability to encrypt and decrypt large volumes of confidential

*In an interview with Keith Lockstone for Security Group Seminar in October 1993, Sir Harry Hinsley went into further detail on why the Allied cyphers were invulnerable. He explained that the Germans never organized their cryptographic services centrally on an interdepartmental basis like the Allies had done. This meant the Axis only made limited and localized successes against Allied communications that could not be replicated. Therefore, Sir Hinsley concluded that while the Axis did have success against the British naval cypher from 1940 to the end of 1942 and the American Military Attaché in Cairo's cypher for a period when Rommel was at his most dangerous, they could not rival the long-term success of the Allies.

signals were necessary. To achieve the advantages of mass production, Germany chose to rely almost exclusively on a single electro-mechanical typing machine, called Enigma, distributing it widely throughout each of the three services and within such other organizations as the Abwehr (the German counterintelligence service), the railways, and the police. By each of its user organizations, however, the machine was adapted to different arrangements and procedures, and each of them operated it with different keys for different functions and in different theaters. Some 250 keys, each constituting a different cypher, were identified during the war, and at no time after 1941 were less than 50 in force concurrently. Because each key was reset daily once war had begun, and as the finding of any setting involved the selection of one out of many millions of possible solutions, the Germans had good reason to feel confident that even in war conditions the Enigma would remain safe against all but local and temporary compromise. And yet the machine was basically, if not irretrievably, compromised as early as 1932, and beginning in May 1940 after an interlude since September 1938, the Allies went on to recover over 180 wartime keys and to read German traffic almost currently.

The prewar compromise owed almost everything to chance or, as the Germans might think, to misfortune. The Poles broke the machine by methods that involved great mathematical ingenuity, but the methods were possible only because in 1931 a German signals officer supplied its operating instructions and settings for periods of some length to the French Secret Service, which passed them to Warsaw.* But fortune played a much less central part in the wartime conquest of the Enigma.

The Polish success had been brought to an end in 1938 by the last in a sequence of prewar German security improvements. Despite the invaluable assistance obtained from the Poles and that from September 1939 the Germans used the machine more heavily in operational conditions, whereas they had previously used it sparsely and mainly for practice traffic, the British did not fully solve any wartime keys—to bring them to the point at which the settings were found daily without great delay—until the spring of 1940, when they mastered the key used in Norway from 10 April and the Luftwaffe's general purpose key from 20 May. Many regional and specialized Luftwaffe keys were thereafter solved, often as soon as they were brought into force; but it is further testimony to the formidable problems presented by the Enigma that no naval keys were solved regularly before June 1941, and no army keys (with the exception of one on the Russian front from June 1941) till the spring of 1942.

*Hans-Thilo Schmidt, a former German army officer in World War I, sold secrets about the Enigma machine to the French in the early 1930s. While working in a civilian post at the German armed forces' cryptographic headquarters, the Cipher Office, he provided the French with copies of the Enigma instruction manual, operating procedures, and, most important, a list of key settings.

Nor need we doubt that but for careful preparations over a long period of time the British authorities would not, even then, have overcome these problems.

Without their foresight in centralizing cryptanalysis on an interdepartmental basis after World War I, in recruiting the best available talents to it from 1938, and not least in recognizing that those talents should be interdisciplinary, the conquest of the Enigma would have been impossible. And while it would have been impossible without brilliant mathematicians, and particularly without their development of machinery of a sophistication the Germans had not allowed for, it would equally have been impossible without the input of a whole array of nonmathematical ingenuity.

These successes once achieved could not be counted on to continue. They were subject to two threats. The Germans, who had made successive improvements to the security of the Enigma before the war, might continue to do so as a matter of ordinary precaution. Or they might refashion it from suspicion or conviction that it had been radically compromised. Under the pressures of war and in view of the unexpected wide dispersal of their armed forces, the German authorities, with one notable exception, deferred routine precautionary measures until after the middle of 1944. Not until early in 1945, when the Enigma was daily vulnerable to physical compromise, did they take measures in the belief that it was no longer secure. The exception was the U-boat command. In February 1942, motivated initially by suspicion—which was, however, set aside after a professional inquiry—it took the precaution of bringing into force a new Enigma key, one that used an additional wheel and was 26 times more difficult to solve.

The effects of this setback, and of those originating from the burden of solving the ever-increasing proliferation of ordinary keys, were offset, though with remarkably small delay, by another of the great developments of World War II. From the spring of 1942 the British and American intelligence bodies created for SIGINT, as for other forms of intelligence, a single organization in which the amalgamation of resources and the division of labor were virtually complete. This joint effort was necessary to sustain success against the Enigma. And as the Allies wrestled after the autumn of 1944 with Germany's adoption of increasingly severe security measures, they had to fear that not even their combined resources would suffice to maintain their critical advantage.* As a result of Germany's delay in producing either precautionary measures or drastic revisions, the Allies kept their advantage, and even extended it, down to the end of the war.

* Part of the difficulty stemmed from the Germans' increased use of landlines rather than radio transmissions as the army retreated within the prewar borders of the Reich.

It is tempting to attribute this incredible delay by the Germans to their undue confidence in the invulnerability of the Enigma before the war and to their incompetence and complacency after the war began. But there are good grounds for holding that their original confidence was not unreasonable and that to think otherwise is to belittle the ingenuity and the versatility of the Allied SIGINT effort. These capabilities were displayed against Japanese and Italian cyphers as well as against Germany's and against other German cyphers besides the Enigma—most notably against the system Germany introduced for communication between her high-level headquarters in a signaling system based on teleprinter impulses that were automatically cyphered and deciphered on transmission and at the point of reception. The British had broken this system even before it was fully operational by developing an approximation to the modern computer. Thus, the argument for wartime German incompetence overlooks some important considerations which must be taken into account if one is to understand the intelligence revolution in this war.

In continuing to make no allowance for the development of machine methods against the Enigma, the Germans were undoubtedly swayed by their own inability to make any progress against Allied machine cyphers and the fact that they had no opportunity to capture them. The danger that they might believe the Enigma had become insecure, if only as a consequence of captures, was contained until almost the end of the war by, on the one hand, the existence of the other intelligence sources and, on the other, exceptionally careful Allied precautions. Oblivious to the Allied possession of Ultra but knowing that, like themselves, the Allies exploited the other sources, they attributed to prisoners, deserters, spies, or treachery the setbacks they encountered as a result of SIGINT—and all the more so because they were fighting alongside unreliable allies in occupied countries with hostile populations. The Allies also utilized this situation to conceal their reliance on Ultra from their own forces by citing the other sources as the basis for operational orders inspired by SIGINT. Concealment from their own forces, however, was only one part of the meticulous system of precautions the Allies evolved to avert the enemy's attention from the use they were making of Ultra intelligence in their operations.

At some stages in the war—as it happens, with the assistance of Italian machine decrypts as well as of Enigma decrypts—the British were sinking 60 percent of the Axis shipping that plied between the European Mediterranean ports and North Africa, but no Axis ship was attacked before the enemy had learned that it had been sighted by an aircraft or warship which, unknown to itself, had been put in a position to make the sighting. There were occasions on which, to the alarm of the Allied authorities, the procedures broke down—when orders were issued that referred to the intelligence or when a cover was

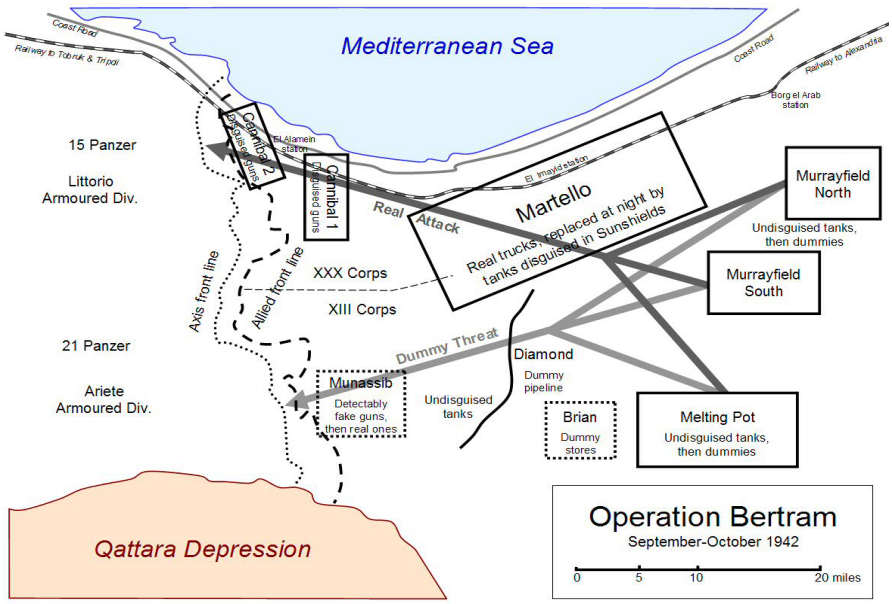
not provided for the action that might result. There were also situations to which these precautions could not be applied. In the Atlantic, in particular, there was a long period in which the decrypts of the instructions to U-boats, though used to great effect, were used only passively, to route convoys out of the path of U-boats rather than to steer the escorts to where the U-boats were waiting or refueling. In such a situation, in which more and more U-boats made fewer and fewer sightings, the mere absence of sightings of convoys was bound to create enemy suspicions as happened in the German U-boat command in early 1942. In order to lull German suspicions, the Allies utilized such methods as exaggerating the extension of Allied air reconnaissance to the mid-Atlantic and by propagating a rumor that the Allies had invented a miraculous radar which detected submerged U-boats over great distances. The planting of this type of cover had to be very carefully controlled, but without these tremendous efforts to keep the secret, while maximizing its use, the situation would have been different.

Against these considerations it may be argued that if the Allied precautions were effective, it was only because, like all successful deception measures, they buttressed known convictions, and that Germany's assumptions and blind spots must still be attributed in the last resort to undue confidence and profound carelessness. But it is necessary to guard against hindsight. The war by this time had seen a revolution—at least in the amount, the continuity, the reliability, and the currency of intelligence. This undermined Germany's security to an unparalleled extent, but, unlike the Allies, the Germans did not know that the transformation had taken place. Moreover, the Allies were not entirely shielded against overconfidence. Although they were benefiting from the revolution, they did not realize that the Germans were reading their convoy cyphers until, from the end of 1942, the truth was revealed by explicit references in the Enigma decrypts of the instructions being issued by the U-boat command to their U-boats. And while this confirms that it is a counsel of perfection to preach that it is unwise to be confident about anything, ever, it also raises a further question. What was the value of all this mass of intelligence? If its existence could remain undetected for so long, can its influence have been decisive, as is so widely believed?

In addressing this question it is important to distinguish between the impact of intelligence on the course of operations and, on the other hand, its strategic value. As every commander and any intelligence officer knows, intelligence is only one among many elements affecting the course of operations. It is necessary to consider much else when reaching decisions, and many other factors besides the decisions affect the outcome. For these reasons the operational impact of intelligence was always variable, not to say haphazard, even if it was far less so than had previously been the case.

It was especially so up to the summer of 1941 when, as well as giving roughly equal advantage to both sides, intelligence was limited in volume and usually obtained with some delay, if obtained at all. Although claims to the contrary have been made, few British operations before that date benefited from intelligence. With photographic aerial reconnaissance, but without assistance from other sources, the authorities were able in the autumn of 1940 to time their bombing of the concentrations of invasion barges in the Channel so as to obtain maximum effect. In the winter of 1940–1941 the British were able to mitigate the ferocity of the Blitz with the help of SIGINT, prisoners of war, and equipment recovered from crashed enemy aircraft. In the spring of 1941, thanks to advance warnings from SIGINT, the *Bismarck* was sunk at the beginning of her cruise, whereas the *Graf Spee* had been caught at the end of a long sortie without any benefit from intelligence at all. Also, that same spring the Royal Navy intercepted the Italian fleet and defeated it at the battle of Cape Matapan, with a slight amount of SIGINT. In Crete the defending force inflicted a severe mauling on the German airborne invaders. The operational achievements of intelligence were increasing, but they remained few in number.

After the summer of 1941, in contrast, most battles or sizable encounters in the European and Mediterranean theaters, with the possible exception of the Russian front, were influenced by the Allied superiority in intelligence, especially by the sheer volume of current decrypts. But the contribution made by intelligence was by no means always important, let alone decisive. Random factors like luck or misjudgment were sometimes uppermost. A great deal was known about the enemy's intentions when convoy PQ-17 sailed for Murmansk in June 1942, but the convoy still ran into disaster. On the other hand, the sinking of the *Scharnhorst* in the Arctic on the day after Christmas 1943 was almost wholly brought about because intelligence, though small, became crucial when the enemy made mistakes. Sometimes relative strength settled the question. In the first battle of El Alamein in June–July 1942 intelligence about the *Afrika Korps* was not yet plentiful, but it was decisive in enabling the British commander to prevent Rommel's greatly superior armor from breaking through to Cairo—despite the fact that Rommel was better supplied with field intelligence. Before and during the second battle of El Alamein in October 1942 the amount of intelligence about Rommel's forces was massive, but those forces were by then so inferior to Montgomery's that it played little part in the British victory.



Map of Operation Bertram, during the second battle of El Alamein, showing various elements of the deception plan. Map by Chiswick Chap, based on map from Geoffrey Barkas, *The Camouflage Story: From Aintree to Alamein* (London: Cassell, 1952) (CC BY-SA 3.0).

It would be very wrong, however, to assess the significance of intelligence for the outcome of the El Alamein battles by measuring only its direct impact on them. What limited Rommel's superiority before the summer of 1942, and helped to eliminate it by the autumn, was the British use of SIGINT to destroy his supply shipping. Axis losses, rising to a peak of over 60 percent of southbound Mediterranean shipping in November 1941 and to another peak between 50 and 60 percent in October 1942, were almost entirely attributable to decrypts of cypher keys that had been solved regularly since June 1941. Nor was this the only direction in which the transformation of the intelligence situation to the advantage of the Allies now laid the basis for the indirect, long-term, strategic effects that intelligence was to exercise till the end of the war. Also from June 1941, for the first time, the British read the U-boat traffic regularly and currently, an advance that almost wholly explains why they prevented the U-boats from dominating the Atlantic during the autumn of 1941 and the winter of 1941–1942.

What, then, was the overall influence of intelligence on the war? It is not easy to give a precise assessment. If its impact on individual operations was not always decisive and was sometimes nil, its strategic impact was indirect and cumulative. It is thus difficult to measure it now, as it was difficult for the

enemy to discern it at the time. But two conclusions may be advanced without qualification. In the first place, the claim that intelligence by itself won the war—a claim that is self-evidently absurd—may be dismissed. The British survived with little benefit from it before Germany invaded Russia in June 1941, as the Russians survived invasion with little benefit from it; and as Russia's survival was followed by the entry of the United States in December 1941, the Axis would have been defeated even if the Allies had not acquired by that date the superiority in intelligence they retained till the end of the war. Till the end of the war? Nearly four more years is such a length of time that it might be thought that, far from not producing on its own the Axis defeat, intelligence made little contribution to it. That this was not the case, however, is the second point that may be made without qualification.

The war effort of the Western Allies on every front after the end of 1941 was guided by massive, continuous, and frequently current information about the enemy's dispositions, intentions, resources, and difficulties. The information was so comprehensive, though never complete, that, though the Allies occasionally misinterpreted it, the expectations they based on it, whether positive or negative, were generally correct. This enabled them not only to strike some decisive operational blows and avoid some operational setbacks but also to shorten the war by setting the time, the scale, and the place of their own operations in such a way as to achieve enormous economies for themselves in lives and resources and to add enormously to the burdens the enemy had to bear.

By how much did the Allied superiority in intelligence shorten the war? Even if the question is limited to the war in Europe the answer can only be approximate. By keeping the Axis out of Egypt it probably brought forward the conquest of North Africa and the reopening of the Mediterranean to Allied shipping, which were completed in the middle of 1943, by at least a year. By preventing the U-boats from dominating the Atlantic in the winter of 1941–1942 and by contributing heavily to their defeat there in the winter of 1942–1943, it probably saved the Allies another two years. Had delays of this order been imposed by shortages of shipping and specialized landing craft on the Allied invasions of the continent, those undertakings would have been further delayed by other considerations. As it was, the invasion of Normandy was carried out on such very tight margins in 1944 that it would have been impracticable without precise intelligence about German strengths and orders of battle and the fact that the Allied commands could be confident the intelligence was accurate. If it had had to be deferred it might well have been delayed beyond 1946 or 1947 by Germany's V-weapon offensive against the United Kingdom and her ability to finish the Atlantic Wall, not to speak of her deployment of revolutionary new U-boats and jet and rocket aircraft which,

as intelligence revealed, became imminent by the end of 1944. At best, the return to the continent might have been delayed till 1948 and the defeat of Germany till 1949, and that is probably a conservative estimate.

Neither the Western Allies nor the Russians would have been idle in these circumstances. What different strategies would they have pursued? Would the Russians have defeated Germany or Germany the Russians? What would have been decided about the atom bomb? Historians cannot answer these questions, because fortunately they are concerned only with the war as it was. And it was not least because of the actual contribution made by intelligence to the course of the war that such horrible questions did not arise.

Professor Sir Harry Hinsley combined a remarkable career as an educator with a unique and personal viewpoint on intelligence. Born 26 November 1918, Sir Harry received his early education at Queen Mary's Grammar School. He interrupted his studies at St. John's College, Cambridge, to serve at the Government Code and Cypher School at Bletchley Park. His work there brought him into close contact with most of the other British intelligence organizations during World War II. After the war Sir Harry completed his master of arts degree at St. John's College and became lecturer in History, Cambridge University. He later served as professor, History of International Relations, St John's College, Cambridge; Lees-Knowles Lecturer on Military Science, Trinity College, Cambridge; and vice-chancellor, Cambridge University. His major publications include: *Command of the Sea* (1950), *Hitler's Strategy* (1951), *Power and the Pursuit of Peace* (1963), and *British Intelligence in the Second World War: Its Influence on Strategy and Operations* (jointly), 4 volumes (1979–88). Sir Harry Hinsley served as the Master of St. John's College, Cambridge, and a trustee of the British Museum. He was awarded the Order of the British Empire in 1946 for wartime service in the Foreign Office and was knighted by Queen Elizabeth II in 1985. Professor Sir Hinsley passed away in 1998.

On the Making of History: John Boyd and American Security*

Grant T. Hammond

"We don't see things as they are, we see things as we are."

—Anaïs Nin

It is a pleasure to give this prestigious lecture at the US Air Force Academy and to address Air Force Col John Boyd and his ideas some 15 years after his death and more than a decade after the publication of the first book about Boyd and his ideas, my *Mind of War: John Boyd and American Security*. To be honest, Boyd had little use for the Air Force Academy and he said so with some frequency. He thought cadets here were pampered, told too often how great they were, and falsely assured that any graduate could become Chief of Staff. It is somewhat ironic after all these years that Boyd has finally achieved a level of respectability. The fact that his ideas are to be addressed at the Academy is a vindication of Boyd and his work. Were he alive, he would be honored by the attention to his life and work—but he would not admit it.

Given that the Harmon Memorial Lecture at the Academy is sponsored by the History Department, I am both personally motivated and professionally obligated to put my remarks in some relation to the study of history. The epigraph to this lecture is a quotation from Anaïs Nin, a French-Cuban writer of short stories and companion to numerous literary luminaries. The quotation is "we don't see things as they are, we see things as we are." It points out simply that the enduring effects of unique people or events lie as much in how they are viewed, remembered, and assessed as in what may have been said or done. And that view, memory, or assessment may change over time. So it is with John Boyd and his ideas. Just who was John Boyd, and what did he do that deserves your attention in this forum?

John Boyd was a maverick fighter pilot—an oxymoron—who did not endear himself to the US Air Force or its senior leadership because he challenged orthodoxy. In the hierarchy of the military, doing it once and getting away with it is possible, though risky. Doing so two or more times is not conducive to career advancement. Doing so routinely courts dismissal. John Boyd challenged Air Force orthodoxy continuously and did so at the heart of the service's very identity. He challenged fighter tactics in his "Aerial Attack Study," redesigned fighter aircraft in Energy Maneuverability Theory, and

*Harmon Memorial Lecture #54, 2012.

developed the aircraft themselves in his design work on the F-15 and F-16. And he challenged the theory of how wars were to be fought and won in his 15-hour briefing, a "Discourse on Winning and Losing."

If he had been less pugnacious, if he had not been so cocksure of himself, if he had not end-run the system constantly, if he had played by the rules, he might not have had the difficulties he had. But then, he wouldn't have been successful either. Revolutions are neither begun nor won by moderates. They require zealots committed to the cause. Boyd was passionately committed to being the best at his craft. He was devoted to the Air Force and its mission—air superiority through designing the best aircraft, training the best pilots, and developing the best military strategy—in order to fly, fight and win. He just happened to be convinced that the Air Force had it all wrong. And, understandably, the Air Force didn't appreciate being told that such was the case.

To accept Boyd's ideas was an indictment of the service, its leadership; its tactics, techniques, and procedures (TTP); and its doctrine. That is not easy for an institution to admit or even suspect. And Boyd's era was a rough time for the Air Force. Coping with the disaster of Vietnam was difficult. Though air support was a major contribution on the ground, the Air Force did not distinguish itself in the air. Half our F-105s were lost, the 10-to-1 kill ratio against MIGs in Korea came closer to 1-to-1 in Vietnam, the PK ratio* for missiles was not nearly as good as claimed, and SAMs took a heavy toll.[1] This experience meant tactical air operations had to be greatly improved if the Air Force was to be successful in the future. But from 1965 until 1982, the Air Force Chiefs of Staff and most of their senior general officers were all bomber generals from Strategic Air Command (SAC) who had risen under the tutelage of General Curtis LeMay. Reinventing tactical aviation was a difficult task, particularly in that environment, and John Boyd was at the heart of it.

The impact of John Boyd and his thinking—on the Air Force, the Marine Corps, and national security—has changed considerably over time. There are various histories of this. And there are histories of those of us who wrote about Boyd in the manner and at the time we did. All of this has colored the history of Boyd and his ideas. How then should we think about making history—those who make it and those who chronicle it? I'd like to examine that question using Boyd, his ideas, and his chroniclers as a case study of "making history." In doing so, I hope to keep faith with the Harmon Memorial Lectures on history and the story of John Boyd and his ideas.

*PK ratio refers to the probability of kill. In this case, it is the percent likelihood that a missile launched against an enemy aircraft would hit and damage the aircraft enough to achieve an aerial kill.

Boyd's Career

The basics are easily told. Boyd joined the Air Force in 1951 and retired in 1975 as a colonel. He died in 1997. He flew briefly in Korea at the very end of the war and became fascinated with air-to-air tactics. He went to the fighter weapons school and taught and studied aerial tactics for six years, flying the F-100 Super Sabre like no one else. He had a standing $40 bet with all comers at Nellis AFB that he could put them on his six and outmaneuver them for a kill in less than 40 seconds. He never lost the bet. A demanding instructor in the air and the classroom, he questioned the tactics of the day. At night and on his own initiative, he wrote the "Aerial Attack Study," the first manual on jet air-to-air combat. Rejected at first, it was distributed surreptitiously, pilot to pilot, squadron to squadron, until the Air Force decided to adopt it.

He left Nellis AFB and was assigned to Systems Command at Eglin AFB where, with civilian mathematician and later Defense Acquisition Chief Tom Christie, he developed the Energy Maneuverability Theory. Using stolen computer time in dummy accounts, Boyd diverted several hundred thousand dollars of computer time to studying the comparative flight performance envelopes at different speeds, altitudes, and G-forces for every American fighter and plotted them against every Soviet fighter. He discovered that every Soviet fighter had greater maneuverability when compared to its American counterpart. He was nearly court-martialed for theft before being presented two Air Force awards for his work.

Sent to the Pentagon to assist in the development of the next Air Force fighter, which became the F-15, Boyd was given the materials submitted to date and told to review them and report back in a couple of weeks. When asked for his opinion, he replied: "I could screw-up and do better than this."[2] Thus began his work on the F-15 and his change of the original design of an 80,000-pound, swing-wing F-111–based "fighter" to the smaller, twin-tailed, twin-engine F-15 we know today. Along the way, he thought the F-15 was too big, too costly, and that too few would be built to allow for inevitable losses in Europe against the Warsaw Pact ground and air defenses. So he quietly, without approval, began to design the lightweight fighter that became the F-16. It nearly cost him his career and promotion to colonel, for the F-15 was the "Holy Grail" of the Air Force. Opposing the plane, the size of the buy, or proposing an alternative to it were simply unacceptable positions and treasonous in the eyes of most of his superiors. But the F-16 was adopted over the objections of the Air Force leadership. The Secretary of Defense made the decision. It is the only fighter in Air Force history which cost less than its predecessor. It has been sold to over 20 countries, and nearly 5,000 have been built. That's quite an accomplishment for a plane the Air Force didn't need and didn't want.

Important though all of these accomplishments may have been, Boyd's real impact began after he retired from the service and began work on a series of briefings which eventually became known as "The Discourse on Winning and Losing." It began as an hour-and-a-half briefing entitled "Patterns of Conflict" and grew to a monster that took 15 hours over two days to deliver. In it, Boyd addressed the course of military history and what it could teach us. He introduced the theory of maneuver warfare and included briefings entitled "The Conceptual Spiral," "The Strategic Game of ? and ?," and "An Organic Design for Command and Control." He also explained and expanded his famous concept of the "OODA Loop." Combined into the "Discourse," this is the main body of Boyd's thinking.*

Boyd had his admirers and his detractors. He caused a strong reaction in all. They occupy opposite ends of the spectrum of assessment. To one senior Air Force four-star, he was "a 24-karat pain in the ass." To a Marine four-star he was "the quintessential soldier-scholar." While one fellow student called him "the 'cussingest' man I ever met," another four-star called him "Christ-like." To those whose ire he garnered in the Pentagon he was variously "that f—— Boyd," and known by various names including "the Mad-Major," "the Ghetto Colonel," and "Genghis John."[3] To those who believed in him and his causes, he was more than a hero; he was a virtual saint and they would have followed him anywhere and taken on any foe, regardless of the odds.

How did one man inspire such radically different opinions? Boyd was both brilliant and a misfit who was his own worst enemy. He did not do things by the book or play by the rules. He did not care much for shined shoes, immaculate uniforms, or protocol niceties. On a visit to the Academy driving with his host, he noticed the superintendent in the car behind him on base. Boyd rolled down the window in the cold and snow and started pumping his middle finger in the air at the car behind, in front of several dozen cadets. His host, appalled by the action, tried to stop him but Boyd said, "Aw hell, we were in pilot training together and this is just a fighter pilot greeting." Thereafter, the superintendent decided to approve all visitors to the Academy in advance.[4]

Boyd was both vilified and respected by those who knew him. To many, he was not very likeable. He smoked smelly cigars, talked loudly, and got right in your face when he argued with you, spittle flying. He was pushy, arrogant, and profane in the extreme and would frequently end-run his boss, or his boss's boss, up to and including the Secretary of the Air Force and the Secretary of Defense. His courage to state his views—and defend them regardless of consequence—his integrity and willingness to challenge and persevere were

*For a more complete discussion of "The Discourse on Winning and Losing," see Robert Coram, *Boyd: The Fighter Pilot Who Changed the Art of War* (New York: Little, Brown, 2002).

what were admired and respected by supporters. He was totally incorruptible, had little use for money, and refused to cash dozens of TDY reimbursement checks for speaking engagements after he retired. He inspired intellectual respect and virtual awe, intense loyalty, and unbounded compassion for those who became "the acolytes," Boyd's small but intense following on his various crusades.

OODA Loops

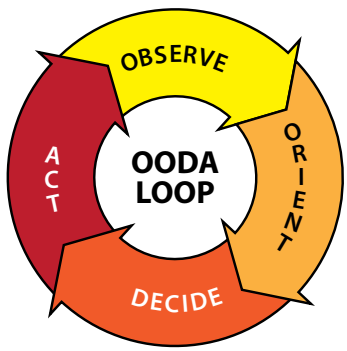
The essence of all John Boyd learned came from being a fighter pilot. It taught him how to think, to define and refine concepts and ideas, and to combine them into patterns from which he could learn still more. At the heart of his thinking was the OODA Loop. It is popularly displayed in many writings as the circular diagram you see on the slide.* This is a very simplistic and shallow representation of an important and richer set of ideas. Boyd's OODA Loop looks like this† and is much more complex and insightful. It is both a representation of how our mind works, how we think, and a complex strategic theory reduced to a rather simplified form. Colin Gray, a British scholar and the second most widely quoted author on strategy next to Clausewitz, has referred to Boyd and the OODA Loop as follows: "The OODA Loop may appear too humble to merit categorization as grand theory, but that is what it is. It has an elegant simplicity, an extensive domain of applicability, and contains a high quality of insight about strategic essentials, such that its author well merits honorable mention as an outstanding general theorist of strategy."[5] Alas, Boyd never knew of the accolade Gray bestowed on him, for it occurred two-and-a-half years after he died. His now worldwide fame would astound him.

Just what is the OODA Loop and why is it important? It is the basis for everything in Boyd's thinking and a metaphor for life itself. It is an extended biological metaphor for stimulus and response and a diagram for the way the mind works. It is an organic model, not a mechanistic one. Observation is really "sensing" but the acronym thus produced—SODA—didn't pass the giggle test so Boyd used observation instead. And, for fighter pilots in early air-to-air engagements, "first sight wins the fight" was gospel. But successful use of the OODA Loop is a complex process. Observation entails the sensing of external information and the unfolding of circumstances. It is an assessment of our environment, our place in it, and the interaction of the two. It begins a

*While this slide is no longer available, Hammond discusses the circular OODA loop on pages 142–43 of his book *The Mind of War: John Boyd and American Security* (Washington, DC: Smithsonian Institution, 2001).

†For a more detailed discussion on the fuller OODA loop see pages 164–67 in Hammond's *The Mind of War*.

process of scanning for danger, an adversary, and threats to us. It provides a base from which to proceed and feeds forward into the second part of the process, orientation.



The "OODA Loop": Observe, orient, decide act, created by John Boyd.

Orientation, what Boyd called "the big O," is the central part of the process. It is an amalgam of our genetic heritage, culture, education, experiences, and our analysis and synthesis—literally how and why we think as we do. This informs our action, which is a test of our hypothesis (decision). It may be correct or it may fail. But because of the series of forward and backward feedback loops and the implicit guidance and control we can exert, we are able to revise and repeat the process continuously. Our insights condition our actions or reactions to the environment and events in it. These also are critical to understanding an opponent. It is a complex set of filters and inputs that leads us toward decisions. Orientation involves trade-off thinking to make selective judgments and projection into some future state of affairs and its consequences.

Based on this, we make a decision—a choice about how best to proceed to interact effectively with our environment. This choice, our decision, is the hypothesis to be tested. The test is the action we have selected and its implementation. We constantly monitor the success or failure of the action taken in an effort to comprehend, shape, adapt to, and, in turn, be shaped by the environment. As Boyd described it, it is a circular process with constant feedback and feed-forward channels and implicit guidance and control to help us cope with a constantly evolving, open-ended, far from equilibrium process of self-organization, emergence, and natural selection.

The OODA Loop is thus an analytical and synthetic tool to deal with our environment and a strategic theory of how to do so. It is simple, elegant, and

comprehensive, able to describe, explain, and predict. It is, in essence, a depiction of life itself. Regrettably, its reduction and misunderstanding by many have demeaned the significance and utility of the concept. Now that you understand, perhaps future versions of the OODA Loop chart, and the way it is spelled, will emphasize its original insights.

Military History and Patterns of Conflict

Boyd built on and used the OODA Loop to advantage in making additional contributions to national security beyond his contributions to airpower theory, aerial combat, and fighter aircraft design. He began to read, to study history, philosophy, the history of science, and was concerned with what came to be known as chaos theory and complexity before those terms became popular. Of particular interest is his study of military history. Under the tutelage of Pierre Sprey, a Pentagon analyst and friend, Boyd began to read military history in the Pentagon library. He began to learn about using aircraft to kill tanks and so read Von Mellenthin, von Mannstein, Hans Rudel, and books about World War II. Then he went back to study the 1930s, the theories of Liddell Hart, Guderian, and how German ideas had developed about blitzkrieg and infiltration tactics in World War I. He kept going—all the way back to Sun Tzu.

Doing it backward emphasized continuity, not change. He pondered what the essence of success was for those who won battles and wars across different times and continents. He began to focus on maneuverability, quickness, attacks in the flank or rear, and rapid adaptation to tactical developments. These were the constants, and winning was often about getting inside the adversary's decision cycle, controlling the tempo of battle, being unpredictable, about causing friction for the adversary and taking advantage of the element of surprise. These became themes that became the "Patterns of Conflict" briefing which grew from 90 minutes to over four hours and was given frequently both inside and outside the Pentagon, on the Hill, to academic groups and interested others.

Along the way, he became concerned about better understanding the orientation of the adversary. This was critical to success in war. What does he value? What does he fear? How has he acted in the past? What does he seek to do? For Boyd, cultural anthropology and ethnography became more important than military intelligence. The latter developed a physical order of battle. Boyd wanted to develop a psychological order of battle. He wanted to know intentions as well as capabilities so he could devise a strategy that would allow him the moral and psychological leverage, as well as the physical capability, to defeat an opponent.

Central to Boyd's view of conflict is the fact that all organisms and organizations seek to survive and prosper. Doing so generally depends on maximizing freedom of action or by making common cause with those who seek the same goals. Boyd understood and emphasized that war is a human endeavor begun and ended for moral purpose. It involves mobilizing people to fight and sacrifice for a cause. You need to understand why and how they fight if you seek to defeat opponents. This simply cannot be ignored. Along the way, Boyd developed one of his many trinities: People first, Ideas second, and Things third. That is the priority for developing successful strategies and for leading a successful life. Most militaries, however, do it in reverse. People must be interchangeable parts to avoid single-point failure in combat. But Boyd wanted to emphasize the human dimension of conflict.

The essence of Boyd's strategy for accomplishing goals can be summarized by the combination of variety, rapidity, harmony, and initiative. Variety entails denying pattern recognition and predictability to an adversary; adopting multiple, simultaneous actions to confuse and confound an opponent; and being able to transition from one initiative to another sequentially or concurrently. Rapidity means the ability to not only act quickly but to modulate the tempo of action, to know when to speed up or slow down. Harmony refers to the ability to blend one's actions to fit time and circumstance, to co-evolve with the strategic landscape and the tactical realities. It is achieving the "fit" of what Boyd called the mind-time-space arena where thought and action converge appropriately. Initiative is the willingness to lead, to take action, to identify and act upon the mismatches, and to do so at the right time. One achieves advantage by causing friction for the adversary, by oscillating between interaction and isolation over time, and by modulating time to one's advantage. For Boyd, time and timing were weapons that did not have to be logistically supported. They were free and bestowed advantage upon those who understood how to use them well.

Taken together, these were the keys to a successful strategy. Boyd tested these concepts against blitzkrieg and defense against it—"counter-blitz"—and guerilla warfare and counterinsurgency. He was fascinated with them and sought to understand how to prosecute and defeat each. That said, like the Chinese Colonels who wrote *Unrestricted Warfare* in 1999,[6] Boyd was concerned about the wider arena of competition and conflict. At base in his view was the constant reminder that war is a human activity begun and ended ultimately for what is seen as a moral purpose. Ultimately, one's target was always the same: the perception of the adversary leadership. If you could change their minds, you could change their behavior. If you could change their behavior, you might not need to defeat their fielded forces or occupy their capital. The enemy always has a vote and must decide to end the conflict in order

for you to win. Boyd was always reminding others that "terrain doesn't fight wars. Machines don't fight war. People fight wars. It's in the minds of men that war must be fought."[7]

His study of military history and the synthesis he made using the insights of Sun Tzu, Liddell Hart, Musashi, Clausewitz, and others led Boyd to believe that the Germans had gotten it right. Commander's intent was the key. To have a force so well schooled and trained in doctrine, so well rehearsed or experienced, as to perfectly understand the commander's intent and implement it through *auftragstaktik*—mission type orders—was essential. Such a force must be grounded in the empowerment of subordinates to do what the situation requires and to trust in their ability to make the right decisions. *Auftragstaktik* enables variety, rapidity, harmony, and initiative. Everything begins with increased situational awareness and the OODA process. It was an expansion of his experience of air-to-air combat in Korea: Commander's intent, good TTP, understanding where and when advantage could be had led to achieving a successful kill. One should seek out the disposition of the enemy, much as Napoleon's skirmishers had done, infiltrate, penetrate as the Germans had learned in WWI and WWII to exploit the surfaces and gaps, the strong and weak points of opposing forces. Maneuver warfare was the way to do so and learning how to do it quickly and well was the key to victory.

Boyd, Science, and Synthesis

Along the way, as Frans Osinga so thoroughly details in his book, *Science, Strategy and War*, Boyd read widely in science and philosophy. Boyd retired in 1975, but he read voraciously all the major books and articles on science that appeared in the last 20 years of his life. He engaged in numerous studies and discussions ranging from mathematics to psychology, physics to biology, computing, and cosmology. He would call distinguished scientists to ask a question, stating he "was just a retired fighter pilot who reads a lot."[8] He addressed a collection of Nobel Prize winners at the Santa Fe Institute and the Institute for Advanced Studies at Princeton. Unable to buy all the books in which he was interested, he hung out in book stores and read whole volumes transfixed in the subject matter and unperturbed by the entreaties of store owners to simply purchase the book and leave. He was interested in neuroscience and how the brain worked, how scientific progress had been made, and fields as disparate as epistemology and relativity. He explored a variety of concepts and tried to integrate them into his understanding of how the world, and conflict in it, worked. These included trying to understand the essence of such things as numerical imprecision, quantum uncertainty, entropy, the causes of irregular or erratic behavior, Heisenberg's uncertainty principle, in-

comprehensibility, mutations and how and why they occur, the nature of ambiguity and its effects, and the origins of novelty.

In doing so he created what he came to call the "conceptual spiral," in which he tried to explain how we learn and why constant learning and refinement of the process are so important. One began with a question and set about to find answers. It was a spiral process which included a series of processes as follows:

Table 1. The Conceptual Spiral

Exploration	Discovery	Innovation
Thinking	Doing	Achieving
Learning	Unlearning	Relearning
Comprehending	Shaping	Adapting
Insight	Imagination	Initiative[9]

Adapted from John Boyd, "The Conceptual Spiral," Slide 34.

For Boyd, these insights were critical in explaining how he had come to fashion the ideas he had and to better understand how people learn. More important was to learn how to learn.

Boyd wrote little. Most important is a short 15-page essay on "Destruction and Creation," which several notable physicists have thought a brilliant work. That, a few articles, and a handbook on aerial combat are the only things he penned other than the 327-slide *magnum opus* briefing, "A Discourse on Winning and Losing."[10] He couldn't bring himself to publish anything because it was never complete. Coming from an essentially oral culture of briefings in the military, Boyd put carefully chosen words on Vu-graphs, but never in print. The "Discourse" was an unfinished conversation with each audience, part of a continuous learning experience that was unending. He learned from discussion with the audience each time and this necessitated some change in the next iteration. It was a succession of unfinished OODA Loops.

Boyd's counsel for how to win is based first on understanding the strategic context in which the contest will take place. You could have a perfectly well-defined objective, all the resources and capabilities required, and an excellent, detailed plan to accomplish your mission. But if you did not understand the tactical, operational, and strategic environment in which these would occur, you would not contend successfully. If you understood the context, the setting in which the contest would occur, you could use that knowledge to shape the battlespace and manage the opponent's cycle time. Look for mismatches, where things don't fit. Exploit the mismatches and take advan-

tage of them. Use mission-type orders and *auftragstaktik*. Maneuver your adversary into a position where he decides he cannot win.

The Legacy

Boyd led the Defense Reform Movement behind the scenes from 1975 to 1985, by orchestrating staffers, congressmen, and senators on the Hill; journalists; and those in other services. Among them were Congressman Norman Dicks, Dick Cheney (future Secretary of Defense), Newt Gingrich (future Speaker of the House), and some 130 members of the House of Representatives in the Military Reform Caucus, along with Senators Gary Hart (future presidential candidate), Charles Grassley, William Cohen (future Secretary of Defense), Sam Nunn, and others. He developed a national network of defense correspondents and influential writers—George Wilson of the *Washington Post*, James Fallows of *The Atlantic*, and reformers inside and outside the military. Along the way, he was largely responsible, along with Gen Al Gray and Col Mike Wyly, for the adoption of Maneuver Warfare doctrine of the US Marine Corps and had frequent talks with Gen Don Starry and Brig Gen Huba Wass de Czege of the US Army regarding AirLand Battle. Jim Fallows wrote a number of articles in *The Atlantic*, for which Boyd was largely the source, and an award-winning book, *National Defense*, that chronicled the views of the Defense Reformers and raised their views and charges to national attention.[11]

Boyd railed against gold-plated weapons systems with 20-plus-year acquisition cycles and no fly-offs or testing in the selection processes. He worried about the Army trying to fit synchronization in to its doctrine. For five years, a retired Air Force colonel taught every Marine officer that went through The Basic School at Quantico about maneuver warfare. And he kept in touch with those concerned about these and other issues, visiting then–Secretary of Defense Dick Cheney with some frequency before the first Gulf War. And Boyd was pleased when military commanders and news anchors explained the US victory as being attributable to "getting inside the enemy's decision cycle," a phrase from his strategic insight and briefings. Some of the ideas seemed to have hit home; others fell on deaf ears. John Boyd died wondering if he had made a difference. His legacy was largely unknown.

My book about Boyd was published four years after his death. It was to introduce the man and his ideas to people in the Air Force and beyond, most of whom didn't know him or his accomplishments. I had known Boyd, worked with him on the book for nearly six years, and came to admire him, his intellect and his character. But it flew against a headwind of those who had known Boyd, disliked him, and were still in senior Air Force positions. One CSAF

admired Boyd. Another preferred that I not teach at the Air War College for having written a book about Boyd. Robert Coram's book, "*Boyd*: *The Fighter Pilot Who Changed the Art of War*," cast him as a somewhat larger than life, heroic figure. Coram, having a hefty advance and well-funded book tours, helped make Boyd a more widely known figure, but his book dealt less on his ideas and intellectual achievements than on his personal life. Frans Osinga, a Dutch F-16 pilot, now a general, and my former student at the Air War College, wrote his PhD dissertation on Boyd's ideas at the University of Leiden. It is a first class intellectual assessment of Boyd and his work. His *Science, Strategy and War: The Strategic Theory of John Boyd* is the gold standard for analyzing Boyd's ideas and their origins.

Now, 15 years after his death, after my frequent lectures abroad and multiple books and articles about him, Boyd and his ideas are known worldwide. From a Danish business school to military academies and war colleges from Australia to Norway, John Boyd is a familiar name. He is perhaps better known in foreign air forces than our own. His insights are valued in military, academic, and business circles. But acceptance as part of a curriculum within the US Air Force is still largely nonexistent. He is discussed, though not formally studied, by small groups of faculty and students at Squadron Officers College, Air Command and Staff College, and the Air War College. But there are no routine lectures or elective courses on Boyd or his ideas except for a few that I have taught in the late '90s and early 2000s.

Remember that it is not just seeing or believing "things as they are" but seeing and believing "things as we are." Boyd's ideas will not change. But the Air Force's ideas about him are changing. My appearance here is proof of that. Perhaps his ideas are more acceptable in part because he is dead, as are many of those who had little use for him and his ideas. One hopes that the value of his ideas is at last appreciated. Learning how to think and act in a complex, uncertain, ever-changing world of ambiguity is a necessary skill with which Boyd can help. Understanding his concepts could be advantageous, if not necessary. Some of his ideas have become lessons learned, but many have not. Which ones will become important and remain so in the future is yet to be determined.

The point is this—you will be a large part of the making of Air Force history. The example I have given you is merely about Boyd and his ideas. Even more sobering is the realization that you will be responsible for making the future—that becomes the history—of the US Air Force. What you know, what you believe, the questions you ask, the mismatches you discover, how you assess new ideas and accept or reject them, the mavericks you protect because we need to think about the questions they raise, your ability to adapt to an increasingly complex, ever-changing and largely unknown world in which

you will have responsibility for the shape of things to come is how future history will be made.

Being a maverick, challenging orthodoxy, becoming a loyal heretic is dangerous. You invest your personal faith at your personal risk. As Boyd counseled others in his famous "To Be or to Do" speech,[12] there will come a time when you have to decide whether to go along or do what's right. The impact you have may be greater than the rank you attain. But choosing to do this in a hierarchical structure means you must have the courage and confidence to act alone. Not everyone can or should be a maverick, but we need a few from time to time to change the status quo—and make history. Billy Mitchell helped create the idea of an independent Air Force. Claire Chennault championed fighter aviation. Jimmy Doolittle used B-25s to attack Japan from a carrier deck. Bernard Schriever gave the Air Force missiles when it didn't really want them. John Warden finally convinced the Air Force that strategic did not equal nuclear and that tactical targets and weapons could be used to achieve strategic effects in the first Gulf War. And John Boyd taught us how to think about how best to fly, fight, and win. How others see your actions will be determined as much by how they see things as what you did—perhaps posthumously.

Making history is a synonym for leadership. It is not just your life, but the lives of those around you, the way in which you and your ideas affect the world that you inhabit and the legacy that you leave. It is at once an awesome responsibility and simply the way life is lived. The future, as you will be told many times, is in your hands. That future will largely be determined by your use and abuse of the past and how you undertake to "make history." Here's hoping that your OODA Loops and conceptual spirals will be the best they can be.

I would like to end this lecture the way I ended *The Mind of War*—as a salute to John Boyd and a charge to all of you. "[T]he integrity of the man and his ideas should be celebrated. We would all do well to emulate Boyd's dictum: 'Ask for my loyalty, I'll give you my honesty. Ask for my honesty, you'll have my loyalty.' Rest in peace, John. The *Discourse on Winning and Losing* continues. *Semper Fi*!"[13]

Dr. Grant T. Hammond has a bachelor of arts degree from Harvard in Modern European History and a master of arts and doctorate from the Johns Hopkins University School of Advanced International Studies in International Relations. He was commissioned a 2nd Lt in the US Army (Infantry) via ROTC and served in the US Army Reserve. He has had a long career in academia, both civilian and military, and has served as chair, Department of International Studies at Rhodes College, and executive officer of the Center for International Affairs at Harvard before joining the

Air War College in 1989. From 2007 to 2010 he was the dean of the NATO Defense College in Rome, Italy, and from there returned to Maxwell Air Force base as Professor of Strategy and Technology and Deputy Director of the US Air Force Center for Strategy & Technology at Air University.

He is a frequent lecturer at home and abroad on a variety of security-related topics and has visited over 70 countries in his work. He has addressed all the US armed services' Command and Staff Colleges and War Colleges as well as military and civilian audiences in Belgium, Germany, Italy, Jordan, Morocco, the Netherlands, Romania, Singapore, Sweden, and the UK. In addition to dozens of articles, book chapters, and monographs, Dr. Hammond is the author of a number of books, including *Countertrade Offsets and Barter in International Political Economy; Plowshares into Swords: Arms Races in International Politics, 1840-1991; The Mind of War: John Boyd and American Security*. Most recently, he compiled and edited the volume *A Discourse on Winning and Losing* (Air University Press, 2018), which is the first book ever published on John R. Boyd's famous same-titled briefing.

Notes

1. See "List of Aircraft Losses of the Vietnam War," Wikipedia, last edited 27 May 2019, http://en.wikipedia.org/wiki/Aircraft_losses_of_the_Vietnam_War; Robert D. Goartz, "An Analysis of Air-to-Air Missile Capability in Southeast Asia" (Maxwell AFB, AL, June 1968), 1–2; and Christopher Hobson, *Vietnam Air Losses: USAF, Navy, and Marine Corps Fixed-Wing Aircraft Losses in SE Asia 1961-1973* (North Branch, MN: Specialty Press, 2002).
2. Grant T. Hammond, *The Mind of War: John Boyd and American Security* (Washington, DC: Smithsonian Books, 2001), 77.
3. Hammond, 2–4.
4. Robert Coram, *Boyd: The Fighter Pilot Who Changed the Art of War* (Boston: Little, Brown and Company, 2002), 342–43.
5. Colin S. Gray, *Modern Strategy* (Oxford, UK: Oxford University Press, 1999), 91.
6. Qiao Liang and Wang Xangsui, *Unrestricted Warfare* (Beijing: People's Liberation Army, 1999).
7. John Boyd quoted by Henry Eason, "New Theory Shoots Down Old War Ideas," *Atlanta Journal Constitution*, 22 March 1981.
8. See Hammond, *Mind of War*, chap. 11, 171–92.
9. "A Discourse on Winning and Losing," slide 40, accessed 18 December 2011, http://fasttransients.files.wordpress.com/2011/02/conceptual_spiral.pdf.
10. The best site for Boyd's briefings and related materials is to be found at http://dnipogo.org/strategy-and-force-employment/boyd-and-military-strategy/.
11. James Fallows, *National Defense* (New York: Vintage Books, 1982).
12. Hammond, *Mind of War,* 10, 13, 211.

National Security: Space and the Course of Recent US History*

Roger D. Launius

Good evening ladies and gentlemen, officers and cadets of the US Air Force Academy, distinguished guests, friends, senior historians, junior scholars, critics, and innocent bystanders; I thank you for the opportunity to present the Harmon Memorial Lecture this year. It is a distinct and most appreciated honor. As a newly minted doctor of philosophy in history in the fall of 1982 I first visited the Academy to participate in the History Department's Military History Symposium. There I enjoyed immensely the Harmon Memorial Lecture delivered that year by John Morton Blum, the distinguished Yale University historian of American politics and society. He set a high standard in a remarkable lecture series that I can only hope to aspire to.

This evening I wish to discuss in broad contours the evolution of national security space policy throughout the first 50 years of the space age and to offer some comments on the policy debate presently underway. While the discussion may revolve around current issues, I wish to consider, perhaps to reconsider, how an understanding of the "digested past" may inform this larger, complex, and at times shrill debate.[1]

As a beginning point for discussion, let me suggest that the two primary users of space during the first years of the space age, the United States and the Soviet Union, fashioned a robust and flexible approach to dealing with an entirely new and potentially devastating theater for conflict. That policy allowed free access to space for all, fostered unfettered rights of overflight by any nation, prohibited the placing of weapons in space (although space was militarized almost at the beginning of the space age and is routinely used for a range of national security purposes), and barred nationalistic claims of sovereignty over celestial bodies. While the United States and the Soviet Union competed at every point of contact throughout the Cold War, these priorities did not receive serious challenge. Indeed, they served the needs of all sides quite well. As the Soviet Union declined and eventually collapsed at the end of the 1980s, however, a new dynamic situation arose. The strains on space policy, both as a result of a new set of circumstances and the departure from the scene of the Cold Warriors steeped in the *realpolitik* that had guided the nation for so many years, have been readily apparent for the last two decades. Although debates over space weaponization, preemption, and the maintenance of hegemonic US status have been complex, polarizing, and sometimes

*Harmon Memorial Lecture #49, 2006.

strident, no appreciable alteration of national security space policy has been enacted as yet.

So how did we come to this point? What are the major issues of the debate, and how might historical knowledge inform that debate? Finally, how might we move beyond simplistic, "either/or" propositions to help fashion a usable perspective on current national security space issues from our vantage point of historical understanding?

Space as a New Theater for National Security Operations

On the morning of September 8, 1944, the world changed in ways that happen only rarely. The events of that morning represented a paradigm shift, an overused but appropriate term in this instance, as an entirely new national security situation emerged. After an enormous investment by Hitler's Germany, more than a decade of research and development (R&D), the deaths of thousands of concentration camp laborers (with many more to come), and Allied fears that led to an air strike on the R&D facility at Peenemünde, the V-2 changed the nature of warfare.[2] A liquid propellant missile rising 46 feet in height and weighing 27,000 pounds at launch, the V-2 (sometimes called the A-4) flew at speeds in excess of 3,500 miles per hour and delivered a 2,200-pound warhead 200 miles away. After some false starts, at 8:40 a.m. on Friday, September 8, 1944, the first V-2 of the rocket campaign lifted off toward Paris. It exploded at high altitude and never reached the allied lines around Paris, an indication of the experimental nature of this complex new technology. Two hours later, however, a second rocket struck the Paris suburb of Charentonneau à Maison-Alfort, killing six people and injuring 36 others. All of them were noncombatants. This was the first ballistic missile attack in history, and it signaled a new age of warfare in which billions of dollars would be expended to strike enemies with missiles as well as to detect, deter, and defend against ballistic missiles.[3] By the end of the war 1,155 had been fired against England and another 1,675 had been launched against Antwerp and other continental targets. The guidance system for these missiles ensured that it had only a 50 percent chance of striking within 11 miles of its target, but the V-2s struck without warning and there was no defense against them.[4]

As the Allies learned during World War II, ballistic missiles represented a new and entirely different challenge than any other weapon ever developed. They struck seemingly from nowhere, without warning, and wreaked death and destruction on anything in its path. As one Londoner recalled:

> On the morning of September 14, I was sitting in the kitchen eating my breakfast when there was a soft "pop" and all the windows shot open. I went into the hall and was aghast to see that the front door was hanging off and the frame was falling outwards. Then the silence ended; the air became dark with debris raining down and I could hear screams .

> . . a row of houses in Dairsee Road had received a direct hit, killing seven people and injuring dozens.[5]

As Sir Philip Joubert de la Ferté, the French Air Chief Marshal, wrote, "V-2 was a different proposition altogether. Although strenuous efforts were made to devise methods whereby it could be intercepted and destroyed or the supplies stopped, in the end what the official history calls 'the drizzle of rockets' was only halted by the occupation of the territory from which they could be launched."[6] Moreover, as became clear in the aftermath of the first detonation of nuclear weapons, it could become a doomsday weapon holding catastrophic consequences for all. When coupled with nuclear weapons, no question about it, ballistic missiles changed the course of history. All the literature on the post–Cold War revolution in military affairs (RMA) notwithstanding, the combination of ballistic missiles with nuclear weapons truly did present the national security establishment with an entirely new set of challenges and opportunities and fundamentally altered the strategic landscape.[7]

Wernher von Braun holds a model of a V-2 rocket in this undated photo. ***Courtesy of NASA/MSFC***

The V-2 launches represented only the first instance of the use of space for military purposes, but in the years since World War II space has emerged as an especially critical theater of war. Certainly, as soon as the rivalry with the Soviet Union had arisen as the critical national security concern in the late 1940s, the US military recognized that space represented the new high ground—and that they had to control it. Numerous defense officials referred to space as the high seas of the future. The nations that could exploit the potential benefits of this ultimate strategic high ground for military purposes would dominate the rest of the world, they noted. "Whoever has the capability to control space will likewise possess the capability to exert control of the surface of Earth," USAF Chief of Staff Thomas D. White told reporters in the aftermath of the launch of Sputnik II in November 1957.[8] Notwithstanding contrary perceptions, Air Force officers also believed that space should be their exclusive domain since it represented a natural extension of operations in the air. As Benjamin Lambeth remarked, this idea "has endured for so long

in Air Force folklore that this mission area has been accepted by most airmen as an Air Force birthright almost from the start.[9]

No less than Gen Henry H. "Hap" Arnold recognized that the Air Force had to pursue space capabilities forcefully and believed that those efforts might be derailed by the Air Force's traditional mission and doctrine. Arnold foresaw a time when rocketry and spaceflight would dictate the outcome of international struggle. At the same time, he complained that the Army Air Forces depended too much on "pilots, pilots, and more pilots." He told Theodore von Kármán*, "I see a manless Air Force . . . [that] is going to be built around scientists—around mechanically minded fellows."[10] Viewing space as essentially an extension of air operations, Arnold pressed for its incorporation into the mission of the Air Force.

Under the Department of Defense and its predecessor a series of important studies on the use of space systems for national security and other purposes pointed up the perceptions of Arnold and a few others. Perhaps the key one appeared in 1946 from the newly established RAND Corporation on a *Preliminary Design of an Experimental World-Circling Spaceship*. This publication explored the viability of orbital satellites and outlined the technologies necessary for its success. Among its many observations, this one proved especially prescient: "A satellite vehicle with appropriate instrumentation can be expected to be one of the most potent scientific tools of the Twentieth Century. The achievement of a satellite craft would produce repercussions comparable to the explosion of the atomic bomb."[11] In a paper published nine months later, RAND's James Lipp expanded on this idea: "Since mastery of the elements is a reliable index of material progress, the nation which first makes significant achievements in space travel will be acknowledged as the world leader in both military and scientific techniques. To visualize the impact on the world, one can imagine the consternation and admiration that would be felt here if the United States were to discover suddenly that some other nation had already put up a successful satellite."[12]

This perspective is a classic application of what analysts often refer to as "soft power." Coined by Harvard University professor Joseph Nye, the term gave a name to an alternative to threats and other forms of "hard power" in international relations aimed at co-opting or attracting potential adversaries to accomplish the desired ends.[13] As Nye contends: "Soft power is the ability

*Theodore von Kármán (1881–1963) was one of the first great scholars in the field of theoretical aerodynamics. He made great contributions to the field as a professor at California Institute of Technology and as a founder and director of what became the Jet Propulsion Laboratory in 1944. He helped found the Air Force's Scientific Advisory Board and later organized the Advisory Group for Aeronautical Research and Development (AGARD) for the North Atlantic Treaty Organization. President Kennedy awarded him the first National Medal of Science. "Theodore von Kármán," Jet Propulsion Laboratory, https://www.jpl.nasa.gov/jplhistory/learnmore/lm-vonkarman.php.

to get what you want by attracting and persuading others to adopt your goals. It differs from hard power, the ability to use the carrots and sticks of economic and military might to make others follow your will. Both hard and soft power are important . . . but attraction is much cheaper than coercion, and an asset that needs to be nourished."[14]

In essence, spaceflight represented a form of soft power, the ability to influence other nations through intangibles such as an impressive show of space capability. It granted to the nation achieving it first, rightly as James Lipp forecast, an authenticity and gravitas not previously enjoyed among the world community.

At the same time, the explicitly military implications of the perception of space as the "high ground" of Cold War competition gained credibility from the atomic holocaust literature of the era.[15] In November 1945 Hap Arnold persuaded the editors of *Life* magazine to demonstrate his point of the importance of this "new high ground" by publishing a graphic article on "The 36-Hour War" in which ballistic missiles led to the deaths of millions of Americans. It described how an enemy annihilated all American cities with populations over 50,000. The *Life* article advocated careful preparation to withstand such an attack from space and the development of offensive weapons to deter such an attack and to respond should the "unthinkable" take place. Several striking illustrations showed a shower of rockets descending on key US cities, New York in ruins, and the New York Public Library's two famous stone lions still in place while all around it suffered near total destruction. Even if the US could win the war, as many as forty million Americans might die, Arnold warned.[16]

The next year science fiction writer Robert A. Heinlein went even further and warned *Collier's* readers that "space travel can and will be the source of supreme military power over this planet."[17] The danger of surprise attacks had been burned into the national consciousness by the Japanese attack on Pearl Harbor, and Heinlein emphasized the lack of warning that ballistic missile attacks made possible. In October 1951 Wernher von Braun* proposed in the pages of *Popular Science* the building of a space station because "the nation which first owns such a bomb-dropping space station might be in a position virtually to control the earth."[18] In 1952 a popular conception of the US-occupied space station showed it as a platform from which to observe the Soviet Union

*Wernher von Braun (1912–1977) was universally regarded as one of the leading rocket developers and advocates of space exploration from the 1930s into the 1970s. He led Germany's "rocket team" that developed the V-2 during World War II. After the war he worked for the US Army and NASA developing American ballistic missile programs. He served as director of NASA's Marshall Space Flight Center and was the chief architect of the Saturn V launch vehicle that propelled American astronauts to the Moon. NASA, "Wernher von Braun," https://www.nasa.gov/centers/marshall/history/vonbraun/bio.html.

and the rest of the globe in the interest of national security. As the editors of *Collier's* magazine editorialized, in the Cold War a space station would become critical to the security of the nation. The editors wrote that "the US must immediately embark on a long-range development program to secure for the West 'space superiority.' If we do not, somebody else will. . . . A ruthless foe established on a space station could actually subjugate the peoples of the world."[19]

Space superiority and the "new high ground" argument became especially important in the aftermath of the crisis precipitated by Sputnik during the winter of 1957–1958. For example, Senate Majority Leader Lyndon B. Johnson, a Democrat from Texas, recalled of the Soviet launch, "Now, somehow, in some new way, the sky seemed almost alien. I also remember the profound shock of realizing that it might be possible for another nation to achieve technological superiority over this great country of ours."[20] One of Johnson's aides, George E. Reedy, summarized the feelings of many Americans: "the simple fact is that we can no longer consider the Russians to be behind us in technology. It took them four years to catch up to our atomic bomb and nine months to catch up to our hydrogen bomb. Now we are trying to catch up to their satellite." Then-Senator John F. Kennedy agreed during the 1960 presidential campaign that "if the Soviets control space they can control earth, as in past centuries the nation that controlled the seas dominated the continents."[21]

In hyperbole befitting only a politician of LBJ's stature, he argued that "control of space means control of the world. From space, the masters of infinity would have the power to control the earth's weather, to cause drought and flood, to change the tides and raise the levels of the sea, to divert the gulf stream and change temperate climates to frigid."[22] In a slight variation of this argument, and only slightly less outrageous, Brig Gen Homer A. Boushey said in January 1958, "He who controls the moon, controls the Earth," and called for an American effort to build a missile base there.[23]

The Evolution of National Security Space Policy

Perhaps little has changed since that time. In fact, it may be even more significant today than at the height of the Cold War. As the recently released *US National Space Policy* concluded: "In this new century, those who effectively utilize space will enjoy added prosperity and security and will hold a substantial advantage over those who do not. Freedom of action in space is as important to the United States as air power and sea power. In order to increase knowledge, discovery, economic prosperity, and to enhance the national security, the United States must have robust, effective, and efficient space capabilities." This is a statement of the obvious, but decisions emanating from it may have profound consequences. For example, the policy also states that "the United States considers

space capabilities—including the ground and space segments and supporting links—vital to its national interests. Consistent with this policy, the United States will: preserve its rights, capabilities, and freedom of action in space; dissuade or deter others from either impeding those rights or developing capabilities intended to do so; take those actions necessary to protect its space capabilities; respond to interference; and deny, if necessary, adversaries the use of space capabilities hostile to U.S. national interests."[24]

This position is not inconsistent with earlier policies, especially the 1996 space policy of the Clinton White House, except in a couple of significant areas. Taking "those actions necessary to protect its space capabilities" and denying adversaries "use of space capabilities" represents a more bellicose perspective on national security space operations than previous administrations. Several observers have already remarked that this new policy rejects any infringement on unilateral US action in space. Of course, what those statements, and others like them, might mean in practice remains to be seen.[25]

Regardless of some relatively modest alterations over time, the national security space policy of the United States has been remarkably consistent for the first 50 years of the space age. Six basic principles enunciated in these various policy documents have served the nation well. First, the United States and the Soviet Union established in the 1950s and have maintained to the present "freedom of space," ensuring free access to space and the unimpeded passage through space of all satellites and other vehicles regardless of national origin and for whatever purposes intended. Any interference with operational space systems became an infringement on sovereignty and could be construed as an act of war. Second, the parties agreed not to press claims of sovereignty over any part of space or its bodies. Third, the right to defend against attack was preserved and would be considered self-defense just as on the earth. Fourth, this policy regime explicitly recognized all the various nations' civil, military, and intelligence programs as legitimate. Fifth, ownership of space assets rested with the original entity placing them in space, and laws of salvage similar to that of the sea were extended to space. Finally, all parties agreed that no weapons of mass destruction were to be placed in space, ensconcing this decision in the Outer Space Treaty of 1967.[26] The following discussion elaborates on a few of these issues, and indeed each is tied to the others in myriad, complex ways.

Each of these principles held important ramifications for the conduct of national security activities in space throughout the Cold War. Each enabled greater stability in a highly volatile situation and helped preserve a tenuous peace. Few today appreciate the desperate nature of the Cold War rivalry with the Soviet Union and the potential for any misstep to instigate nuclear confrontation. The rivals nearly stepped over the line during the Cuban Missile

Crisis of 1962, but wiser diplomacy prevailed. The national security space regime made possible a less tense set of relations than would have been the case otherwise, but it was certainly tense enough even with those space capabilities. As historian R. Cargill Hall has concluded, this regime was "predicated on a maritime analog. In maritime law, the vessels of all nations possess the right to ply the high seas while adhering to the treaties and customs that detail the terms of navigation and accepted rules of the road."[27] Collectively these principles offer some of the building blocks of an effective national security strategy. Overthrowing them after such a venerable career will prove a task not without difficulties.

The centerpiece of this national security space strategy rested on "freedom of space," sometimes referred to as the "open skies" doctrine. While Eisenhower had pursued it aggressively previously, as Cargill Hall has explained, Sputnik helped establish the principle.[28] In that regard the Soviets did "us a good turn, unintentionally, in establishing the concept of freedom of international space," as Defense Secretary Neil McElroy stated to Eisenhower a few days after Sputnik's launch.[29] This made possible the development of reconnaissance satellites and their use throughout the Cold War to ascertain what the Soviet Union was doing with its strategic forces. The same was true for the Soviet Union's reconnaissance satellites overflying the US. This enabled both sides to make decisions based on timely, accurate information. Lyndon Johnson did not overestimate the importance of this technology in 1967 when he said that the US probably spent between $35 and $40 billion on it, but, if "nothing else had come of it except the knowledge we've gained from space photography, it would be worth 10 times what the whole program has cost."[30]

Indeed, an irony too great to ignore is that both of the superpowers locked in Cold War struggle for more than a generation cooperated to ensure satellite reconnaissance remained inviolate despite everything else that divided them. The Kremlin, in addition to seeing the value of this technology in relation to the US, also found it critical in understanding what the Chinese were doing on their long border to the southeast.[31] As then–Air Force Lt Col Larry K. Grundhauser commented in *Aerospace Power Journal* in 1998, "over time the two superpowers established a 'practice of the parties' as the legal basis for legitimizing the use of satellites for reconnaissance—an unspoken and unrecorded 'gentleman's agreement' that respected the immunity of each other's reconnaissance satellites."[32]

"Freedom of space," established as a practical reality by Sputnik, received official sanction through a variety of actions. For example, the United Nations General Assembly officially recognized "freedom of space" in 1961 as a part of a joint resolution.[33] It also gained formal status in the "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space"

in 1967. This treaty declared that space, "including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality."[34] This has remained the effective law of space since that time, and no one has suggested that this right of overflight be overturned.

At the same time, a disavowal of ownership of any celestial body received early and enthusiastic support from all sides. On September 22, 1960, President Eisenhower proposed that the principles of the Antarctic Treaty be applied to outer space and celestial bodies, explicitly disavowing ownership and ensuring the right of free access to all. It also found expression in the Outer Space Treaty of 1967, which stated that "outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."[35] This ensured that when the astronauts reached the lunar surface in 1969 that they planted the American flag but omitted claiming the territory for the US as had been routinely done during European exploration of the other continents beginning in the fifteenth century.

In addition to the Outer Space Treaty, in 1979 the Moon Treaty—which the United States is not a signatory to—extended the restriction on claiming celestial bodies. While neither explicitly forbade individual ownership, the lack of a legal regime that recognized the right of private property has dampened enthusiasm for private space activities. Alan Wasser, a prominent critic of this legal regime, commented in 1997: "The right to claim newly settled property has always provided the economic incentive for human expansion. (Would Europeans have ever settled America if they couldn't claim ownership of the land they settled?) In this case, immediately re-saleable property deeds are the only possible 'product' that can be profitably brought back from space at current launch costs."[36] Many commercial space advocates have argued that this has restrained the development of the moon and other places in the solar system. Accordingly, during the last two decades of the twentieth century a persistent assault on the presumed prohibition against claiming celestial bodies has taken place with the intention of expanding the current space framework to ensure individual property rights.[37]

The right to defend against attack explicitly emerged as a prerogative at the beginning of the space age. No one has seriously questioned the right of any nation to defend its space assets from attack. The manner in which that may be done, however, has been open to reinterpretation over the years. The United States pursued ground-based antisatellite (ASAT) capabilities on two occasions, first during the early 1960s with a modified Nike Zeus missile that could launch nuclear warheads to destroy satellites in low Earth orbit. Second, the Department of Defense pursued Program 437 near the same time, deploy-

ing nuclear Thor missiles at Johnston Island.[38] Another possibility emerged when an F-15–launched Miniature Homing Vehicle, tested on September 13, 1985, launched a two-stage kinetic kill vehicle that successfully homed in using an infrared targeting system on a target satellite and destroyed it on impact.[39] Even so, ASATs have not proven effective over time. Space policy analyst Dwayne A. Day has referred to them as "blunt arrows" in the larger arsenal of defensive space assets with a modest demonstrated capability, asserting that "the United States does not need to pursue a more active, provocative, or expensive ASAT development than what it already has. The threat does not justify it, and rarely has."[40] Other related efforts over the years, including missile defense initiatives which achieved both some success and political notoriety, have drawn similar pointed criticism and stalwart defense.[41]

The Question of Space Weaponization: Sanctuary, Stars Wars, or Something Else?

This discussion leads naturally to the central policy debate relative to national security space in the last 20 years: the weaponization of space. For nearly 50 years the world has engaged in activity in outer space for military, scientific, and commercial purposes, but without placing weapons there or engaging in serious efforts to target objects in space. It worked effectively during the Cold War, but since then the space arena has witnessed the entry of many more actors and a much broader array of vested interests than during the Cold War, resulting in a variety of positions regarding future space activities. For example, humans have been in space more or less continuously since 1961 and since November 2000 have been permanently in place on the International Space Station, a peaceful, cooperative venture of 16 nations that represents at more than $100 billion the largest nonmilitary cooperative effort in world history. At the same time, almost 700 spacecraft are operating in continuous Earth orbit, each serving a range of scientific, military, civilian, and commercial uses. And the hegemonic status of the United States and the Soviet Union/Russia has been demolished in the last 20 years. Over 60 new launches take place every year, and at least 35 nations had payloads in orbit in 2005.[42]

In this increasingly chaotic environment with so many actors, the United States remains the dominant player and wants to ensure that it does so indefinitely, hence the desire to protect national assets. As one policy analyst put it: "Given the U.S. reliance on its space systems for national security, would the United States (as some have argued) face a future 'space Pearl Harbor' if it did not first acquire the means to protect its space systems from deliberate harm?"[43] The answer to ensuring US hegemony in space rests in no small part

with the protection of the nation's satellites and other space-based capabilities while denying that same capability to potential adversaries. There may be a range of ways in which that might be accomplished, but one of the most important is the placement of systems in space to protect against attack. Depending on how one interprets these assets, it may represent the weaponization of space, thereby overturning a 50-something-year-old decision not to do so.

Debate over this issue has been marked by two extreme positions, neither of which are representative of the majority of those debating the subject. The first is the "sanctuary" concept, which asserts that space "should not be used for military purposes," as Matthew Mowthorp has written:

> The intrinsic value space provides for national security is that satellites can be used to examine within the boundaries of states, since there is no prohibited overflight for satellites as there is for aircraft. This enables arms limitation treaties to be verified by satellites in space serving as a national technical means of treaty verification. Early warning satellites serve to strengthen strategic stability since they provide surveillance of missile launches which increases the survivability of retaliatory strategic forces. The sanctuary school argues that such is the importance of the functions of these space systems that space must be kept free from weapons, and antisatellite weapons must be prohibited, since they would threaten the space systems providing these capabilities.[44]

Sanctuary advocates have argued that space weaponization by the United States would ensure an arms race in space in which all would ultimately lose. They have opposed it on moral grounds, but more importantly because of longstanding predispositions in favor of arms control, conflict resolution, and global collective stability. Any move beyond limited national security operations such as satellite reconnaissance, arms control verification, early warning, and communications represents for them a "slippery slope" to an arms race in space. As Lt Col Bruce M. DeBlois wrote nearly a decade ago in a thoughtful essay in *Airpower Journal*: "Unlike the strategy for nuclear weapons, there exists no obvious strategy for employing space weapons that will enhance global stability. If the precedent of evading destabilizing situations is to continue—and that is compatible with a long history of U.S. foreign policy—one ought to avoid space-based weapons."[45] Noting the longstanding successful policy put into place by Eisenhower in the 1950s, opponents of space weaponization have seen little positive in trying to alter this national security space environment.

This sanctuary doctrine sometimes draws snide rejoinders that the military has relied on space assets from the beginning of the space age and to suggest otherwise is naïve.[46] As international law professor Robert F. Turner opined about those opposing weaponization of space:

> As a policy matter, particularly in light of the tremendous dependence of U.S. military forces today on space-based systems, anyone arguing that the United States should agree to a new legal regime that would leave our defensive assets at the mercy of hostile actions by any of a number of known or unknown potential adversaries—while giving us little of obvious value in return—must bear the burden of explaining why this is in America's

> interest. Unfortunately, a campaign is now underway to pressure our government to acquiesce in just such a regime—driven at least in part by countries and groups that perceive "unchecked American military power" as the greatest threat to world peace in the foreseeable future.[47]

Few anti-weaponizers, however, assert an absolute sanctuary in space; virtually everyone recognizes the legitimacy of military assets in space for nonlethal purposes. Turner's critique, therefore, presents a caricature of those opposed to the placement of weapons in space. Indeed, the misrepresentation of each side of the debate by the other may be one of the most interesting and unfortunate attributes of this policy arena and another place for historians to trace the evolution of the policy.

The most radical conception on the other side, "Star Wars," essentially seeks to ensure American hegemonic status in space. It is a retreading of the "high ground" argument but one carried to its logical conclusion through weaponizing space and using the region as an American "lake" while denying others its use for military purposes. This is a position not unlike the long-standing policy of the United States toward the Western Hemisphere first enunciated in the Monroe Doctrine and reaffirmed in numerous policy statements since 1822 opposing European involvement in the region. The Commission to Assess United States National Security Space Management and Organization in 2001 concluded: "We know that every medium—air, land and sea—has seen conflict. Reality indicates that space will be no different. Given this virtual certainty, the United States must develop the means both to deter and to defend against hostile acts in and from space."[48] Everett C. Dolman of the School of Advanced Air and Space Studies (SAASS) at the USAF's Maxwell Air Force Base, Alabama, certainly the most eloquent advocate of the necessity of taking proactive measures to ensure American hegemony in space, has stated:

> No nation relies on space more than the United States—none is even close—and its reliance grows daily. A widespread loss of space capabilities would prove disastrous for American military security and civilian welfare. America's economy would collapse, bringing the rest of the world down with it. Its military would be obliged to hunker down in a defensive crouch while it prepared to withdraw from dozens of then-untenable foreign deployments. To prevent such disasters from occurring, the United States military—in particular the United States Air Force—is charged with protecting space capabilities from harm and ensuring reliable space operations for the foreseeable future.[49]

Space power theorists such as Dolman and others see no option but to place weapons in space to ensure the survivability of American space assets in any future conflict.

Advocates of space weaponization, sometimes derogatorily referred to as "Star Warriors," note that new capabilities, broader uses, and greater efficiencies have made the US military far more dependent on space systems than

ever since the 1991 Persian Gulf War, to the extent that their loss might mean the difference between victory and defeat in a major war. Gen Lance Lord spoke for many when he wrote in a recent article: "Space Superiority is the future of warfare. We cannot win a war without controlling the high ground, and the high ground is space." He argued that at every turn in history an opponent always sought to prohibit the "high ground" and such an opponent must challenge the United States in space at some time, perhaps not far into the future.[50] The recent "illumination" of an American satellite by a Chinese system suggests that Lord may well be right and that a major challenge may loom just around the corner.[51]

Recent developments suggest that the United States is on course to overturn the common law of a ban on weapons in space. On December 13, 2001, for example, President George W. Bush announced that the United States was withdrawing from the 1972 Anti-Ballistic Missile (ABM) Treaty, and officially did so in 2003. Abrogation of this treaty removed the only legal prohibition against the United States developing a space-based ABM system to protect itself. This administration has also committed to deploying a missile defense system that could include a space-based element. Even the conservative-leaning Cato Institute analysts concluded: "The current threat to U.S. satellites does not warrant the near-term weaponization of space." Instead, they recommended making greater use of commercial resources and redundant or distributed systems. Commercial space should drive US space policy. It "should strive to foster an environment that allows commercial space activity to grow and flourish rather than create a new area for costly military competition."[52] Also, lest anyone conclude that this is an entirely partisan issue, since 1995 the United States has been blocking a movement at the United Nations for an official prohibition of weapons in space despite its widespread support in other quarters.[53]

The 2006 US space policy provided further evidence of this change in the policy arena.

It has drawn sharp criticism from a wide range of observers for opening the Pandora's box of weapons in space and the belligerence of their use against American rivals. Bronwen Maddox, writing in the *London Times* on October 19, 2006, began by asserting that space was "no longer the final frontier but the 51st state of the United States. The new National Space Policy that President Bush has signed is comically proprietary in tone about the US's right to control access to the rest of the solar system." He noted that "the eye-catching declaration is that the US asserts the right to deny access to space to anyone 'hostile to US interests,' although it gives no basis for that right. It also rejects arms control talks that would limit future US actions in space."[54] Former Vice

President Al Gore even weighed in on it, declaring on October 19, 2006, that this new space policy

> has the potential, down the road, to create the [same] kind of fuzzy thinking and chaos in our efforts to exploit the space resource as the fuzzy thinking and chaos the Iraq policy has created in Iraq. It is a very serious mistake, in my opinion. We in the United States of America may claim that we alone can determine who goes into space and who doesn't, what it's used for and what it's not used for, and we may claim it effectively as our own dominion to the exclusion, when we wish to exclude others, of all others. That's hubristic.[55]

And Michael Krepon and Michael Katz-Hymen of the Henry L. Stimson Center remarked of the current situation: "The central dilemma of US space policy—the essential and vulnerable nature of satellites used for national and economic security—is highlighted by recent developments. There is no exit from this dilemma. The more we seek to protect our satellites by the use of force in space, the more vulnerable our satellites will become if our own practices are emulated by others."[56]

In reality, there is little new in the 2006 US space policy. As one former NASA Jet Propulsion Laboratory project manager put it: "What is new is that world opinion, energized by other unilateral statements and actions of this Administration, sees this statement as a realization of what people in the more belligerent parts of America's space enterprise have wanted all along; namely an ability to control space and deny it to others."[57] Regardless, the outcry from around the world has been strong and sustained. Persistent space critic Robert L. Park remarked: "The first goal of the 1996 policy was to: 'Enhance knowledge of the Earth, the solar system and the universe.' Now the first goal is to: 'further U.S. national security, homeland security, and foreign policy objectives.'"[58]

Despite recent developments, most of the space weaponization debate has confined itself to the middle part of the policy spectrum, but it has been both strident and sometimes uncharitable. Of course, it represents a fascinating subject for future study in the history of space policy, one that could occupy several researchers for a considerable period just sorting out the various perspectives. The simplistic "either/or" discussion of popular media fails to unpack the nuances of the debate and tends to obscure the truly important differences. In so doing, one must always distinguish between the militarization of space—force enhancement through communications, navigational, early warning, intelligence, and other types of satellites—and the deployment of weapons in space. This dichotomy tends to polarize the discussion in ways that misdirect it from the central issue: devising the best approach toward ensuring national and global security in space.

RAND military policy analyst Karl Mueller has suggested that there are at least six major perspectives on the weaponization debate that deserve consideration. These include the following:

Pro-sanctuary perspectives

- Idealists: Oppose all space (and typically other new) weapons, for reasons transcending defense policy considerations
- Internationalists: Oppose space weapons because they would cause or contribute to general, arms race, and crisis instability
- Nationalists: Seek to avoid space weaponization because it would reduce US power and/or security relative to potential adversaries

Pro-weaponization perspectives

- Space racers: Seek to avoid rivals gaining military or political advantage by developing space weapons before they do
- Space controllers: favor development of space weapons when and insofar as they would usefully enhance US military capabilities
- Space hegemonists: Favor intense development of US space weapons in order to make US military and political preponderance unassailable

He urged caution in undertaking a wholesale alteration of the national security space policy arena, suggesting that no one may predict with accuracy what would happen should any of the policy initiatives available be enacted as US strategy.[59]

So what are the priorities for national security space and issues for the development of space policy? As reported in an important RAND study of 1998, the United States has long pursued the following objectives in space:

- Preserving freedom of, access to, and use of space.
- Maintaining the US economic, political, military, and technological position.
- Deterring/defeating threats to US interests.
- Preventing the spread of weapons of mass destruction to space.
- Enhancing global partnerships with other space-faring nations.[60]

Few would disagree either with those priorities or with the need to develop a policy that ensures them. Few would also disagree with the fact that this is where the current state of affairs rests, and that begs the question, how do we continue this regime?

It makes sense to recognize that the place the United States is in in 2006 is the best place to be from the standpoint of national security space issues and therefore a continuation of this situation is the logical approach to dealing with the issue. The status quo for the US is not a bad future, and therefore

changing the national security space regime may be both unnecessary and potentially disastrous. The US has pursued a three-point program relative to space security issues, and this appears both prudent and, in retrospect, quite prescient. First, the US has ensured that peer competitors did not step beyond the space technological capabilities that this nation possessed through a range of hard and soft power efforts, treaties and arms control measures, and other initiatives. Second, the US has long made clear that it would take harsh action should a competitor alter the national security regime in space. A long history of declaratory statements condemning actions viewed as belligerent in space and warning of appropriate repercussions has helped to create the current favorable situation for the United States. A continuation of those methodologies is appropriate and completely expected by the other nations of the globe. Third, the US has pursued on the whole a reasonable program of research and development to ensure that any rivals' capabilities can be destroyed if necessary. This has taken the form of ASAT and ballistic missile defense projects, directed energy weapons development, targeting of ground infrastructure, and other objectives.

Weapons in space, therefore, might not be the only way, or even the best way, to protect American satellites. In the last few years the United States has aggressively pursued redundancy and hardening of potential space targets. Efforts to build small, inexpensive, easily replaced space assets have also offered an alternative. If a satellite were to be destroyed by a foe, another replacement could immediately be placed in space. Ground-based ASATs, both kinetic energy and other types, are reasonable investments in future security, despite the technological stretch required. So are efforts to target from the ground rival space ground stations and other support systems. At the same time, if the US has become over-dependent on space assets for achieving its national security objectives then perhaps the Department of Defense should also take action to reduce that dependence. There are a range of possibilities for delivering the force enhancements possible through space-based resources. For example, some communications or other capabilities could be offered via high-altitude balloons or UAVs. That does not resolve the vulnerabilities, but less dependence would obviate some of the concerns present among those charged with ensuring US capability to conduct military operations.

Conclusion: So What?

So what does all of this mean? That is, of course, the central question of all historical studies. After a more than 50-year gestation it is now apparent that space is central to the national security needs of the United States. That may well have been true in the 1950s, but it has become abundantly clear in the

post–Cold War era. The clarity of the Cold War era, something commented on repeatedly since the demise of the Soviet Union, is now gone and is not likely to be replaced anytime in the foreseeable future. A new multinational great power situation exists with the United States clearly at the top of the pyramid but enjoying a lessening superiority with every year. How do the nation's leaders stem that tide to ensure the welfare of the US for the future? There is a great deal at stake in terms of the access to and control over Earth's orbit. We cannot overstate the importance this situation. The next few years may prove decisive in terms of establishing a regime of space control that will have profound implications for terrestrial geopolitics.

There is reason to expect that, in the next few years, a full-blown policy debate will take place over the issue of future national security considerations for space. This is probably an overdue effort. In this debate the following items must be considered:

- The existence of competing interests between space-faring countries, emerging space countries, and non-space countries.
- The existence of potentially competing positions and strategies between public and private actors.
- The diffusion of new space technologies which will irrevocably change our common future space environment.[61]

On this subject John Logsdon appropriately concluded: "Space weaponization is not just a national security policy issue but a global concern."[62] Any US decision in this arena will represent a challenge to all of the other nations of the world. As one Air Force officer involved in this issue concluded:

> For the time being, this country can achieve space superiority without deploying weapons in space and without the use of weapons that create permanent effects on the commons of space. The United States should use space-based weapons only as a last resort but should not consider such use an unthinkable option. . . . Certainly, one would prefer to control the future through peaceful agreements that are in the mutual interests of the parties involved. At the same time, the United States must prepare itself to deal with a wide spectrum of potential conflicts in space by developing and testing a number of military capabilities—up to and including space-based weapons, preferably those with temporary/reversible effects.[63]

This may well be the most prudent short- and mid-term approach. It also may well be the consensus of those with the authority and responsibility to consider the space policy in the US, despite the impression given by many on the extremes advocating a major shift in policy.

Finally, what may historians add to this policy issue? Always, they provide a perspective that views what is taking place as part of a larger continuum that both extends back in time and broadens through contextual consideration of what else is taking place. It seems obvious that the United States' use of space

during the Cold War rested on a doctrine of sanctuary, a disallowance of weapons in space, and the right of all nations to use it without interference. From Eisenhower to Carter this was an inviolate approach. It only found reconsideration as the Soviet Union began to crumble after its invasion of Afghanistan in 1979, and with the arrival of the Reagan administration in January 1981 the emphasis shifted to a more aggressive stance vis à vis the Soviet Union. The Strategic Defense Initiative proved a tangible example of this change in philosophy. While it held profound implications for the sanctuary doctrine of national security space, the administration either failed or chose, depending on whom one chooses to believe, to alter the national security policy of the US to allow for space-borne resources for ballistic missile defense. Since that time the debate between sanctuary and "Star Wars" has resonated through the Washington policy community. Space weaponization has been an especially thorny part of that discourse with no end in sight. It will remain so for the foreseeable future and its outcome will shape the policy of the United States for the next generation.

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Part VI. The Military Professional and Society

Introduction to Part VI

Robert P. Wettemann Jr.

In a January 1991 article entitled "The Long Shadow of *the Soldier and the State*," the distinguished American military historian Edward M. Coffman, himself a Harmon Memorial Lecture presenter in 1976, recalled an exchange at an earlier Air Force Academy History Symposium in which noted civil-military relations scholar Samuel Huntington's name came to the forefront. At that event, Theodore Ropp, who gave the Harmon Memorial Lecture in 1970, invoked the author of the most influential work on American military professionalism and civil-military relations in the course of his comments. Ropp astutely observed that although no one had "mentioned him by name . . . what they were dealing with was the ghost of Sam Huntington."* Even today, an additional 26 years after the publication of Coffman's article, students of military professionalism and civil-military relations cannot escape the influence of the author of the "first book that civilians and military officers read when they study the problem of how the military and a free society can best co-exist."†

In his seminal 1957 work, Huntington offered a theory of civil-military relations establishing that military professionalism was built three elements: expertise, responsibility, and corporateness. Huntington recognized that professional military men and women were masters of a unique base of expertise built centered around the ability to manage violence. As experts, those same military professionals had a social responsibility to wield their talents to ensure the security of their society, at the same time recognizing that society controlled both them and the employment of their unique talents. Finally, these military professionals shared a unique consciousness that set them apart from the rest of society, controlling access, and monitoring membership, of their own distinctive profession.‡

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* Edward M. Coffman, "The Long Shadow of *the Soldier and the State*," in *Journal of Military History* 1 (January 1991), 81–82. Coffman presented "The Young Officer in the Old Army" as a Harmon Memorial Lecture in 1976; see Harry R. Borowski, ed., *The Harmon Memorial Lectures in Military History 1959–1987* (Washington, DC: Office of Air Force History, 1988), 255–68. Theodore Ropp offered the twelfth Harmon Memorial Lecture, entitled "The Historical Development of Contemporary Strategy," in 1970, and though it was not formally presented as a lecture to the USAFA Cadet Wing, it is nonetheless included in Borowski, ed., *Harmon Memorial Lectures*, 359–76.

† "Samuel Huntington—Memorial Minute," Harvard Gazette, 26 November 2017, https://news.harvard.edu/gazette/story/2017/11/samuel-huntington/.

‡Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, MA: Harvard University Press, 1957), 7–18.

The six selections contained in this section addressing the subject of military professionalism and civil-military relations epitomize Theodore Ropp's earlier observation, in that while none of them reference Samuel Huntington's name explicitly, none of them can escape the pervasive influence of *The Soldier and the State*. All six essays address aspects of military professionalism, ranging from the ancient antecedents of Western military thought to the warrior ethos in the complicated transition from war to peace, thoughts on the shared values of military officers, the management of violence, or notions of military service to society are never far from the authors' minds. The result is a series of essays that continue to resonate among students of both military professionalism and contemporary civil-military relations.

In the first essay, widely published historian Victor Davis Hanson explores the foundations of Western military professionalism. Drawing upon his expertise in classical antiquity, Hanson cautions against those who had adopted a pessimistic tone with respect to American conduct in the long war against terror in Afghanistan and the prospect that the United States would find itself in a stalemate against al-Qaeda. In fact, Hanson argues the opposite, based primarily upon those same values that are at the bedrock of Western military professionalism. Western consensual governments, he posits, with their roots in the city-states of Greece and Rome, have, over time, created a self-regulated military governed by a just and uniform set of military laws and regulations that hold soldiers and their leadership accountable. This legacy continues today and, in ensuring fair treatment of all American Soldiers, Sailors, Marines, and Airmen, stands as a foundational element of Huntingtonian military professionalism, one that must be upheld if the United States is going to ultimately prevail in the war on terror.

Former United States Military Academy superintendent Gen Dave R. Palmer espouses similar themes in considering twentieth-century officer values. In defining the corporate identity of modern officers, Palmer emphasizes honor and consideration of others as central to the development of character and effective leadership among modern officers. Recognizing that officer development models have evolved over time, he notes that the outcome—junior officers of high moral fiber—has remained the same and is foundational to modern military professionalism as defined by Huntington.

In a related essay, military philosopher Shannon E. French explores another aspect of the Huntingtonian triad, examining, from a philosophical perspective, the warrior's code. Recognizing that in modern warfare, management of violence can often move beyond a simplistic black-and-white affair, French opines that warriors must operate in accordance with a strict set of self-determined standards, not only with respect to how they treat opposing combatants, but other members of society, their peers, and conquered people

as well. Winning by any means is simply not acceptable. Victory, when achieved, should be determined in a manner that preserves the honor and dignity of all involved, both combatants and noncombatants. Warriors must act in such a way that they maintain a trusted place in society.

In his essay, esteemed military historian Richard H. Kohn avoids sweeping generalizations in the course of his in-depth review of civil-military relations in modern America. In his analysis of contemporary civilian control of the US military, he senses the potential for a breakdown of this foundational feature of American military professionalism. According to Kohn, the most recent generation of senior US military officers has replaced its traditional role of accepting civilian guidance and advice with a more activist stance in which the military attempts to shape policies and/or decisions that affect the defense structure. Recognizing the dangers of martial activism, particularly in the political realm, Kohn offers words of caution, noting that it is incumbent upon serving officers to surrender their own interests and actively encourage civil authority to assume their constitutionally sanctioned authority to make policy and determine military action (or inaction). In his view, the health of the republic depends upon it.

Andrew Bacevich approaches military professionalism from a unique perspective. In 1991, the West Point–educated Bacevich's otherwise promising military career was almost certainly cut short by an unfortunate accident during his tenure as commander of the 11th Armored Cavalry Regiment at Camp Doha, Kuwait, in 1991.* After attaining a doctorate degree from Princeton, he taught at West Point and Johns Hopkins before joining the faculty of Boston University, where he spent the remainder of his academic career. Eschewing a discussion of his own military career (though his perspective is visibly shaped by it), Bacevich instead draws upon the literary work of James Salter and his book *The Hunters* to stress the value of honor, integrity, and accountability among officers.

In the final essay (and the most recently delivered Harmon Memorial Lecture included in this volume), Brian McAllister Linn explores the challenges to military professionalism in the transition from war to peace. As armed conflict comes to a conclusion, Linn notes that professionals soon supplant warriors as the cost, social disruption, and unreliability of the latter makes their existence in peacetime a challenge to civil society. While nations gravitate towards warriors in times of conflict, once the fighting is over, it is the professionals who have to face a host of challenges associated with the transition to peacetime. They must wrestle with perpetuating the development

*See "About Andy Bacevich," in *The Atlantic*, 16 August 2008, https://www.theatlantic.com/daily-dish/archive/2008/08/about-andy-bacevich/212910/.

of professionalism within the officer corps, stabilizing the enlisted ranks, recruiting and retaining a peacetime army, and defining the peacetime mission. Accomplished with varying degrees of success, Linn nonetheless suggests that those military professionals who were most effective in navigating this transition were those who studied the past and learned the lessons of history.

This recognition of the need to study history and gain insight and wisdom from past events was a foundational goal of the Harmon Memorial Lectures. Since 1959, the lecture series has afforded the world's top military historians the opportunity to emphasize, develop, and strengthen the connection between the study of history and the profession of arms. In fact, military historians have long recognized that an understanding of their discipline should be the central footing upon which notions of expertise, responsibility, and corporateness must be built.

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The West at War and the Burdens of the Past*

Victor Davis Hanson

During the current events that have transpired since September 11, 2001, contemporary commentators and pundits have sometimes voiced notes of pessimism about the ability of the United States to reply forcefully and successfully against our enemies the terrorists and their supporters. Before the events of October 7, we were warned about the ice, cold, and high altitude of Afghanistan; reminded of the inadequacy of the Northern Alliance and the brutality of the Taliban; told we did not appreciate the nuances of everything from jihad to Ramadan; and, finally, were admonished to turn to history and learn of the fate of the British and Russian armies in Afghanistan. Vietnam always seemed to lurk not far in the background and supposedly presaged that a quick victory was deemed to be nearly impossible.

Yet after our stunning military successes in Afghanistan, once more critics, learning little from past errors, are presently warning about a Vietnamese-style military quagmire to come in Iraq as well as arguing that we are in a stalemate with al-Qaeda.† All that can be said of such cultural pessimism is that it is as predictable as it has proven to be incorrect.

In contrast, few observers have reminded the American people that their institutions, history, and heritage offer grounds for optimism in the war against the terrorists and their supporters and that our government, economic system, values, and larger culture result in a type of war making that has proven across time and space to be unusually lethal.

In our peace and affluence, we Americans of this complacent age have forgotten the lethal superiority of the Western way of war—the Greeks losing only 192 at Marathon, Alexander the Great destroying an empire of 70 million with an army of 40,000, a murderous Cortés wrecking an imperial people of 2 million in less than two years, or a small band of British redcoats ending the power of Cetshwayo and his Zulus for good in less than a year.‡ The arse-

*Harmon Memorial Lecture #45, 2002.

† These comments were offered in the aftermath of American military successes in Afghanistan that brought about the collapse of the Taliban, as chronicled by Sean Naylor, *Not A Good Day to Die: The Untold Story of Operation Anaconda* (New York: Berkley Caliber Books, 2005), and Doug Stanton, *Horse Soldiers: The Extraordinary Story of a Band of U.S. Soldiers Who Rode to Victory in Afghanistan* (New York: Scribners, 2009).

‡ In 490 BC, during the first Persian invasion of Greece, a 9,000–10,000-man Greek army, commanded by Miltiades, defeated Darius's Persian army, estimated to contain 25,000 infantry and 1,000 cavalry. As a military commander who was never defeated in battle, Alexander conquered the Persians, creating an empire that stretched from Greece to Northwest India by 330 BC. Spanish conquistador Hernan Cortés

nal at tiny sixteenth-century Venice—based on principles of market capitalism and republican audit, despite a West torn by Catholicism, Orthodoxy, and Protestantism—launched far better and more numerous galleys than those of the entire Ottoman navy. We are not supposed to say such things, but they are true and still in play and so give us pause for reflection upon the prognosis of the present military crisis.

The historian Thucydides believed that democracies were the most adept governments at war making. He wrote that Classical Athens had not been defeated by Sparta but lost its war only to the combined efforts of more or less the entire civilized world of the Eastern Mediterranean in concert—Sparta, democratic Sicily, and at times imperial Persia. If we can expand the classical definition of democracy to include consensual governments and parliamentary republics of landowning citizens, then Thucydides seems to be correct—Republican Rome, Swiss cantons, the Renaissance Italian city-states, Victorian England, and democratic America projected military power far beyond what their rather limited territories and populations might otherwise suggest.

And even when Western governments at times were not entirely consensual, classical egalitarianism and distrust of totalitarianism were never really forgotten. The Holy Roman Empire, the Spain of Philip II, and eighteenth-century European monarchies, while not models of enlightened constitutions, never reached the degree of authoritarianism found among the Aztecs, Ottomans, or Chinese dynasties. Dark Age notions of personal freedom and patronage, the *Magna Carta*, and Spanish legal codes were reflections of a tradition not comparable to that found in non-Western regimes of the age.

Western military prowess is often reflective either of constitutional government or of a tradition of individuality and egalitarianism that survived even within the more narrow confines of monarchy and aristocracy. No historian claims that there is a 2,500-year heritage of uninterrupted democracy or that the West shared unquestioned military superiority during every decade from Pericles's rule to the present age. But the evidence of reappearing prowess at arms is suggestive. Classical Greeks repelled invasions from the much larger empire of Persia well before Alexander the Great destroyed it. The Mediterranean was for half-a-millennium a Roman lake. And even when Africa and Asia returned to eastern rule under Islam during the supposed nadir of the West, Europe itself remained secure from most attacks. The Crusades were a logistical and operational miracle—it was inconceivable that Saladin could

forced the Aztec Empire into subjugation with 500 men, 13 horses, and a few cannon between 1518 and 1520. Although Cetshwayo led the Zulus to an initial crushing victory over the British at Isandlwana, subsequent defeats at Rorke's Drift and Kambala were precursors to his ultimate defeat and exile at Ulundi in 1879.

have piloted a similarly sized armada into the Atlantic to wage jihad in Paris or London.

For a few weeks in Austria the Ottomans threatened Europe—but only due to the internecine squabbling of Protestantism, Orthodoxy, and Catholicism, not to mention the invaders' parasitic borrowing of Western munitions, sea craft, and military organization. By the sixteenth century, the die was cast. The continual improvement of military technology and exploration and colonization of the Americas and Orient ensured the Western hegemony that continues to the present day, characterized by the preeminence of Europe and America, joined in the last few decades by Japan, Russia, and India, which have sought to westernize their militaries in varying degrees.

Many other factors explain the military dynamism of the West, but the fountainhead of its success is this propensity for European states and their descendants to embrace personal freedom and some degree of consensual government. When societies are free, then citizens fight as soldiers with a clear sense of rights and responsibilities. So at Salamis, Athenian sailors rowed to the chants of "Freedom"; later gave their individual triremes names like "Free Speech," "Freedom," "Right," and "Democracy"; and voted for their generals—something unknown in the Persian army where soldiers were whipped and commanders summarily executed.

Reconstruction of an Athenian trireme, which featured rowers on three separate levels of the vessel. Photo courtesy of George E. Koronaios (CC BY-SA 4.0).

Similar expressions of egalitarianism reappeared among Roman yeomen in the dark days of Hannibal's invasion and GIs at the Battle of the Bulge. Because such fighters believe that they have had a say in the conditions of their own service and that their officers are agents of their own elected representatives, they fight most often with the assurance that no one has shanghaied or coerced them into service in battles for the profit and pleasure of a small elite. Cortés is often dubbed an autocrat and worse. In fact, in comparison to Montezuma, he was a leader among equals, as the conquistadors bickered among one other, were subject to suits and writs, and in council hectored and advised their caudillo about the proper strategy of storming Tenochtitlán. Spaniards, not Aztecs, proved themselves to be the more flexible, spirited, and innovative soldiers in the vicious fighting for Mexico City.

By the same token, consensual governments ensure a standard set of military laws and regulations that soldiers can trust to be uniform and applicable to all—whether they are statutes that regulated service in the legions or the contracts that bound seventeenth-century European soldiers. Such confidence is not merely an abstract assurance but reminds fighters in the heat of battle that every man in the phalanx, legion, square, and bombing squadron is subject to more or less the same treatment, therefore creating armies that either stand or fall together. That legacy survives in the West even in the present age of professional armies and explains why American pilots or Special Forces commandos enjoy rights and responsibilities unknown among the draftees in the conscript armies of North Korea, China, Cuba, or Iraq.

In that regard, free societies have developed a markedly different idea of military discipline than their adversaries in Asia, Africa, and the pre-Columbian Americas. Obedience is more likely to be defined by staying in rank, keeping in time, advancing and retreating on orders, spearing or shooting in unison, and maintaining cohesion and order along a line. What is behind this propensity for group order? Again, once fairness and freedom are common, then soldiers are more likely to define their own bravery and duty by the success of their company, not of themselves. From the Greeks onward, it was always more likely for a Westerner to be commended for his efforts at keeping a shield chest high, saving a comrade in arms, or plugging gaps in the line than for collecting captives or amassing kills. Aristotle remarked how different were warriors outside of the classical Greek city-state who kept tabs on the numbers of their slain victims.

In contrast, at the battle of Plataea (470 BC), Herodotus relates that rewards for bravery went to hoplites who stayed in rank, not to those who rushed out to engage the enemy in hand-to-hand combat ahead of the phalanx.* Such alle-

*The Battle of Plataea was the final land battle of the second Persian invasion of Greece. Herodotus's praise helped reinforce the combat effectiveness of the hoplites—Greek infantry who fought in close-order

giance is freely incurred, not coerced—as was the case with Xerxes at Thermopylae, who whipped his soldiers on against the Greeks. In this regard, it is no accident that rarely do suicide-soldiers play a large role in the Western tradition, inasmuch as men have confidence in their own abilities, craft strategies for their survival, and believe that their souls belong to themselves—not to the emperor or distant grandee watching from afar on a peacock throne. There seems to have been nothing like the Jewish *sicarii*, the dervishes of the Great Mahdi, the Ghost Dancers, the kamikazes, or the present-day suicide bombers in the West—all of which were soundly defeated by the discipline and superior training and weaponry of Roman legions, British Redcoats, and American servicemen.

Yet consensual government results in more than just disciplined and like-minded soldiers. The culture of freedom also creates a different type of free-thinking individual, one who looks to himself and his immediate group of comrades for solutions rather than the rigid orders of distant priests, strongmen, or divinely appointed kings. At Midway, eccentric cryptographers cracked the Japanese naval codes before the battle even had begun; it is impossible to imagine that such brilliant misfits would ever have been given similar latitude and independence in the Japanese navy. Once the crippled *Yorktown* arrived at Pearl Harbor, a horde of pipe fitters, electricians, and carpenters swarmed over her in dry-dock to make ad hoc repairs as each team saw fit. She steamed out to Midway 70 hours later—and was instrumental in the American victory at the carrier battle a few hours afterward. Such miraculous repairs were far different from the Japanese reaction to their own damaged *Shokaku* and *Zuikaku*, which, with far less impairment, emerged from the same Battle of Coral Sea—only to sit at the Kure naval base for three months awaiting repairs. The strategic result? American individualism and a deeply engrained trust in private initiative ensured that there would be three, not two carriers, at Midway, while Japanese rigidity and hierarchy meant that four, not six, Japanese flattops would face the Americans.

Of course, much is made of the superiority of Western military technology—as if such deadly weapons exist in a vacuum and are not themselves reflective of larger social and cultural attitudes toward secularism, free and unbridled speech, and the unrestricted flow of information. In truth, from the Greeks to the present, open societies usually have fielded armies whose weaponry was on par with, or more usually far superior to, the equipment of their enemies. Greek catapults, Roman siege engines, Byzantine Greek fire, medieval crossbows, Renaissance harquebuses, and English men-of-war meant that Western forces (well before the Industrial Revolution) could kill great numbers of their

formations. The strength of the phalanx came from cooperation and a willingness to fight as part of a larger organization.

enemies while suffering inordinately small casualties themselves. Why were such deadly weapons—from the hoplite panoply to the A-bomb—usually in the hands of Westerners?

The European scientific edge did not result from the superior brainpower of Western peoples. Nor was this technological dynamism due to accidents, germs, natural resources, or simple theft. To be sure, the Western world stole, borrowed, or adapted everything from gunpowder to stirrups from its adversaries. But the critical point is not the mere presence in the West of such brilliant inventions—the products of individual genius the world over—but their continual improvement, practical application, and the wide dissemination of the knowledge surrounding weapon production.

Free societies in the West possessed far fewer political or religious scruples about the consequences of the introduction of new weaponry—which is so often disruptive of custom, tradition, and religion. Gunpowder had been a rather impractical amusement in China, but when transferred to the West it quickly was transformed by all classes and peoples into deadly instruments for killing—the only logic of gunpowder procurement hinged on its proven excellence on the battlefield. Every advance in the evolution of fiery weapons—from smokeless powder and flintlocks to rifled musketry and breech-loading rifles—was a Western discovery precisely because only in Europe and America could individuals experiment, tinker, and profit from their designs without fear that their revolutionary products would run afoul of religious or political grandees worried about the disruptive effects of such novel technology.

In this regard, capitalism—in its most fundamental sense of free markets, private property, profit and loss, dividend and interest going back to the Greeks—when married to secular and free inquiry ensured a constant arms race in the West.

Inventors, fabricators, and traders all sought to craft cheaper and more deadly weapons than their rivals—the ethical, cultural, and religious consequences of such breakthroughs be damned. The Ottomans, using their vast resources of the empire, could produce bronze cannon, but not at a rate or quality of their Venetian adversaries, whose tiny city-state had a population only one-twentieth the size of the Sultan's domain. After the battle of Lepanto in 1571, Venetian sailors collected the guns of the Ottomans' wrecked galleys—themselves built upon Italian designs—but found them fabricated of such poor quality that they were instead melted down and recast under European specifications.

The freedom to criticize government also brings enormous dividends during wartime—albeit rarely seen as such in the ongoing fire of battle. Not only do politicians, journalists, and talking heads of every stripe carefully publicize military operations—sometimes to the detriment of the war effort

itself—but their group wisdom sometimes results in sound advice to the generals. The closely related notion of civilian audit of the military is also a uniquely Western idea that is a dividend of democracy. It is hard to recall a single Greek general in any city-state—Athens, Thebes, or Sparta—who was at one time not fined, exiled, executed, or jailed. Those commanders with the most impressive records on the battlefield—Themistocles, Aristides, Pericles, Lysander, and Epaminondas—all were dragged into court to answer auditors (whether keen or stupid) about their military record. These checks and balances were known in advance and served to remind generals that their record was subject to public discussion and to prevent any from usurping power.* Fabius Maximus, Cortés, and General MacArthur all clashed with their superiors and their governments—and all ended up angry and unhappy at the expiration of their abbreviated tenure.†

Nonetheless, group discipline, free-thinking soldiers, civic militarism, superior weapons, and free speech have not ensured that on every occasion Western armies would win. Given the nature of war, it was inevitable that Western armies would often be caught outnumbered far from home, led by incompetents, and beset by disease and poor logistics. Indeed, the litany of Western defeats from Lade, the Teutoberger Wald, Manzikert, and Isandlwana to Little Big Horn, Adowa, and Pearl Harbor attests to this common vulnerability.‡ But freedom allowed Western commanders a greater margin of error, the opportunity in the long run to trump bad weather, insufficient numbers, geniuses like Crazy Horse or idiots like Custer—hence the frequency

*Greek leaders who were defeated usually perished in the field at the head of their armies. Only those who were successful faced critical evaluation. The author explored the conduct of these and other commanders extensively in Victor Davis Hanson, *A War Like No Other: How the Athenians and Spartans Fought the Peloponnesian War* (New York: Random House, 2011).

† Fabius was a Roman statesman and general during the third century BC. He was named consul (highest elected position in the Roman Republic) five times and entrusted with the power of dictator in 221 and 217 BC. After defeating Hannibal and the Carthaginians in the Second Punic War (271 BC), Fabius gave up the title of dictator and clashed repeatedly with the Assembly. Hernan Cortés clashed repeatedly with the Spanish Crown, establishing his own municipal government in Veracruz in what is now Mexico to legitimize his campaign into central Mexico. After conquering the Aztecs, he placated King Charles I with gifts of rare parrot feathers, gold, and an emerald shaped like a pyramid with a base as broad as the palm of the hand. Douglas MacArthur clashed with President Harry S. Truman over the course of the war against North Korea prior to his relief of duty in 1951.

‡The Battle of Lade (494 BC) was fought between an alliance of the Ionian cities (located in the ancient region of central coastal Anatolia in present-day Turkey) and the Persian Empire. It ended in a Persian victory which ended the revolt. In 9 CE in the Teutoburg Forest, an alliance of Germanic tribes ambushed and defeated three Roman legions and their auxiliaries, led by Publius Quinctilius Varus, in detail. At the Battle of Manzikert, fought on 26 August 1071 in Turkey, forces of the Seljuk Empire defeated a Byzantine army commanded by Emperor Romanos IV Diogenes. The defeat undermined Byzantine authority in Anatolia and Armenia, leading to the gradual Turkification for the former. Isandlwana was the first major British defeat of the Zulu War in 1879. Adowa (sometimes Adwa), fought in March 1896, was a decisive defeat for Italy by the Ethiopian Empire that secured Ethiopian sovereignty.

with which even dramatic defeats remained temporary setbacks, not permanent catastrophes.

Have any of these age-old Western democratic advantages come into play in the present war? Nearly all of them have, and they suggest—if we remain true to our ideals and if our cause continues to be just and to win the support of a voting citizenry—that despite the gloomy prognoses of our pessimistic cultural elite, America will defeat utterly its foes and stamp out terrorism, even if such battles transpire on the other side of the globe and pose logistical and tactical nightmares.

Already we have seen the US Congress meet to vote emergency funding for a host of new forces and deployments—funds available only because an open and free market protects, raises, and disburses capital. From our GPS-guided bombs to our laptops in the field, it is clear that MIT and Cal Tech give us advantages undreamed of in the Islamic world, whose universities are not free to foster critical inquiry and insist on secular protocols of research. Our Soldiers, from every class and background, have been mobilized, according to statute and without any sense of illegality—in sharp contrast to the wretched villagers who were rounded up by the Taliban at gunpoint to serve as cannon fodder against American bombs. Doomed airline passengers first voted on their decision to storm the hijackers to prevent further carnage to their countrymen. Individual rescue workers, aided by sophisticated and huge machines, on their own initiative devised ad hoc methods of saving victims and restoring calm to a devastated city. Pundits from the *Nation* to the *National Review* have not been shy about informing the public and their government that we have either done too little or too much, been too bellicose or too tame, too eager or too reluctant to bomb our enemies. And out of that cacophony our military has listened, distilled criticism, and thereby at times altered strategy and tactics both—the entire time ensuring Americans that it is not running the war for its own pleasure.

So the present fighting in the Middle East must be seen in the long traditions of the Western way of war itself. Over some 2,500 years of brutal warring, the real challenge for a Western power has always been another Western power, not Asian, Native American, or African forces—more Greeks dying in a single battle of the Peloponnesian War than all those who fell against the Persians, Alexander butchering more Greeks in a day than did Darius III in three years, the Boers killing more Englishmen in a week than the Zulus did in a year, more Americans falling at Antietam than were killed in 50 years of frontier fighting. We must draw confidence that in the present conflict, America is not fighting England, Germany, a westernized Japan—or even China or India, nations that so desperately and often so successfully seek to emulate our military organization, training, and armament.

Western nations at war from the Greeks to the present are not weak but enormously lethal—far out of proportion to their relatively small populations and territories. So this frightful strength of the West is not an accident of geography, much less attributable to natural resources or genes. The climate of Egypt of the Pharaohs did not change under the Ptolemies, but the two were still quite different societies, as the latter achieved amazing levels of cereal production in land supposedly exhausted by the former. Mycenaeans spoke Greek and raised olives, but they were a world away from the citizens of the Hellenic city-state that later arose amid their ruins.

So our power is not merely an accident of superior technology, much less the weather or the terrain; rather it is found in our very ideas and values. The foundations of Western culture—freedom, civic militarism, capitalism, individualism, constitutional government, secular rationalism, and natural inquiry relatively immune from political audit and religious backlash—when applied to the battlefield have always resulted in absolute carnage for their adversaries. Setbacks from Cannae to Little Big Horn led not to capitulation but rather to study, debate, analysis—and murderous reprisals. Too few men too far away, a bad day, terrible weather, silly generals like Custer, or enemy geniuses such as Hannibal—all in the long haul can usually be trumped by a system, an approach to war that is emblematic of our very culture.

Neither the genius of Mithridates nor the wasting diseases of the tropics nor the fanaticism of the Mahdists have stopped the heroes, idealists, megalomaniacs, and imperialists of past Western armies, whose occasional lapses have prompted not capitulation but responses far more deadly than their enemies' temporary victories.* This is not a question per se of morality but of military capability and power. It would have been less hurtful for all involved had the thug Pizarro stayed put in Spain or the sanctimonious Lord Chelmsford kept out of Zululand.

American ground and air forces, with better weapons, better supplies, better discipline, and more imaginative commanders—audited constantly by an elected congress and president, critiqued by a free press—will, if necessary, in fact destroy the very foundations of radical Islamic fundamentalism.

Indeed, the only check on the frightful power of Western armies—other than other Western armies—has rarely been enemy spears or bullets but the very voices of internal dissent—a Bernardino de Sahagún aghast at his people's cruelty in Mexico, a Bishop Colenso remonstrating the British govern-

*Mithridates VI of the Kingdom of Pontus was one of the greatest enemies of the Late Roman Republic, successfully waging war against Lucius Cornelius Sulla, Lucius Licinius Lucullus, and Gnaeus Pompey Magnus in the Mithridatic Wars (87–86 BC). Muhammad Ahmad bin Abn Allah proclaimed himself the "Mahdi" of Islam and waged an 18-year war against the British in the Sudan which resulted in the joint-state rule of the Anglo-Egyptian state.

ment about the needless destruction of Zululand, or an American Jane Fonda in Hanoi to end the war in Vietnam.* The Taliban and the hosts of murderers at bases in Pakistan, Iraq, and Syria may find solace from Western clergy and academics but have not and they shall not discover reprieve from the American military.

America is not only the inheritor of the European military tradition but in many ways its most frightful incarnation. Our multiracial and radically egalitarian society has taken the concepts of freedom and market capitalism to their theoretical limits. While our critics often ridicule the crassness of our culture and the collective amnesia of our masses, they underestimate the lethal military dynamism that accrues from such an energetic and restless citizenry, whose past background means little in comparison to present ambition, drive, and ingenuity. Look at a sampling of the names of the dead firemen in New York—Weinberg, Mojica, Brown, Angelini, Schrang, Amato, Hanley, Gulleckson, and Guadalupe. These rescuers were united not by hue or accent but, like those in the legions, by a shared professionalism and desire for action. So our creed is not class, race, breeding, or propriety but unchecked energy as so often expressed in our machines, brutal competitiveness, and unleashed audacity—frightful assets when we turn from the arts of production to those of destruction.

With this deadly military legacy rest great burdens and responsibilities, inasmuch as the check on American military power will not rest with our adversaries' planes or tanks—or even suicide cells—but resides in the support of our own citizenry. We are cautioned that to retain such allegiance we must war for causes that represent our values and serve the interest of humanity at large. That is true and has already been seen in the vast changes that are underway in Afghanistan with the forced removal of the Taliban. But just as importantly, we also must avoid the equally dangerous sirens of cynicism, undue skepticism, nihilism even. Our heritage also teaches us that as we grow more free and affluent, we must find a way not to turn inward on ourselves and in our sophistication and smugness decide that our culture is not different—and surely not better—from that of our adversaries. For if we, like Romans of the fifth-century AD, feel that we are either too wealthy, nuanced, or busy to appreciate and defend who we are, then surely we too will meet their same fate.

*Franciscan friar Bernardino de Sahagun (1500–1590) participated in the Roman Catholic evangelization of New Spain and criticized his country's treatment of the native population in *Historia General de Las Cosas de Nueva Espana*, a controversial manuscript confiscated by the Spanish crown in 1577. Bishop John Colenso (1853–83) was the first Church of England Bishop of Natal and actively advocated on behalf of the native African population of Zululand and Natal.

Victor Davis Hanson was educated at the University of California, Santa Cruz (bachelor of arts, 1975) and the American School of Classical Studies (1978–79). He received his doctorate in Classics from Stanford University in 1980 and farmed full-time for five years before returning to academia part-time to initiate the Classics Program at California State University, Fresno. He is a professor emeritus of classics at California State University, Fresno, and currently serves as the Martin and Illie Anderson Senior Fellow in classics and military history at Stanford University's Hoover Institution. He chairs the Hoover working group on Military History and Contemporary Conflict and is general editor of the Hoover online journal, Strategika. In 1991 he received an American Philological Association Excellence in Teaching Award, given yearly to the country's top undergraduate teachers of Greek and Latin. He was a National Endowment for the Humanities fellow at the Center for Advanced Studies in the Behavioral Sciences, Stanford, California, and a Visiting Professor of Classics at Stanford University (1991–93). Professor Hanson was a Visiting Professor of Military History at the US Naval Academy for the 2002–3 academic year. He has been a visiting professor at Hillsdale College where he teaches an intensive course on world, ancient, or military history in the autumn semester, as the Wayne and Marcia Buske Distinguished Fellow in History since 2004.

Dr. Hanson has written articles, editorials and reviews for the *New York Times*, *Wall Street Journal*, *International Herald Tribune*, *American Heritage*, *American Spectator*, *Policy Review*, *The Wilson Quarterly*, *The Weekly Standard*, and *Washington Times*. He has been interviewed on nine occasions on National Public Radio and has appeared on the PBS "Newshour." Since 2004, Hanson has written a weekly column syndicated by Tribune Media Services, as well as a weekly column for National Review Online since 2001. Since he began each, he has not missed a single week. He is the author of some 60 articles, book reviews, and newspaper editorials on Greek, agrarian, and military history as well as contemporary culture. He has written or edited numerous books, including: *Warfare and Agriculture in Classical Greece* (1983); *The Western Way of War* (1989); *The Ancient Greek Battle Experience* (1991); *The Other Greeks: The Family Farm and the Agrarian Roots of Western Civilization* (1995); *Fields Without Dreams: Defending the Agrarian Idea* (1996); *The Soul of Battle* (1999); *The Land Was Everything: Letters From an American Farmer* (2000); *Carnage and Culture: Landmark Battles in the Rise of Western Power* (2001); *Ripples of Battle: How Wars Fought Long Ago Still Determine How We Fight, How We Live, and How We Think* (2003); *The Father of Us All: War and History, Ancient and Modern* (2010); and *The Second World Wars: How the First Global Conflict Was Fought and Won* (2017). He coauthored with John Heath *Who Killed Homer? The Demise of Classical Education and the Recovery of Greek Wisdom* (1998) and, with Bruce Thornton and John Heath, *Bonfire of the Humanities: Rescuing the Classics in an Impoverished Age* (2001). His *The Wars of the Ancient Greeks* (1999) was the first volume to appear in John Keegan's edited multivolume history of warfare.

Professor Hanson lives and works with his wife on their 60-acre tree and vine farm near Selma, California.

Shaping Junior Officer Values in the Twentieth Century: A Foundation for a Comparative Perspective*

Dave R. Palmer

General Stein, ladies and gentlemen, what an awesome feeling to be up here in front of friends, colleagues, mentors such as Bill Holley, people I have worked with and have admired for decades, three occupants of this particular podium, people whose works I have read but have not met until now, and the magnificent group of young people wearing the uniform of cadets here at the Air Force Academy.† And also it gives me a chance to pause right now and tell you, and this particular audience especially, how proud West Pointers are of the Air Force Academy. West Point graduates had a role, a key role, early in the founding of this institution. Some in this audience are West Point graduates who wore blue—General McDermott and others had so much to do with creating this Academy. Being here gives me a chance to say something we don't say often enough: as the Air Force Academy has come to maturity, West Pointers have enjoyed being a part of the process.

I'm putting these wings on now for you cadets. These are Academy soaring wings, your sailing wings. You may think it a bit strange that I got these when I was superintendent at West Point. The story is, I came to the Air Force Academy shortly after I was appointed to visit Skip Scott, the superintendent, to find out what "supes" did.‡ He was very gracious to open up your Academy to let me see everything that was going on, to brief me, and to answer all my questions. And he asked a cadet, who was one of your flight instructors, to take me up in a glider.

As we were being towed up to altitude, he was describing all the maneuvers that he was able and qualified to do. He ran through a long list—a very talented young man. And he said, "Sir, which one would you like to do?" And I said, "All of them." He said, "All of them? Oh boy." So we stayed up for probably an hour and did everything. I don't even know what we did. Flying upside

*Harmon Memorial Lecture #39, 1996.

†Maj Gen Paul E. Stein, was the fourteenth superintendent of the United States Air Force Academy, serving from 1994 to 1997. He is a 1966 graduate of the United States Air Force Academy. Maj Gen I. B. "Bill" Holley, retired, enlisted in the Army Air Corps in 1942 and joined the Air Force Reserve in 1947, rising to the rank of major general in 1976, before retiring in 1981. He received his doctorate in history from Yale in 1947 and joined the Duke University faculty that same year. From 1947 until his death in 2013, he was a constant feature on the Duke campus, mentoring a number of US military officers sent to earn doctoral degrees.

‡Lt Gen Winfield W. Scott, Jr., was the tenth USAFA superintendent, serving from 1983 to 1987. He was a 1950 graduate of the United States Military Academy.

down, I remember that, and all sorts of other maneuvers. When we came back down, they were either so impressed or so pleased that I hadn't thrown up that they gave me a set of wings. I have been waiting for the right occasion to wear them, and I thought tonight was it.

Brig Gen Robert F. McDermott receives an inscribed cadet saber from Cadet Wing Commander Jerrold Allen, 28 April 1966. US Air Force photo.

I have had the good fortune of being able to come to the Air Force Academy, this magnificent national treasure, three times to speak. Once in the '70s, once in the '80s, once now in the '90s. I don't know why I am asked back only once every decade. Maybe it takes that long for people to forget why they never wanted to invite that character back again. But it is good to return.

My wife, each time I have left, has given me advice. The first time she said, "Say something meaningful." The second it was, "Keep it short." And this time, when I left for the airport yesterday, she said, "Remember to hold your stomach in." Tonight I will try to adhere to all three of her admonitions.

Actually, the first one will be very easy because the topic of this symposium is so central to our profession, to the country, to developing our military leadership—the young people who will be the leaders of the future. It is

so central that it would be difficult for anyone to speak in the next two or three days and not have something meaningful to say. I have to admit, though, that my wife's second admonition gave me a little trouble. The topic, when I got it months ago, asked for a "comparative perspective" on shaping junior officer values in the twentieth century. Well, I began to think about the scope—a comparative perspective, global, the world, the entire century, values from left to right. How in the world could I do that in 40 minutes?

So I called back and asked the symposium planners if I might add two words to the title: "Foundation for." What I hope to do tonight is to be able to provide for all of us a foundation for that perspective, a foundation that will help us in our discussions, in our panels for the next couple of days, to come to grips with a comparative perspective. They did that. They changed it, and I felt pretty good. And then a month passed and I got seriously into preparing the talk, and I realized that it was still beyond my ability, so I have narrowed it even more. Let me tell you how.

First of all, I decided that I would confine my remarks to the preparation of United States officers, for a very simple reason. For a good part of this century, the United States, in the preparation of officers, has been dominant. Not dominant in the sense that everyone has done what we have done, but since World War II in particular, every country in the world has patterned itself after the United States or has looked at what we were doing and said, "Well, that's fine for you but it won't fit for us," or "This piece is all right but the rest isn't." So if you try to find a common denominator in officer preparation in this century, and especially since World War II, it has to be how the United States has done it. Successfully or unsuccessfully, that was sort of the model everyone started with.

Next I narrowed my topic to the federal service academies. I will not branch out into Officer Candidate School, direct commissions, or the Reserve Officer Training Corps because for most of this century, the academies were somewhat stable, while the others were not.

The other sources were up and down. They didn't even exist at some points, and at certain times the outlet valves were turned and there were floods of officers from them. If you want continuity, you almost have to look at what happened in the service academies. And of course, they are federal, and that means that they have been the standard setters, in that whatever we as a nation wanted, it came through Congress, "This is what we want in our officers," and that's how it gets cranked in. I'll tell a story a little later about that.

And finally, I'll confine my remarks tonight mostly to West Point. Very simply, I am probably more credible talking about West Point than Annapolis.

Now how does a federal service academy—West Point, the Air Force Academy, the Naval Academy—differ from ROTC or OTS in how they go about commissioning young men and women? What is their essence that makes

them different fundamentally from other sources, or is there one? One that you may not think much about, but I believe is very important—at the federal academies, and only at the federal academies, every single student has a mandate to serve in uniform. That uniquely flavors the environment at the academies.

In other commissioning programs, many cadets enter the active ranks. In some, perhaps most do. But they have a choice, to serve or not. Even at the all-military institutions, such as Virginia Military Institute, the majority of students do not go on active duty. If you want to know what values are paramount in the nation, what values we as a people believe our military leaders ought to have, look inside the military academies. Go to Air Force, go to West Point, go to Annapolis and you'll see, because that's where the services insert values into the system. Cadets and midshipmen are fully immersed in a four-year program. They don't go to military training for a brief period in a summer camp or wear a uniform one day a week. The environment is total.

And I think it's probably true for all of the academies—it certainly is true for West Point—that the developmental experience exists in four areas: academic-intellectual development, certainly; physical development—fitness, that's a big element; military training—developing habits, discipline, developing leadership early on; and the fourth area is character. Now, you can argue, and I have argued both ways, that character could be separate. It could also be a part of the other three. It could be so intertwined in the other three that it's not really a separate area. But for our purposes tonight, let's say there are four. And of those four, only character is unique.

There are educational institutions in this country that can teach calculus better than it can be taught at the Air Force Academy. There are educational institutions that can teach the English language better than the Naval Academy can. There are institutions that can teach engineering better than West Point. There are institutions that have outstanding physical programs. (I noticed a few weeks back that Notre Dame came up short when they thought their football team was better than the Air Force's, but they at least played you a good game.*)

There are also other ways to do military training. We heard an address earlier in the day about the great debate early on when this Academy was being founded: should we teach people to fly while they are here or not? And the answer was no, because the people in charge realized at that time that the Air Training Command† can teach people how to fly, and they do so quite effectively.

*In 1996, Air Force defeated a heavily favored no. 8 Notre Dame team for the first time since 1985, with Dallas Thompson's overtime field goal securing a 20–17 win for the Falcons.

†ATC was the organizational predecessor to the Air Force's current Air Education and Training Command, which runs most training programs, including Undergraduate Pilot Training.

But what about character? Character. Where in America does any institution say it can handle the development of character on a par with the academies, much less better than the academies? One doesn't exist. So the inculcation of character is a distinct role of the service academies.

That's the essence of what makes the academies especially different. All cadets and midshipmen go on to serve their country in uniform, all graduates. They are immersed in a total program. And character development is at the nexus of everything that is done. Talking about character begs a question—what is character? How do you define character? Secondly, is it really important? I have indicated that I think it is, but is it in the sense of history? Then, if you can define it and if it is important, the third question is, how do you go about inculcating it? How do you develop it in young people? So let me try to work through those three questions.

Almost everyone who is anyone at some time in his or her life has taken a shot at defining character. But, in a newspaper column, not too long ago, Ronald Clark wrote: "Character is one of those terms that sounds good, until you try to define it." I happened to read that while I was trying to find a definition of character. That made me feel uneasy. Still, many have tried their hand at defining character. Abraham Lincoln: "Character is like a tree, reputation like its shadow. The shadow is what we think of it, but the tree is the real thing:" I liked his metaphor, but it didn't help me a lot for this lecture. Secretary of War Newton Baker*: "The character of a military officer is trustworthiness that knows no evasions." Okay, that got a little closer for me.

Well, I decided to quit looking at quotations from historical figures and go to a very recent study. A group of scholars, in this past year, got together at a conference in Austin, Texas, at the Lyndon Baines Johnson Library. With the upcoming presidential election on their minds, they decided to define character. I thought, "Ah-ha, why didn't I go there first and get their report?" Unfortunately, they couldn't define character. Instead, they came up with a laundry list that had some interesting entries. I'll quote a few: "Telling the truth always." "Having a generosity of spirit." "Respecting others." "Having the courage of your convictions." And I like this one: "Having a sense of humor."

Character? Character described as a laundry list of values? Well, there's got to be more to it than that. How could it be so important and yet we have such a small grasp of what it is? So I did what any good historian does when the sources don't offer support, I made up my own definition. This is Dave Palmer's definition, but it will be the working definition for tonight: *Character is an intangible, an intangible comprised of knowledge on the one hand and action on*

*Baker was Secretary of War during World War I.

the other. Knowing and doing. Knowing what is right and doing what is right. Taking the harder right instead of the easier wrong.

So as we talk about character tonight, that's what we'll say it is. It's that combination of intellect, of knowing, and having the moral courage to do what you know you ought to do, even when someone is not looking.

How important is character? According to Teddy Roosevelt: "To educate a person in mind but not in morals is to create a menace to society." Sir James Glover: "A man of character in peace is a man of courage in war."* The Army's Field Manual 22-100 is the premiere statement of doctrine on leadership. A new version is coming out shortly and I had a chance to review it. It says "Officers in our Army," but certainly that would apply to officers in our entire military establishment "must be leaders of character." Not just leaders—leaders of character. The very starting point for leadership, the manual says, is character. Everything else, every other value, emanates from the moral sphere.†

Let me now turn back to history; this is, after all, a history symposium. Let me look way back for a couple of vignettes that have to do with character. Go back to the founding of our country. Go to West Point. How many of you in here have been to West Point and know where the parade ground is? Well, you will recall that there is a huge statue there right in the center, the geographical and the emotional center of West Point, a statue of a man on horseback, greater than life size by far. It dominates West Point. It dominates the parade ground. That statue honors a special person.

There is another person for us to ponder. To find where he is honored, though, you have to go down to the old cemetery, into the old church, walk in about halfway and look to the wall on the right. There you will see a series of black granite plaques with the names of all of the generals in the American Revolution. The plaques are very simple, very stark. Each has a date of birth, a rank, a name, and a date of death. The plaques start with George Washington and run along the wall. Every one is exactly alike until you reach the last one.

Way back up there, nearly hidden . . . you have to look carefully to find it. It is the last one in the row, almost out of sight behind the choir loft. It doesn't look quite like the others. There is a rank, major general. There is a date of birth, 1741. There is no name and no date of death. Where those two entries would be, the granite is scored as if they were chipped off. They are not there.

*General Sir James Malcolm Glover, KCB, DL (25 March 1929–4 June 2000), was the former Commander in Chief, UK Land Forces from 1985 until his retirement in 1987.

†FM 22-100 has been superseded by FM 6-22, *Army Development* (Washington, DC: Headquarters, Department of the Army, 30 June 2015), https://www.milsci.ucsb.edu/sites/secure.lsit.ucsb.edu.mili.d7/files/sitefiles/fm6_22.pdf.

As you might guess, the first person honored, the horseman on the parade ground, is George Washington. The other, honored with a plaque without a name, is Benedict Arnold. George Washington and Benedict Arnold.

You see, they couldn't use Arnold's name. When he became a traitor, Washington decreed that the name of Benedict Arnold would never again be written, would never be honored in this country. But, the fact is, he was a general in the Revolution. Not only was he a general, he was a very good one. He and Washington, as a pair, carried the Revolution in its early years. It is awfully hard to see how, without either of those two men in 1775, '76, or '77, we could have continued fighting long enough to let the French have a chance to join us in '78.

Those two men carried the Revolution. They were the two most outstanding warriors. There were others, of course, but those two stood head and shoulders above all of the rest. They both had victories. They both suffered defeat. They both had people praising them. They both had enemies intent on tearing them down. They both had groups trying to remove them from office and replace them with someone else. They both suffered emotional highs and lows. Both faced adversity.

However, one, under adversity, grew stronger and stronger. The other, under adversity, grew weaker and weaker. One went on to become the father of his country; the other a man without a country. One became the man of monuments; the other has only that little half hidden plaque in the old church in the cemetery at West Point.

Why? What were the differences in the values they had? They were both intelligent. They were both courageous on the battlefield. They both had an innate ability to feel what was happening in a fight. Both were charismatic and could cause men to go charging into an enemy position. But one had character and one didn't.

A second vignette from history, same period, just a little later. George Washington, at the end of the Revolution, wanted to establish a military academy. He thought, "Never again shall we let our country be in the position of going to war without a professional group of leaders. We can't again try to develop them during the war. We need a military academy."

At the end of the war he tried and failed to create one. He tried every year of his presidency. He failed because there was a clique of American leaders who were afraid of the military, afraid of the Army, really. They were afraid of a coup, of a military dictatorship. They didn't want professional officers. Washington knew we needed them, however, so he kept trying.

The last letter he wrote in his life on public business, just before he died, was a letter to Alexander Hamilton laying out the reasons again why we needed a military academy. Interestingly enough, just a little over two years

after his death, a law was passed establishing the military academy. The bill was signed into law by Thomas Jefferson—the very man who had led the effort that had thwarted Washington every step of the way for so many years.

Why? Well, whatever you may think about Jefferson, he was not dumb. When he took the oath that only the president in this country takes—to preserve, to protect, and to defend the Constitution—he realized that Washington had been right all along. The country did indeed need a professional military. Although he recognized the necessity, Jefferson was still terribly afraid of the Army. He was determined that it would be kept under control.

How to do that? The best way, he reasoned, was to set up a federal military academy so the federal government would control who went, what they studied, and which ones got commissioned. That way we would have the best possible chance of getting trustworthy officers, military leaders who would remain servants of the republic. So character was essential, yes. West Point was established, and then, of course, the Naval Academy and the Air Force Academy, all built on the very importance of this essential intangible we call character.

Well, that brings us to the third question. We now know what character is. And we agree that it is very important. Now comes the hard part. How do you develop character? How do you mold young people to make sure they become leaders of character, especially in changing times? Especially in changing times! How do you do that? Times change, society changes. Do the verities change? Do "duty, honor, country" mean something different now than they did 50 years ago or that they will 50 years from now?

No, the verities don't change. But people do, and in a democracy we get our potential leaders from the people, from our society, and they serve that society. Can we expect them to be, when they come to us out of the society, very different from that society itself? Shouldn't we expect that they are going to reflect the values pertaining at that time in the nation? Well, certainly they are. Another question that I think is intriguing—and this is rhetorical—in a democracy, dare we try to make them really different from the people they serve, from the society they serve?

Let me share three vignettes about three superintendents of West Point in this century, each of whom did something I think fundamentally important toward the development of character. Each, interestingly, went to the superintendency in a postwar period, in fact, right after the three major wars of this century.

After World War I, Douglas MacArthur institutionalized the honor system.* He formalized it, not only the code, but the system. There had been an honor

*Gen Douglas MacArthur (USMA 1903) served as superintendent of the US Military Academy from 1919 to 1922.

code before, but it was very informal. It did not have a structure, and it was run by cadets who called themselves "The Vigilantes" (that gives you an idea of how it might have been run). MacArthur realized that the honor code and the honor system was so important to the development of character that they had to be brought above the surface and formalized.

Maxwell Taylor, right after World War II, at the insistence of Eisenhower, who was Army Chief of Staff, decided on and implemented a leadership development system.* One had been there before, but never really formal. And from that sprang the leadership development system that we have in the United States Army today. It began with a directive from Eisenhower to Maxwell Taylor in 1946. Not by coincidence does that leadership system have at its core ethics and morality.

My successor, Howard Graves, came to the Academy in 1991, immediately after the end of the Cold War, the third major war we have fought this century.† He took a look at the youth of America and realized that young people coming to West Point were coming out of a society in which the core ethics were very different than those existing 30 years before when he had entered as a cadet.

It's not my job now to go into all those differences, but there definitely were differences. General Graves realized that cadets had to deal with the diversity that characterizes both West Point and our Army today—diversity of gender, of race, of ethnic background. When West Point cadets became officers, he knew, not only were they going to be in a multicultural Army, they were going to be working closely with people from different cultures all over the world.

And he did something brilliant. When I heard of it, I found myself saying, "Why didn't I think of that?" I had five years to think of it, but I didn't. He created a phrase that those of you from West Point now will recognize, a phrase marvelous in its simplicity, and that is: "At West Point there are two bedrock values." "Two bedrock values." The first is honor, as it always has been, and the second is consideration of others.

So elevating to a par with honor the value of treating others properly—saying that there are two bedrock values, honor and consideration of others—has significantly advanced the system for the development of character.

Finally, I recently called one of my faculty members in Walden.‡ Walden, you may know, is only for PhD students. You have to have a masters to get in

*Gen Maxwell Taylor (USMA 1922) served as superintendent of the US Military Academy from 1945 to 1949.

†Gen Howard D. Graves (USMA 1961) served as superintendent of the US Military Academy from 1991 to 1996.

‡Walden University was established in 1970 as an institution offering postgraduate degrees to working adults. Under Palmer's leadership as president from 1995 to 1999, the school pioneered a wide variety of distance-learning methods.

the university, so this is a man who deals with doctoral students entirely. He's a psychologist. He has great practical experience in human development, and he has intimate knowledge of the service academies. He is someone I know very well, and I felt sure that he would be straight with me.

So I called and asked him what he thought one ought to say about the process of developing character. He sent back an email message with several points. I thought his words were quite powerful. I have condensed his message a little, and am paraphrasing, but these are essentially his words:

> It's not any specific program that makes the difference. It is the entire fabric of values—the entire fabric of values and the action taken in support of those values. Our academies create an environment where integrity and high character are valued. The academies strive to present sustained reinforcement of the importance of character, daily reminders of the importance of character. Those daily actions over time cement the perceptions by which cadets, and then officers, live. Character development is an everyday thing. Character isn't something the soldier straps on on the day of battle. It must consistently flow across all situations over his or her entire life. It cannot be gained, character cannot be gained, from an orientation or a course. It grows from living it over time.

Well, we have talked about the sense of values that we may want to provide to people in their development as they become officers in the armed services. We have talked about character and what it is, how important it is, and some thoughts about how one develops it.

I end by saying that the challenges to all of those charged with developing the next generation of leaders are similar to the challenges in every era, this one and all the past eras of this century. But they are also quite different.

As I personally look across the 30 years between my own days as a cadet at West Point and my time there as superintendent, I know for a fact that the developmental models were different. The model used on me in the 1950s and the one in place in the 1980s—those were very different models of character development. And they had to be different.

I would also have to say that the challenges today—in the age of Oprah and with the long shadow of moral bankruptcy so evident across land—the challenges in developing young people just seem to me to be more daunting now than ever before in this century. I sincerely would wish all of those charged with commissioning the next generation of military leaders all the best of luck in the world. They are going to need it.

Lt Gen Dave R. Palmer retired from the United States Army in 1991 after 35 years of service. General Palmer graduated from the United States Military Academy in 1956 and later received a master of arts degree in History (1966) and an honorary doctorate (1989) from Duke University. After serving two tours in Vietnam and holding numerous command positions from the battalion level to command of the First

Armored Division, General Palmer became superintendent of the United States Military Academy in 1986. After retiring from the Army, he served as president of Walden University from 1995 to 1999, and then as chief executive officer of Walden e-Learning, Incorporated. His scholarly publications include *The River and the Rock* (1969), *The Way of the Fox* (1975), *Summons of the Trumpet* (1978), and *1794* (1994). West Point honored him with its Distinguished Graduate Award in 2005.

The Code of the Warrior*

Shannon E. French

You have all heard the recent news story about a Marine who may have shot an unarmed, wounded Iraqi insurgent.† The question being asked is, was this war or murder? The distinction between a warrior and a murderer is not trivial one. For those whose calling is the profession of arms—for you—understanding this distinction is essential.

Murder is an act that is cross-culturally condemned. Whatever their other points of discord, the major religions of the world agree in the determination that murder (variously defined) is wrong. Unfortunately, the fact that we abhor murder produces a disturbing tension for those who are asked to fight wars. When you are trained for war, you are given a mandate by your society to take lives. But you must learn to take only certain lives in certain ways, at certain times, and for certain reasons. Otherwise, you may become indistinguishable from a murderer and suddenly find yourself condemned by the very society you have sacrificed so much to serve.

Warrior cultures throughout history and from diverse regions around the globe have constructed codes of behavior, based on that culture's image of the ideal warrior. These codes have not always been written down or literally codified into a set of explicit rules. A code can be hidden in the lines of epic poems or implied by the descriptions of mythic heroes. One way or another, it is carefully conveyed to each succeeding generation of warriors. These codes tend to be quite demanding. They are often closely linked to a culture's religious beliefs and can be connected to elaborate (and frequently death-defying or excruciatingly painful) rituals and rites of passage, such as the Sun Dance ritual performed by Native Americans of the Plains tribes or the Corridor of Death that separated disciples from masters among the Chinese warrior monks of Shaolin.‡

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*Harmon Memorial Lecture #47, 2004.

†In November 2004, a freelance journalist released film footage of a US Marine shooting a wounded and unarmed Iraqi insurgent in a mosque in Fallujah, Iraq. The US military removed the Marine from the battlefield, and the Naval Criminal Investigative Service investigated. They determined that the Marine acted in self-defense and that his actions were consistent with the established rules of engagement, the law of armed conflict, and the Marine's right to self-defense. He was not court martialed. See "Military Investigates Shooting of Wounded Insurgent," 16 November 2004, http://www.cnn.com/2004/WORLD/meast/11/15/marine.probe/; and Jamie McIntyre, "Marine Cleared in Videotaped Shooting," CNN, 5 May 2005, http://www.cnn.com/2005/US/05/05/falluja.marine/index.html.

‡The Sun Dance was the most important ceremony practiced by the Plains Indians, particularly the Lakota (Sioux). The multi-day ceremony featured singing and dancing, with a goal of personal purification, spiritual growth, and renewal. In the ceremony, a large pole was erected in the middle of the ceremonial space. After ritual purification, tribal holy men tethered the dancers seeking renewal and purification (usually men) to the central pole with leather thongs, one end tied to the pole, and the other end tied to pieces

In many cases this code of honor seems to hold the warrior to a higher ethical standard than that required for an ordinary citizen within the general population of the society the warrior serves. But the code is not imposed from the outside. The warriors themselves police strict adherence to these standards, with violators being shamed, ostracized, or even killed by their peers. In the Roman legions, a man who fell asleep while he was supposed to be on watch, allowing an enemy to penetrate the camp, could expect to be stoned to death by the members of his own cohort.

The code of the warrior not only defines how warriors should interact with their own warrior comrades but also how they should treat other members of their society, their enemies, and the people they conquer. The code restrains the warrior. It sets boundaries on acceptable behavior. It distinguishes honorable acts from shameful acts. Achilles must seek vengeance for the death of his friend Patroclus, yet when his rage drives him to mistreat the corpse of his archnemesis, he angers the gods. Under the codes of chivalry, a medieval knight has to offer mercy to any knight who yields to him in battle. In feudal Japan, samurai are not permitted to approach their opponents using stealth, but rather are required to declare themselves openly before engaging in combat. Muslim warriors prosecuting an offensive jihad cannot employ certain weapons, such as fire, unless and until their enemies use them first.

But why do warriors need a code that ties their hands and limits their options? Why should a warrior culture want to restrict the actions of its members and require them to commit to lofty ideals? Might not such restraints cripple their effectiveness as warriors? What's wrong with, "All's fair in love and war?" Isn't winning all that matters? Why should any warrior be burdened with concerns about honor and shame?

In fact, there are many reasons to maintain warriors' codes. The most obvious is to protect innocent lives. There has never been a war in which innocents did not die, even with warrior codes in place. When there are no codes at all, innocents—those least able to defend themselves—become easy targets for atrocity. War is hellish enough without at least some attempt to limit its scope. When the concepts of guilt and innocence become too complicated to apply, we rely instead on the distinction between combatants and noncombatants.

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of bone that pierced the dancers' backs. Once tethered, dancers shuffled around the central pole, attempting to tear the bone pieces from their bodies. In other versions of the dance, individuals would tether buffalo skulls to their bodies by the same bone and thong method, and drag them behind them, attempting to catch them on an obstacle and free them from their burden; see Thomas E. Mails, *Sundancing at Rosebud and Pine Ridge* (Lake Mills, IA: Graphic Publishing Co., 1978). In the Corridor of Death, or "hall of the wooden men," Shaolin monks were forced to make their way down a passage containing a variety of deadly traps. If they possessed adequate reflexes, they could pass safely. At the end of the corridor was a large iron pot containing burning coals that had to be removed before they could pass. In the process, they were branded with a tiger on one arm and a dragon on the other; see Shannon E. French, *Code of the Warrior: Exploring Warrior Values Past and Present* (New York: Rowman and Littlefield, 2016), 196.

Not all rules of war, however, relate to the protection of those not directly involved in the conflict. Some limit how warriors can treat other warriors, such as rules about what weapons or tactics of war may be used as well as those pertaining to the handling of surrenders, POWs, and enemy wounded and dead. Many arguments in favor of such rules are based on the notion of reciprocity with the enemy. We hope that if we treat our enemy's troops well, our own troops will receive equally good treatment. Or perhaps more often than not, we fear that if we *fail* to treat our enemy's troops well, our troops will surely become the objects of retaliation. Yet this tit-for-tat rationale is disturbingly conditional. If reciprocity is our only motive for urging our warriors to show restraint, it will quickly dissolve whenever we fight enemies who do not share our ideas of what is honorable in war. The disciplined Romans were caught off-guard by the ferocious shock troops of the Celtic and Germanic tribesmen and responded with unspeakable brutality. The British were horrified when they first faced the hit-and-hide tactics of the colonial American militia, and some responded by punishing civilians with torture and death. When white settlers moved west, they confronted native tribes who considered stealth an honorable warrior skill and did not always recognize the combatant/noncombatant distinction, while white settlers did not shrink from using biological weapons or attempting genocide against the native peoples. The Japanese claimed to be appalled by Chinese-derived ninja tactics of espionage and assassination yet exercised no restraint in terrorizing their Asian neighbors. The past offers clear warning of the danger when fighting an enemy with different values of violating one's *own* values.

When both sides in a conflict abandon all restraint, another casualty is the hope for peace. When atrocities escalate and conflicts devolve into personal hatreds, cycles of violence can span generations. If each side's violations are answered by reprisals, bringing both sides to the table to discuss terms to end the conflict becomes more and more difficult.

Even warring parties who do not care about the prospect of peace may yet be concerned enough about international opinion to exercise some restraint in their conduct of war. This potentially restraining principle is once again conditional. Not all belligerents will care about international opinion, and some will think that they can hide their actions from scrutiny. And even those nations that do concern themselves with their international images may not effectively translate that concern into appropriate leadership and discipline of the soldiers who represent them.

Within democratic nations, domestic opinion can also be a factor in encouraging warriors to exercise restraint. If public support of a conflict is required in order to sustain funding for it and if that public support depends on the perception that the war is being conducted in an honorable manner, then

domestic opinion may encourage strict observation of conduct of war rules. On the other hand, concern about domestic opinion may do no more than inspire cover-ups of any actions by members of the military that might be condemned by the general public.

All of the reasons for restraint I have mentioned thus far are in a sense external to our warriors themselves. The most compelling reason for warriors to accept restraint may be the internal moral damage they risk if they fail to do so and the serious psychological damage they may suffer. The nature of the warrior's calling places him or her in peculiar moral peril. The power to kill with impunity and possibly even to dominate entire foreign cultures could certainly corrupt character and promote hubris. Warriors need the restraint of a warrior's code to keep them from losing their humanity and their ability to enjoy a life worth living outside the realm of combat.

In the introduction to his valuable analysis of Vietnam veterans suffering from post-traumatic stress disorder, *Achilles in Vietnam: Combat Trauma and the Undoing of Character*, psychiatrist Jonathan Shay stresses the importance of "understanding . . . the specific nature of catastrophic war experiences that not only cause lifelong disabling psychiatric symptoms but can ruin good character."[1] Shay has conducted countless personal interviews and therapy sessions with American combat veterans. His work has led him to the conclusion that the most severe cases of post-traumatic stress are the result of wartime experiences that are not simply violent, but which involve what Shay terms the "betrayal of 'what's right.'"[2]

Veterans who believe that they were directly or indirectly party to immoral or dishonorable behavior (perpetrated by themselves, their comrades, or their commanders) have the hardest time reclaiming their lives after the war is over. Such men may be tortured by persistent nightmares; may have trouble discerning a safe environment from a threatening one; may not be able to trust their friends, neighbors, family members, or government; and many have problems with alcohol, drugs, child or spousal abuse, depression, and suicidal tendencies. As Shay sorrowfully concludes, "The painful paradox is that fighting for one's country can render one unfit to be its citizen."[3]

Warriors need a way to distinguish what they must do out of a sense of duty from what a serial killer does for the sheer sadistic pleasure of it. Their actions, like those of the serial killer, set them apart from the rest of society. Warriors, however, are not sociopaths. They respect the values of the society in which they were raised and which they are prepared to die to protect. It is therefore imperative for them to conduct themselves in such a way that they will be honored and esteemed by their communities, not reviled and rejected by them. They want to be seen as proud defenders and representatives of what is best about their culture: as heroes, not "baby killers."

In a sense, the nature of the warrior's profession puts him or her at a higher risk for moral corruption than most other occupations because it involves exerting power in matters of life and death. Warriors exercise the power to take or save lives, order others to take or save lives, and lead or send others to their deaths. If they take this awesome responsibility too lightly—if they lose sight of the moral significance of their actions—they risk losing their humanity and their ability to flourish in human society.

In his powerful work, *On Killing: The Psychological Cost of Learning to Kill in War and Society*, Lt Col Dave Grossman illuminates the process by which those in war and those training for war attempt to achieve emotional distance from their enemies. The practice of dehumanizing the enemy through the use of abusive or euphemistic language is a common and effective tool for increasing aggression and breaking down inhibitions against killing. Yet this process can be taken too far. If there is excessive dehumanization of the enemy—if warriors genuinely come to believe, deep down, that their enemies are somehow less than human—the result is often lingering psychological trauma.*

Like Shay, Grossman has interviewed many US veterans of the Vietnam War. Grossman found that some of the men he interviewed had never truly achieved emotional distance from their former foes. Interestingly, these men seemed to be better off for having held on to their respect for the humanity of their enemies. They expressed admiration for Vietnamese culture. Some had even married Vietnamese women. Most significantly, they appeared to be leading happy and productive postwar lives. In contrast, those who persisted in viewing the Vietnamese as "less than animals" were unable to leave the war behind them.

Dr. Shay describes an intimate connection between the psychological health of the veteran and the respect he feels for those he fought. Shay stresses how important it is to the warrior to have the conviction that he participated in an honorable endeavor. Dr. Shay writes: "Restoring honor to the enemy is an essential step in recovery from combat PTSD. While other things are obviously needed as well, the veteran's self-respect never fully recovers so long as he is unable to see the enemy as worthy. In the words of one of our patients, a war against subhuman vermin 'has no honor.'"[4] He notes that this true either in victory or defeat.

Shay finds echoes of these ideas in the words of World War II veteran J. Glenn Gray from Gray's modern classic on the experience of war, *The Warriors: Reflections on Men in Battle*. Gray brings home the agony of the warrior who has

*Dave Grossman, *On Killing: The Psychological Cost of Learning to Kill in War and Society* (Boston: Back Bay Books, 2009).

become incapable of honoring his enemies and thus is unable to find redemption himself. Gray writes:

> The ugliness of a war against an enemy conceived to be subhuman can hardly be exaggerated. There is an unredeemed quality to battle experienced under these conditions, which blunts all senses and perceptions. Traditional appeals of war are corroded by the demands of a war of extermination, where conventional rules no longer apply. For all its inhumanity, war is a profoundly human institution . . . . This image of the enemy as beast lessens even the satisfaction in destruction, for there is no proper regard for the worth of the object destroyed. . . . The joys of comradeship, keenness of perception, and sensual delights [are] lessened. . . . No aesthetic reconciliation with one's fate as a warrior [is] likely because no moral [reconciliation is] possible.[5]

By setting standards of behavior for themselves, accepting certain restraints, and even "honoring their enemies," warriors can create a lifeline that will allow them to pull themselves out of the hell of war and reintegrate themselves into their society, should they survive to see peace restored. A warrior's code may cover everything from the treatment of prisoners of war to oath keeping to table etiquette, but its primary purpose is to grant nobility to the warriors' profession. This allows warriors to retain both their self-respect and the respect of those they guard.

Nor is it just "boots on the ground" frontline and special forces troops who need the protection of a warrior's code. Every warrior sent into combat risks moral damage. Men and women who fight from a distance—who drop bombs or shoot missiles from planes or ships or submarines—are also in danger of losing their humanity. What threatens them is the very ease by which they can take lives. As technology separates individuals from the results of their actions, it cheats them of the chance to absorb and reckon with the enormity of what they have done. Killing fellow human beings, even for the noblest cause, should never feel like nothing more than a game played using the latest advances in virtual reality.

In his book *Virtual War: Kosovo and Beyond*, international journalist and scholar Michael Ignatieff airs his concerns about the morality of asymmetric conflicts in which one side is able to inflict large numbers of casualties from afar without putting its own forces at much risk (for example, by relying primarily on long-range precision weapons and high-altitude air assaults). In such a mismatched fight, it may be easy for those fighting on the superior side to fail to appreciate the true costs of the war, since they are not forced to witness the death and destruction firsthand. Distance warriors may not feel the moral weight of what they do. Ignatieff warns modern warriors against the "moral danger" they face if they allow themselves to become too detached from the reality of war. He writes: "Virtual reality is seductive. . . . We see war as a surgical scalpel and not a bloodstained sword. In so doing we mis-describe ourselves as we mis-describe the instruments of death. We need to stay away

from such fables of self-righteous invulnerability. Only then can we get our hands dirty. Only then can we do what is right."[6]

B-52 Stratofortress dropping bombs in the 1960s. US Air Force photo.

Warriors who dehumanize their enemies by equating them with blips on a computer screen may find the sense that they are part of an honorable undertaking far too fragile to sustain. Just as societies have an obligation to treat their warriors as ends in themselves, it is important for warriors to show a similar kind of respect for the inherent worth and dignity of their opponents. Even long-distance warriors can achieve this by acknowledging that some of the "targets" they destroy are in fact human beings, not just empty statistics. The further war evolves away from armies of declared and uniformed combatants lining up across an open field, the more need for strict codes of discrimination and proportionality.

The morality of benefiting from technological advances that make it possible to kill at a greater distance has made proponents of ethical warfare nervous for centuries. Pope Urban II in 1097 outlawed the use of one of the earliest instruments of death-at-a-distance, the crossbow. In 1139 Pope Innocent II went even further, threatening anyone who used the crossbow with excommunication and condemning the weapon as "hateful to God and unfit to be used among Christians."

It is precisely this suspicion of technology-enhanced distance warfare—the idea that it is somehow less honorable or brave than the up-close-and-personal combat of the traditional battlefield—that may have led some modern warriors to go to even greater lengths to identify themselves with a demanding warrior's code. From the first use of aerial combat, fighter pilots have self-consciously compared themselves not to foot soldiers with crossbows but

to knights on horseback. They have adopted the ideals, and even the language, of chivalry.

One of these knights of the air was Sir Hugh C. T. Dowding, a fighter pilot for the Royal Air Force in World War I and strategist for the Battle of Britain in World War II. Dowding was passionately committed to maintaining the nobility of his vocation. An incident from the First World War illustrates this plainly. Dowding's squadron brought down a German aircraft. He was then appalled to see the pilot and crewman shot while climbing out of their wrecked plane by ground troops. In an attempt to redeem what he saw as soiled British honor, Dowding gathered up the personal effects of the two dead Germans and dropped them behind enemy lines along with a note saying exactly where their bodies were buried.[7]

There was no law or international convention that required Major Dowding to go to such lengths. It was his own warrior's code that prompted him to act. He clearly believed that there must be things that honorable warriors simply do not do, regardless of the provocation.

Similar sentiments were behind a story I heard from an older gentleman who approached me after I spoke about the warrior's code to a Kiwanis Club meeting in Reisterstown, Maryland. This man, whom I will call "Dan," told me that he had been a fighter pilot in World War II in the Pacific Theater. Near the end of the war, he was commanding a squadron over Tokyo. They flew a mission near a crowded train station, where hundreds of people were desperately pushing to climb aboard trains that could take them away from the besieged city. Acting against direct orders, one member of the squadron broke formation, flew down, and strafed some of the helpless Japanese civilians.

When they returned from this mission, no one in the squadron would speak to the pilot who had murdered the noncombatants. Tears filled Dan's eyes as he told me the conclusion of this 60-year-old story: "We were all so ashamed of what he had done. He had shamed the entire squadron. He was killed in an engagement two days later. And, God help us, we were *glad*."

Warriors who retain the capacity to feel shame have not yet lost their hold on their humanity. In Homer's *Iliad*, we know that the great Achilles has crossed the line and surrendered his humanity to war when he abuses the body of his noble opponent, Prince Hector of Troy. The god Apollo describes Achilles, the former warrior, turned killer:

> His twisted mind is set on what he wants, As savage as a lion bristling with pride, Attacking men's flocks to make himself a feast. Achilles has lost all pity and has no shame left. Shame sometimes hurts men, but it helps them, too. . . . But this man? After he kills Hector, he ties him behind his chariot and drags him around his dear friend's tomb. Does this make him a better or nobler man? He should fear our wrath, good as he may be, For he defiles the dumb earth in his rage.[8]

When Achilles desecrates the body of Hector by dragging it behind his chariot, it is clear that Achilles has been damaged by war. Something has died inside him. He can no longer honor his enemy, so he no longer has honor himself. As Apollo says, he has lost all sense of shame. The truth of Apollo's accusation highlights the wisdom of one of the edicts found in the Bushido code of the Japanese samurai: "A sense of shame will uphold justice."[9] Legend has it that when a Spartan mother sent her son off to war she would say to him, "Come back with your shield or on it." If a warrior came back without his shield, it meant that he had laid it down in order to break ranks and run from battle. He was supposed to use his shield to protect the man next to him in formation, so to abandon his shield was not only to be a coward but also to break faith with his comrades. To come back on his shield was to be carried back mortally wounded or dead. Thus the adage meant that the young warrior should fight bravely, maintain his martial discipline, and return with his honor intact: "Death before dishonor."

The warriors' mothers who spoke this line were not heartless monsters—far from it. It was spoken from great love. They wanted their children to return with their sense of self-respect still with them, feeling justifiably proud of how they had performed under pressure, not tortured and destroyed by guilt and shame. To come back with their shields was to come back still feeling like warriors, not like cowards or murderers.

Today, as throughout history, the warriors' code is the shield that guards their humanity. Modern warriors must balance the physical risks of combat against the moral risks. And they may face enemies who will try to use their values and their commitment to a code against them. Is it worse to come home on your shield or to come home without it? It is a question you must answer for yourself. But I will leave you with the words of Seneca, a Roman Stoic: "[I will never let concern for my] flesh drive me to fear, never to a role that is unworthy of a good man. . . . I will not allow any wound to penetrate through the body to the real me. My body is that part of me that can be injured; but within this fragile dwelling-place lives a soul that is free."[10]

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Notes

1. Jonathan Shay, *Achilles in Vietnam: Combat Trauma and the Undoing of Character* (New York: Simon and Schuster, 1994), xiii.
2. Shay, *Achilles in Vietnam*, iii.
3. Shay, xx.
4. Shay, 15.
5. J. Glenn Gray, *The Warriors: Reflections on Men in Battle* (New York: Harper and Row, 1970), 152–53.
6. Michael Ignatieff, *Virtual War: Kosovo and Beyond* (New York: Picador USA, Metropolitan Books, Henry Holt and Company, 2000), 214–15.
7. Robert Wright, *The Man Who Won the Battle of Britain: Hugh C.T. Dowding* (New York: Charles Scribner's Sons, 1969).
8. Homer, *Iliad*, trans. Stanley Lombardo (Indianapolis/Cambridge: Hackett Publishing Company Inc., 1997), 24.45–59.
9. *See* Williams Scott Wilson, trans., *Budoshoshinshu: The Warrior's Primer of Daidoji Yuzan* (Santa Clara, CA: O'Hara Publications Inc., 1984).
10. Jo-Ann Shelton, *As the Romans Did: A Source Book in Roman Social History* (New York: Oxford University Press, 1988), 435.

The Erosion of Civilian Control of the Military in the United States Today*

Richard H. Kohn

Officers and cadets of the Air Force Academy, ladies and gentlemen: I feel honored to present the Harmon Memorial Lecture this year. Twenty-five years ago I first visited the Academy to present a paper at your history department's Tenth Military History Symposium, and of course have returned frequently since, with many rich and happy memories. It is particularly meaningful to me to give this lecture during Lt Gen Tad Oelstrom's tenure as superintendent. His exceptional ability and imperturbable temperament first struck me at the Army War College in the fall of 1980 when he corrected me in my own classroom. I had made some remark about "driving" an F-4 out over the Florida Straits during the Cuban Missile Crisis, holding up my hands to simulate piloting as if it were the same as driving a car. After questioning my interpretation of the event, he noted in his laconic but authoritative voice, "and oh, by the way, you 'drive' an F-4 *this* way (gesturing with his fist, as though holding the 'stick' of a fighter plane)"! Two years later I observed his skill as a leader when I visited his squadron and flew in the backseat of his Phantom. Many times after that I have had the pleasure of enjoying his company and observing his extraordinary professional ability in all sorts of situations, official and informal. It is unwise to embarrass one's host. But my duty as a scholar to the truth prompts me to share this judgment: in over 35 years as a military historian, nearly 20 in close association with the Air Force, I have not known a military officer or a commander I respect or trust more than Tad Oelstrom. Our republic is truly blessed to have men of his judgment and character leading our youth and safeguarding our security.

On a more somber note, it is "duty to the truth" that leads to my subject this evening, a troubling subject, an unpleasing one, one that will make us uncomfortable—me by talking about it and you in listening to it, particularly on such a gala occasion. The subject is significant, however, because it is crucial to our national security and to our survival as a republic.

The subject involves the civil-military relationship at the pinnacle of our government, and thus the very nature of our political system. My fear, baldly stated, is that civilian control of the military has weakened in the United States

*Harmon Memorial Lecture #42, 1999. Occasionally, throughout certain periods of the history of this lecture series, authors took the liberty of revising their spoken words by submitting a finalized version of the presentation at a later date. In this case, Professor Kohn submitted a significantly revised and expanded paper around 2003, which explains the references to events after 1999 and the use of sources that were published after that year.

in the last generation and is threatened today. I ask you to listen to my thinking with an open mind so that we can consider the problem together. It needs our attention. Merely bringing this issue to a military audience may introduce a remedy; a frank, open discussion could, by raising the awareness of the American public and alerting the armed forces, set in motion a healing of this tear in our civic and political fabric. My thinking is not the product of some nightmare about a possible *coup d'etat* but rather a concern that the military has grown in influence to the point of being able to impose its own viewpoint or perspective on many policies and decisions. What I have detected is no conspiracy, but repeated efforts on the part of the armed forces to evade or frustrate civilian authority when it promises to produce outcomes the military opposes or dislikes. While I do not foresee any crisis, I am convinced that civilian control has diminished to the point where it could alter the character of American government and undermine national defense. My views result from nearly four decades of reading and reflection about civilian control in this country, half of which includes personal observation from inside the Pentagon during the 1980s and, since then, watching the Clinton and two Bush administrations struggle to balance national security with domestic political realities.

Understanding the problem begins with a review of the state of civil-military relations during the last nine years, a state of affairs that in my judgment has been extraordinarily poor, in many respects as low as in any period of American peacetime history. No president was ever as reviled by the professional military—treated with such disrespect or viewed with such contempt—as Bill Clinton. Conversely, no administration ever treated the military with more fear and deference on the one hand, and indifference and neglect on the other, as the Clinton administration.

The relationship began on a sour note during the 1992 campaign. As a youth, Clinton had avoided the draft, written a letter expressing "loathing" for the military, and demonstrated against the Vietnam War while in Britain on a Rhodes scholarship. Relations turned venomous with the awful controversy over gays in the military, when the administration—in ignorance and arrogance—announced its intention to abolish the ban on open homosexual service immediately, without study or consultation. The Joint Chiefs of Staff responded by resisting, floating rumors of their own and dozens of other resignations, encouraging their retired brethren to arouse congressional and public opposition, and then more or less openly negotiating a compromise with their commander in chief.[1]

The president was publicly insulted by service people (including a two-star general) in person, in print, and in speeches. So ugly was the behavior that commanders had to remind their subordinates of their constitutional and le-

gal obligations not to speak derogatorily of the civilian leadership; the Air Force Chief of Staff felt obliged to remind his senior commanders "about core values, including the principle of a chain of command that runs from the president right down to our newest airman."[2] Nothing like this had ever occurred in American history. This was the most open manifestation of defiance and resistance by the American military since the publication of the Newburgh Addresses over two centuries earlier, at the close of the American war for independence. Then the officers of the Army openly contemplated revolt or resignation *en masse* over the failure of Congress to pay them or to fund the pensions they had been promised during a long and debilitating war. All of this led me, as a student of American civil-military relations, to ask why so loyal, subordinate, and successful a military, as professional as any in the world, suddenly violated one of its most sacred traditions.

While open conflict soon dropped from public sight, bitterness hardened into a visceral hatred that became part of the culture of many parts of the military establishment, kept alive by a continuous stream of incidents and controversies.[3] These included, to cite but a few: the undermining and driving from office of Secretary of Defense Les Aspin in 1993, followed by the humiliating withdrawal of his nominated replacement; controversies over the retirements of at least six four-star flag officers, including the early retirement of an Air Force chief of staff (an unprecedented occurrence); and the tragic suicide of a Chief of Naval Operations (also unprecedented). There were ceaseless arguments over gender, the most continuous source of conflict between the Clinton administration and its national security critics.[4]

The specific episodes ranged from the botched investigations of the 1991 Tailhook scandal to the 1997 uproar over Air Force 1st Lt Kelly Flinn, the first female B-52 line pilot, who (despite admitting to adultery, lying to an investigating officer, and disobeying orders) was allowed to leave the service without court-martial. Other related incidents included the outrages at Aberdeen Proving Ground, where Army sergeants had sex with recruits under their command, and the 1999 retirement of the highest-ranking female Army general in history amid accusations that she had been sexually harassed by a fellow general officer some years previously. In addition, there were bitter arguments over readiness; over budgets; over whether and how to intervene with American forces abroad, from Somalia to Haiti to Bosnia to Kosovo; and over national strategy generally.[5]

So poisonous became the relationship that two Marine officers in 1998 had to be reprimanded for violating Article 88 of the Uniform Code of Military Justice, the provision about contemptuous words against the highest civilian officials. The assistant commandant of the Marine Corps felt constrained to

warn all Marine generals about officers publicly criticizing or disparaging the commander in chief.[6]

The next year, at a military ball at the Plaza Hotel in New York City, a local television news anchor, playing on the evening's theme, "A Return to Integrity," remarked that he "didn't recognize any dearth of integrity here" until he "realized that President Clinton was in town"—and the crowd, "which included twenty generals" and was made up largely of officers, went wild.[7]

During the election of 2000, the chief legal officers of two of the largest commands in the Army and Air Force issued warnings lest resentment over Gore campaign challenges to absentee ballots in Florida boil over into open contempt.[8]

These illustrations emphasize the negatives. In contrast, by all accounts people in uniform respected and worked well with Secretary of Defense William Perry. Certainly Generals John Shalikashvili and Hugh Shelton, successive chairmen of the Joint Chiefs of Staff after 1993, appeared to have been liked and respected by civilians in the Clinton administration. But these men, and other senior officers and officials who bridged the two cultures at the top levels of the William J. Clinton (White House) government, seemed to understand that theirs was a delicate role—to mediate between two hostile relatives who feared and distrusted each other but realized that they had to work together if both were to survive. Now, to discount the Clinton difficulties as atmospherics and thus essentially insignificant would be mistaken, for the toxicity of the civil-military relationship damaged national security in at least three ways: first, by paralyzing national security policy; second, by obstructing and in some cases sabotaging American ability to intervene in foreign crises or to exercise leadership internationally; and third, by undermining the confidence of the armed forces in their own uniformed leadership.

In response to that first, searing controversy over open homosexual service, the administration concluded that this president—with his Democratic affiliation, liberal leanings, history of draft evasion and opposition to the Vietnam War, and admitted marital infidelity and experimentation with marijuana—would never be acceptable to the military.[9]

One knowledgeable insider characterized the White House of those years as reflecting the demography of the post-Vietnam Democratic Party—people who had never served in uniform and who had a "tin ear" for things military. Knowing little or nothing about military affairs or national security and not caring to develop a deep or sympathetic understanding of either, the administration decided that for this president, military matters constituted a "third rail."[10]

No issue with the military was worth exposing this vulnerability; nothing was worth the cost. All controversy with the military was therefore to be

avoided. In fact, the Clintonites from the beginning tried to "give away" the military establishment: first to the congressional Democrats, by making Les Aspin secretary of defense; then, when Aspin was driven from office, to the military itself, by nominating Adm Bobby Inman; then, when he withdrew, to the military-industrial complex (with William Perry as secretary and John Deutsch and John White as deputies), an arrangement that lasted until 1997; and finally to the Republicans, in the person of Senator William Cohen of Maine. From the outset, the focus of the administration in foreign affairs was almost wholly economic in nature, and while that may have been genius, one result of the Clintonites' inattention and inconstancy was the disgust and disrespect of the national security community, particularly those in uniform.[11]

By the time Clinton left office, some officials were admitting that he had been "unwilling to exercise full authority over military commanders."[12]

"Those who monitored Clinton closely during his eight years as president believed . . . that he was intimidated more by the military than by any other political force he dealt with," reported David Halberstam. Said "a former senior N[ational] S[ecurity] C[ouncil] official who studied [Clinton] closely, . . . 'he was out-and-out afraid of them.'"[13]

Forging a reasonable and economical national security policy was crucial to the health and well-being of the country, particularly at a time of epochal transition brought on by the end of the Cold War. But both the first Bush and then Clinton's administration studiously avoided any public discussion of what role the United States should play in the world, unless asserting the existence of a "new world order" or labeling the United States "the indispensable nation" constitutes discussion.[14]

As for the Clinton administration, indifference to military affairs and the decision to take no risks and expend no political capital in that area produced paralysis. Any rethinking of strategy, force structure, roles and missions of the armed services, organization, personnel, weapons, or other choices indispensable for the near and long term was rendered futile. As a result, today, over a decade after the end of the Cold War, there is still no common understanding about the fundamental purposes of the American military establishment or the principles by which the United States will decide whether to use military power in pursuit of the national interest. The Clinton administration held itself hostage to the organization and force structure of the Cold War.[15]

At the beginning of Clinton's first term, Secretary Aspin attempted to modify the basis of American strategy—an ability to fight two "major regional contingencies" (changed later to "major theater wars") almost simultaneously. But Aspin caved in to charges that such a change would embolden America's adversaries and weaken security arrangements with allies in the Middle East and Asia.[16]

The result was a defense budget known to be inadequate for the size and configuration of the military establishment even without the need to fund peacetime intervention contingencies, which constantly threw military accounts into deficit.[17] Budgets became prisoners of readiness. Forces could not be reduced because of the many military commitments around the world, but if readiness to wage high-intensity combat fell or seemed to diminish, Republican critics would rise up in outrage. Thus the uniformed leadership—each service chief, regional or functional commander, sometimes even division, task force, or wing commanders—possessed the political weight to veto any significant change in the nation's fundamental security structure. As a result, the Clinton administration never could match resources with commitments, balance readiness with modernization, or consider organizational changes that would relieve the stresses on personnel and equipment.[18]

All of this occurred when the services were on the brink of, or were actually undergoing, what many believed to be changes in weaponry and tactics so major as to constitute a "revolution in military affairs."[19]

One consequence of the insufficiency of resources in people and money to meet frequent operational commitments and growing maintenance costs was the loss of many of the best officers and noncommissioned officers, just as economic prosperity and other factors were reducing the numbers of men and women willing to sign up for military service in the first place.

The paralysis in military policy in the 1990s provoked the Congress to attempt by legislation at least four different times to force the Pentagon to reevaluate national security policy, strategy, and force structure, with as yet no significant result.[20]

Perhaps the last of these efforts, the US Commission on National Security/21st Century (also called the Hart-Rudman Commission), which undertook a comprehensive review of national security and the military establishment, will have some effect. If so, it will be because the Bush administration possessed the political courage to brave the civil-military friction required to reorganize an essentially Cold War military establishment into a force capable of meeting the security challenges of the twenty-first century.[21]

But the prospects are not encouraging when one considers Secretary of Defense Donald Rumsfeld's secrecy and lack of consultation with the uniformed military and Congress; the forces gathering to resist change; the priority of the Bush tax cut and national missile defense, which threaten to limit severely the money available and to force excruciating choices; and Rumsfeld's fudging of the very concept of "transformation." Even the 11 September 2001 terrorist attacks have not broken the logjam, except perhaps monetarily. The administration has committed itself to slow, incremental change so as not to confront the inherent conservatism of the armed services or imperil the

weapons purchases pushed so powerfully by defense contractors and their congressional champions.[22]

The White House has done so despite its belief that the failure to exert civilian control in the 1990s left a military establishment declining in quality and effectiveness. Second, the Clinton administration—despite far more frequent occasions for foreign armed intervention (which was ironic, considering its aversion to military matters)—was often immobilized over when, where, how, and under what circumstances to use military force in the world. The long, agonizing debates and vacillation over intervention in Africa, Haiti, and the former Yugoslavia reflected in part the weakness of the administration compared to the political power of the uniformed military.[23]

The lack of trust between the two sides distorted decision making to an extreme. Sometimes the military exercised a veto over the use of American force, or at least an ability so to shape the character of American intervention that means determined ends—a roundabout way of exercising a veto. At other times, civilians ignored or even avoided receiving advice from the military. By the 1999 Kosovo air campaign, the consultative relationship had so broken down that the president was virtually divorced from his theater commander, and that commander's communications with the Secretary of Defense and Chairman of the Joint Chiefs were corrupted by misunderstanding and distrust. The result was a campaign misconceived at the outset and badly coordinated not only between civilian and military but between the various levels of command. The consequences could have undone the NATO alliance, and they certainly stiffened Serbian will, exacerbated divisions within NATO councils, increased criticism in the United States, and prolonged the campaign beyond what almost everyone involved had predicted.[24]

Last, the incessant acrimony—the venomous atmosphere in Washington—shook the confidence of the armed forces in their own leadership. Different groups accused the generals and admirals, at one extreme, of caving in to political correctness and, at the other, of being rigid and hidebound with respect to gender integration, war-fighting strategy, and organizational change. The impact on morale contributed to the hemorrhage from the profession of arms of able young and middle-rank officers. The loss of so many fine officers, combined with declines in recruiting (which probably brought, in turn, a diminution in the quality of new officers and enlisted recruits), may weaken the nation's military leadership in the next generation and beyond, posing greater danger to national security than would any policy blunder. Certainly many complex factors have driven people out of uniform and impaired recruiting, but the loss of confidence in the senior uniformed leadership has been cited by many as a reason to leave the service.[25]

Now, to attribute all of these difficulties to the idiosyncrasies of the Clinton administration alone would be a mistake. In fact, the recent friction in civil-military relations and unwillingness to exert civilian control have roots all the way back to World War II. Unquestionably Mr. Clinton and his appointees bungled civil-military relations badly, from the beginning. But other administrations have done so also, and others will in the future. If one measures civilian control not by the superficial standard of who signs the papers and passes the laws but by the relative influence of the uniformed military and civilian policy makers in the two great areas of concern in military affairs—national security policy and the use of force to protect the country and project power abroad—then civilian control has deteriorated significantly in the last generation. In theory, civilians have the authority to issue virtually any order and organize the military in any fashion they choose. But in practice, the relationship is far more complex. Both sides frequently disagree among themselves. Further, the military can evade or circumscribe civilian authority by framing the alternatives or tailoring their advice or predicting nasty consequences; by leaking information or appealing to public opinion (through various indirect channels, like lobbying groups or retired generals and admirals); or by approaching friends in the Congress for support. They can even fail to implement decisions, or carry them out in such a way as to stymie their intent. The reality is that civilian control is not a fact but a process, measured across a spectrum—something *situational*, dependent on the people, issues, and the political and military forces involved. We are not talking about a coup here, or anything else demonstrably illegal; we are talking about who calls the tune in military affairs in the United States today.[26]

Contrast the weakness of the civilian side with the strength of the military, not only in the policy process but in clarity of definition of American purpose, consistency of voice, and willingness to exert influence both in public and behind the scenes. The power of the military within the policy process has been growing steadily since a low point under Secretary of Defense Robert McNamara in the 1960s. Under the 1986 Goldwater-Nichols Defense Reorganization Act, the chairman of the Joint Chiefs of Staff (JCS) has influence that surpasses that of everyone else within the Pentagon except the secretary of defense, and the chairman possesses a more competent, focused, and effective staff than the secretary does, as well as, often, a clearer set of goals, fewer political constraints, and under some circumstances greater credibility with the public.[27]

In the glow of success in the Gulf War, efforts to exorcise Vietnam, the high public esteem now enjoyed by the armed forces, and the disgust Americans have felt for politics in general and for partisanship in particular, the stature of the chairman has grown to a magnitude out of proportion to his legal or

institutional position. The Joint Staff is the most powerful organization in the Department of Defense; frequently, by dint of its speed, agility, knowledge, and expertise, the Joint Staff frames the choices.[28]

The Joint Requirements Oversight Council (the vice chiefs, convening under the vice chairman to prioritize joint programs in terms of need and cost) has gathered influence and authority over the most basic issues of weapons and force structure.[29]

Within the bureaucracy, JCS has a representative in the interagency decision process, giving the uniformed military a voice separate from that of the Department of Defense. Similarly, the armed services maintain their own congressional liaison and public affairs offices, bureaucracies so large that they are impossible to monitor fully. (One officer admitted to me privately that his duty on Capitol Hill was to encourage Congress to restore a billion dollars that the Pentagon's civilian leadership had cut out of his service's budget request.)[30] Moreover, the regional commanders have come to assume such importance in their areas—particularly in the Pacific, the Middle East, and Central Asia—that they have effectively displaced American ambassadors and the State Department as the primary instruments of American foreign policy.[31]

In recent reorganizations, these commanders have so increased in stature and influence within the defense establishment that their testimony can sway Congress and embarrass or impede the administration, especially when the civilians in the executive branch are weak and the Congress is dominated by an aggressively led opposition political party. One knowledgeable commentator put it this way in early 1999: "The dirty little secret of American civil-military relations, by no means unique to this [the Clinton] administration, is that the commander in chief does not command the military establishment; he cajoles it, negotiates with it, and, as necessary, appeases it."[32]

A high Pentagon civilian privately substantiates the interpretation: what "weighs heavily . . . every day" is "the reluctance, indeed refusal, of the political appointees to disagree with the military on any matter, not just operational matters." In fact, so powerful have such institutional forces become, and so intractable the problem of altering the military establishment, that the new Rumsfeld regime in the Pentagon decided to conduct its comprehensive review of national defense in strict secrecy, effectively cutting the regional commanders, the service chiefs, and the Congress out of the process so that resistance could not organize in advance of the intended effort at transformation.[33]

Furthermore, senior military leaders have been able to use their personal leverage for a variety of purposes, sometimes because of civilian indifference, or deference, or ignorance, sometimes because they have felt it necessary to fill voids of policy and decision making. But sometimes the influence is exer-

cised intentionally and purposefully, even aggressively. After 50 years of the Cold War, the "leak," the bureaucratic maneuver, the alliance with partisans in Congress—the *ménage à trois* between the administration, Congress, and the military—have become a way of life, in which services and groups employ their knowledge, contacts, and positions to promote personal or institutional agendas.[34]

In the 1970s, responding to the view widely held among military officers that a reserve call up would have galvanized public support for Vietnam, allowed intensified prosecution of the war, and prevented divorce between the Army and the American people, the Army chief of staff deliberately redesigned divisions to contain "round-out" units of reserve or National Guard troops, making it impossible for the president to commit the Army to battle on a large scale without mobilizing the reserves and Guard.[35] In the 1980s, the chairman of the Joint Chiefs, Adm William J. Crowe, worked "behind the scenes" to encourage Congress to strengthen his own office even though the secretary of defense opposed such a move. During the Iran-Iraq War Crowe pushed for American escort of Kuwaiti tankers in the Persian Gulf, because he believed it important for American foreign policy. He and the chiefs strove to slow the Reagan administration's strategic missile defense program. Crowe even went so far as to create a personal communications channel with his Soviet military counterpart, apparently unknown to his civilian superiors, to avert any possibility of a misunderstanding leading to war. "It was in the nature of the Chairman's job," Crowe remembered, "that I occasionally found myself fighting against Defense Department positions as well as for them."[36]

In the 1990s, press leaks from military sources led directly to the weakening and ultimate dismissal of the Clinton administration's first secretary of defense.[37] In 1994 the Chief of Naval Operations (CNO) openly discussed with senior commanders his plans to manipulate the Navy budget and operations tempo to force his preferred priorities on the Office of the Secretary of Defense and Congress. When a memo recounting the conversation surfaced in the press, no civilian in authority called the CNO to account.[38] The 1995 Commission on the Roles and Missions of the Armed Forces recommended consolidating the staffs of the service chiefs and the service secretaries; no one mentioned the diminution of civilian control that would have taken place as a result.[39]

Even during the 1990s, a period when the administration appeared to be forceful, insisting upon the use of American forces over military objections or resistance, the uniformed leadership often arbitrated events. The 1995 Bosnia intervention was something of a paradigm. American priorities seem to have been, first, deploying in overwhelming strength, in order to suffer few if any casualties; second, establishing a deadline for exit; third, issuing "robust"

rules of engagement, again to forestall casualties; fourth, narrowing the definition of the mission to ensure that it was incontrovertibly "doable"; and fifth—*fifth*—reconstructing Bosnia as a viable independent country.[40]

In recent years senior uniformed leaders have spoken out on issues of policy—undoubtedly often with the encouragement or at least the acquiescence of civilian officials, but not always so. Sometimes these pronouncements endeavor to sell policies and decisions to the public or within the government before a presidential decision, even though such advocacy politicizes the chairman, a chief, or a regional commander and inflates their influence in discussions of policy. A four-star general, a scant 10 days after retiring, publishes a long article in our most respected foreign affairs journal, preceded by a *New York Times* op-ed piece. In them, he criticizes the administration's most sensitive (and vulnerable) policy—and virtually no one in the press or elsewhere questions whether his action was professionally appropriate.[41] The chairman of the Joint Chiefs of Staff gives "an impassioned interview" to the *New York Times* "on the folly of intervention" in Bosnia as "the first Bush administration" is pondering "the question of whether to intervene."[42] Another chairman coins the "Dover Principle," cautioning the civilian leadership about the human and political costs of casualties when American forces are sent into some crisis or conflict (and service members' bodies return through the joint mortuary at Dover Air Force Base). This lecture clearly aimed to establish boundaries in the public's mind and to constrain civilian freedom of action in intervening overseas. Certainly Generals Shalikashvili and Shelton have been fairly circumspect about speaking out on issues of policy, and the current chairman, Air Force Gen Richard B. Myers, even more. However, their predecessor, Colin Powell, possessed and used extraordinary power throughout his tenure as chairman of the JCS. He conceived and then sold to a skeptical secretary of defense and a divided Congress the "Base Force" reorganization and reduction in 1990–91. He shaped the US prosecution of the Gulf War to ensure limited objectives, the use of overwhelming force, a speedy end to combat, and the immediate exit of American forces. He spoke frequently on matters of policy during and after the election of 1992—an op-ed in the *New York Times* and a more comprehensive statement of foreign policy in the quarterly *Foreign Affairs*. Powell essentially vetoed intervention in Somalia and Bosnia, ignored or circumvented the chiefs on a regular basis, and managed the advisory process so as to present only single alternatives to civilian policy makers. All of this antedated his forcing President Clinton in 1993 to back down on allowing homosexuals to serve openly.[43] In fact, General Powell became so powerful and so adept in the bureaucratic manipulations that often decide crucial questions before the final decision maker affixes a signature that in 2001 the Bush administration installed an experienced, pow-

erful, highly respected figure at the Defense Department specifically lest Powell control the entire foreign and national security apparatus in the new administration.[44]

All of these are examples—and only public manifestations—of a policy and decision-making process that has tilted far more toward the military than ever before in American history in peacetime. Now an essential question arises: do these developments differ from previous practice or experience in American history? At first glance, the answer might seem to be no. Military and civilian have often differed, and the military has for many years acted on occasion beyond what might be thought proper in a republican system of government, a system that defines civilian control, or military subordination to civil authority, as obligatory.

Historical examples abound. Leading generals and chiefs of staff of the Army from James Wilkinson in the 1790s through Maxwell Taylor in the 1950s have fought with presidents and secretaries of war or defense in the open and in private over all sorts of issues—including key military policies in times of crisis. Officers openly disparaged Abraham Lincoln during the Civil War; that president's problems with his generals became legendary.[45]

Two commanding generals of the Army were so antagonistic toward the War Department that they moved their headquarters out of Washington: Winfield Scott to New York in the 1850s, and William Tecumseh Sherman to St. Louis in the 1870s.[46] In the 1880s, reform minded naval officers connived to modernize the Navy from wood and sail to steel and steam. To do so they drew the civilian leadership into the process, forged an alliance with the steel industry, and (for the first time in American history, and in coordination with political and economic elites) sold naval reform and a peacetime buildup of standing forces to the public through publications, presentations, displays, reviews, and other precursors of the promotional public relations that would be used so frequently—and effectively—in the twentieth century.[47]

In the 1920s and 1930s, the youthful Army Air Corps became so adept at public relations and at generating controversy over airpower that three different presidential administrations were forced to appoint high-level boards of outsiders to study how the Army could (or could not) properly incorporate aviation.[48] Both Presidents Roosevelt complained bitterly about the resistance of the armed services to change. "You should go through the experience of trying to get any changes in the thinking . . . and action of the career diplomats and then you'd know what a real problem was," FDR complained in 1940. "But the Treasury and the State Department put together are nothing as compared with the Na-a-vy. . . . To change anything in the Na-a-vy is like punching a feather bed. You punch it with your right and you punch it with

your left until you are finally exhausted, and then you find the damn bed just as it was before you started punching."[49]

The interservice battles of the 1940s and 1950s were so fierce that neither Congress nor the president could contain them. Internecine warfare blocked President Harry Truman's effort to unify the armed forces in the 1940s ("unification" finally produced only loose confederation) and angered President Dwight D. Eisenhower through the 1950s. Neither administration fully controlled strategy, force structure, or weapons procurement; both had to fight service parochialism and interests; and both ruled largely by imposing top-line budget limits and forcing the services to struggle over a limited funding "pie." Eisenhower replaced or threatened to fire several of his chiefs. Only through Byzantine maneuvers, managerial wizardry, and draconian measures did Robert McNamara bring a modicum of coherence and integration to the overall administration of the Defense Department in the 1960s. The price, however, was a ruthless, relentless bureaucratic struggle that not only contributed to the disaster of Vietnam but left a legacy of suspicion and deceit that infects American civil-military relations to this day.[50] (Even today, embittered officers identify their nemesis by his full name—Robert Strange McNamara—to express their loathing.) The point of this history is that civil-military relations *are* messy and frequently antagonistic; military people *do* on occasion defy civilians; civilian control *is* situational.[51]

But the present differs from the past in four crucial ways:

First, the military has now largely *united* to shape, oppose, evade, or thwart civilian choices, whereas in the past the armed services were usually divided internally or among themselves. Indeed, most civil-military conflict during the Cold War arose from rivalry between the services, and over roles, missions, budgets, or new weapons systems—not whether and how to use American armed forces or general military policy.

Second, many of the *issues* in play today reach far beyond the narrowly military, not only to the wider realm of national security but often to foreign relations more broadly. In certain cases military affairs even affect the character and values of American society itself.

Third, the role of military leaders has drifted over the last generation from that primarily of advisers and advocates within the private confines of the executive branch to a much more *public* function. As we have noted, they champion not just their services but policies and decisions in and beyond the military realm, and sometimes they mobilize public or congressional opinion either directly or indirectly (whether in Congress or the executive branch) prior to decision by civilian officials. To give but three examples: senior officers spoke out publicly on whether the United States should sign a treaty banning the use of land mines; on whether American forces should be put into

the Balkans to stop ethnic cleansing; and on whether the nation should support the establishment of the International Criminal Court. Again, such actions are not unprecedented, but they have occurred recently with increasing frequency, and collectively they represent a significant encroachment on civilian control of the military.[52]

Fourth, senior officers now lead a *permanent* peacetime military establishment that differs fundamentally from any of its predecessors. Unlike the large citizen forces raised in wartime and during the Cold War, today's armed services are professional and increasingly disconnected, even in some ways estranged, from civilian society. Yet in comparison to previous peacetime professional forces, which were also isolated from civilian culture, today's are far larger, far more involved worldwide, far more capable, and often indispensable (even on a daily basis) to American foreign policy and world politics. Five decades of warfare and struggle against communism, moreover, have created something entirely new in American history—a separate military community, led by the regular forces but including also the National Guard and reserves, veterans' organizations, and the communities, labor sectors, industries, and pressure groups active in military affairs. More diverse than the "military-industrial complex" of President Eisenhower's farewell address 40 years ago, this "military" has become a recognizable interest group. Also, it is larger, more bureaucratically active, more political, more partisan, more purposeful, and more influential than anything similar in American history.[53]

One might argue that this is all temporary, the unique residue of 60 years of world and cold war, and that it will dissipate and balance will return now that the Clinton administration is history. Perhaps—but civil-military conflict is not very likely to diminish. In "Rumsfeld's Rules," Donald Rumsfeld states that his primary function is "to exercise civilian control over the Department for the Commander-in-Chief and the country." He understands that he possesses "the right to get into anything and exercise it [i.e., civilian control]." He recognizes as a rule, "When cutting staff at the Pentagon, don't eliminate the thin layer that assures civilian control."[54]

Nonetheless, his effort to recast the military establishment for the post–Cold War era—as promised during the 2000 presidential campaign—provoked such immediate and powerful resistance (and not just by the armed forces) that he abandoned any plans to force reorganization or cut "legacy" weapons systems.[55] In the Afghanistan campaign, Rumsfeld and other civilian leaders have reportedly been frustrated by an apparent lack of imagination on the part of the military; in return, at least one four-star has accused Rumsfeld of "micromanagement."[56] There is also other evidence of conflict to come; traditional conceptions of military professionalism—particularly the ethical and professional norms of the officer corps—have been evolving away from concepts

Secretary of Defense Donald H. Rumsfeld (left) and Commander, Central Command Gen Tommy Franks, US Army, listen to a question at the close of a Pentagon press conference on 5 March 2003. Rumsfeld and Franks gave reporters an operational update and fielded questions on the possible conflict in Iraq. DOD photo by Helene C. Stikkel.

and behaviors that facilitate civil-military cooperation. If the manifestations of diminished civilian control were simply a sine curve—that is, a low period in a recurring pattern—or the coincidence of a strong Joint Chiefs and a weak president during a critical transitional period in American history and national defense (the end of the Cold War), there would be little cause for concern. Civilian control, as we have seen, is situational and indeed to a degree cyclical. But the present decline extends back before the Clinton administration. There are indications that the current trend began before the Vietnam War and has since been aggravated by a weakening of the nation's social, political, and institutional structures that had, over the course of American history, assured civilian control. For more than two centuries, civilian control has rested on four foundations that individually and in combination not only prevented any direct military threat to civilian government but kept military influence, even in wartime, largely contained within the boundaries of professional expertise and concerns. First has been the rule of law, and with it reverence for a constitution that provided explicitly for civilian control of the military. Any violation of the Constitution or its process has been sure to bring retribution from one or all three of the branches of government, with public support. Second, Americans once kept their regular forces small. The

United States relied in peacetime on ocean boundaries to provide sufficient warning of attack and depended on a policy of mobilization to repel invasion or to wage war. Thus the regular military could never endanger civilian government—in peacetime because of its size, and in wartime because the ranks were filled with citizens unlikely to cooperate or acquiesce in anything illegal or unconstitutional. The very reliance on citizen soldiers—militia, volunteers, and conscripts pressed temporarily into service to meet an emergency—was a third safeguard of civilian control. Finally, the armed forces themselves internalized military subordination to civil authority. They accepted it willingly as an axiom of American government and the foundation of military professionalism. "You must remember that when we enter the army we do so with the full knowledge that our first duty is toward the government, entirely regardless of our own views under any given circumstances," Maj Gen John J. Pershing instructed 1st Lt George S. Patton, Jr., in 1916. "We are at liberty to express our personal views only when called upon to do so or else confidentially to our friends, but always confidentially and with the complete understanding that they are in no sense to govern our actions."[57] As Omar Bradley, the first chairman of the Joint Chiefs of Staff, put it, "Thirty-two years in the peacetime army had taught me to do my job, hold my tongue, and keep my name out of the papers."[58]

Much has changed. More than 60 years of hot and cold war, a large military establishment, world responsibilities, a searing failure in Vietnam, and changes in American society, among other factors, have weakened these four foundations upon which civilian control has rested in the United States. The first, and most troubling, development is the skepticism, even cynicism, now expressed about government, lawyers, and justice, part of a broad and generation-long diminution of respect for people and institutions that has eroded American civic culture and faith in law. Polling data show that Americans today have the most confidence in their least democratic institutions: the military, small business, the police, and the Supreme Court. Americans express the least confidence in the most democratic: Congress.[59] So dangerous is this trend that Harvard's Kennedy School of Government established a "Visions of Governance for the Twenty-first Century" project to explore the phenomenon, study its implications, and attempt to counteract some of its more deleterious effects.[60] Americans cannot continue to vilify government, the US government in particular, and expect patriotism to prosper or even survive as a fundamental civic value. Second, the media, traditionally the herald of liberty in this society, has become less substantial, more superficial, less knowledgeable, more focused on profit, less professional, and more trivial. About the only liberty the media seems to champion vocally is the freedom of the press. Issues of civilian control seem to escape the press; time after time,

events or issues that in past years would have been framed or interpreted as touching upon civilian control now go unnoticed and unreported, at least in those terms.[61]

Third, the nation's core civic culture has deteriorated. Such basic social institutions as marriage and the family, and such indicators of society's health as crime rates and out-of-wedlock births, while stabilizing or improving in the 1990s, clearly have weakened over time. Our communities, neighborhoods, civic organizations, fraternal groups, and social gatherings have diminished in favor of individual entertainment; people are staying at home with cable television, the videocassette recorder, and the internet, thereby avoiding crime, crowds, traffic, and the crumbling physical and social infrastructure of our society. American society has become more splintered and people more isolated into small groups, "clustered" geographically and demographically around similar values, culture, and lifestyles. With this deterioration of civic cohesion—gated communities being perhaps emblematic—has come a weakening of shared values: less truthfulness, less generosity, less sacrifice, less social consciousness, less faith, less common agreement on ethical behavior, and more advocacy, acrimony, individualism, relativism, materialism, cynicism, and self-gratification. The 11 September attacks and the war on terrorism are unlikely to reverse these trends as long as the national leadership exhorts the American people to go back to "normal."[62]

Civilian control is one common understanding that seems to have faded in American civic consciousness. The American people—whose study and understanding of civics and government generally have declined—have lost their traditional skepticism about the professional military that made civilian control a core political assumption, one that was widely understood and periodically voiced. Simply put, the public no longer thinks about civilian control—does not understand it, does not discuss it, and does not grasp how it can and should operate.[63] An occasional popular movie like *The Siege* and *Thirteen Days* raises the issue, but most recent films caricature the military or, like *GI Jane* and *Rules of Engagement*, lionize an honest, brave, faithful military and demonize lying, avaricious politicians.[64]

Fourth, in the last generation the United States has abandoned the first principle of civilian control, the bedrock practice extending back into premodern England—reliance on the citizen soldier for national defense.[65] National security policy no longer seriously envisions mobilizing industry and the population for large-scale war. Americans in uniform, whether they serve for one hitch or an entire career, are taught to (and do) view themselves as professionals. In the National Guard and reserves, whose members are thought to be the apotheosis of citizen-soldiers, some hold civilian government jobs in their units or elsewhere in the government national security

community, and others serve on active duty considerably more than the traditional one weekend a month and two weeks a year.[66] Furthermore, while Guardsmen and reservists both voice and believe the traditional rhetoric about citizen-soldiering, the views of their up-and-coming officers mirror almost exactly those of their regular counterparts.[67] Reserve forces are spending more and more time on active duty, not simply for temporary duty for the present crisis of homeland defense. Increasingly, the National Guard and reserves are being used interchangeably with the regulars, even in overseas deployments on constabulary missions, something wholly unprecedented.[68] Even if they call themselves citizen-soldiers, the fundamental distinction between citizens and soldiers has so blurred that in 1998, at two of the most respected US institutions of professional military education, Marine majors who had spent their adult lives in uniform and National Guard adjutant generals who had done the same could both insist that they were "citizen-soldiers."[69] Americans have lost the high regard they once possessed for temporary military service as an obligation of citizenship, along with their former understanding of its underlying contribution to civic cohesion and civilian control of the military.[70] Today, fewer Americans serve or know people who do, and the numbers will decline as smaller percentages of the population serve in uniform.[71] Their sense of ownership of or interest in the military, and their understanding of the distinctiveness of military culture—its ethos and needs—have declined. In recent years the number of veterans serving in the US Congress has fallen 50 percent, and the remaining veterans constitute a smaller percentage of the members of Congress than veterans do of the population as a whole, reversing (in 1995) a pattern that had endured since the turn of the century.[72] The effect is dramatic; less than ten years ago, 62 percent of the Senate and 41 percent of the House were veterans. Today in the 107th Congress, the figure for the Senate is 38 percent, and for the House, 29 percent.[73]

Finally, at the same time that civilian control has weakened in the awareness of the public, so too has the principle declined in the consciousness and professional understanding of the American armed forces. Historically, one of the chief bulwarks of civilian control has been the American military establishment itself. Its small size in peacetime, the professionalism of the officers, their political neutrality, their willing subordination, and their acceptance of a set of unwritten but largely understood rules of behavior in the civil-military relationship—all had made civilian control succeed, messy as it sometimes was and situational as it must always be. In the last half-century, however, while everyone in the armed forces has continued to support the concept, the ethos and *mentalité* of the officer corps have changed in ways that damage civil-military cooperation and undermine civilian control.

Reversing a century and a half of practice, the American officer corps has become partisan in political affiliation and overwhelmingly Republican. Beginning with President Richard Nixon's politics of polarization—the "southern strategy" and reaching out to the "hard-hats"—Republicans embraced traditional patriotism and strong national defense as central parts of their national agenda. During the late 1970s—years of lean defense budgets and the "hollow force"—and in the 1980s, when Ronald Reagan made rebuilding the armed forces and taking the offensive in the Cold War centerpieces of his presidency, Republicans reached out to the military as a core constituency. They succeeded in part because, in the wake of Vietnam, the Democratic Party virtually abandoned the military, offering antimilitary rhetoric and espousing reduced defense spending. During the same period, voting in elections began to become a habit in the officer corps. In the 1950s, the Federal Voting Assistance Program came into existence in order to help enlisted men, most of whom were draftees or draft-induced volunteers, to vote. In every unit an officer was designated to connect the program to the men, and undoubtedly the task began to break down slowly what had been something of a taboo against officers exercising their franchise. How (the logic must have been) could officers encourage their soldiers to vote if they themselves abstained?[74]

Today the vast majority of officers not only vote but identify with a political philosophy and party. Comparison of a sample by the Triangle Institute of Security Studies of active-duty officers (see endnote 25) with earlier data shows a shift from over 54 percent independent, "no preference," or "other" in a 1976 survey to 28 percent in 1998–99, and from 33 percent to 64 percent Republican today.[75] In the presidential election of 2000, Republicans targeted military voters by organizing endorsements from retired flag officers, advertising in military publications, using Gulf War heroes Colin Powell and H. Norman Schwarzkopf on the campaign trail, urging service members to register and vote, and focusing special effort on absentee military voters—a group that proved critical, perhaps the margin of victory, in Florida, where thousands of armed forces personnel maintain their legal residency.[76]

Before the present generation, American military officers (since before the Civil War) had abstained as a group from party politics, studiously avoiding any partisanship of word or deed, activity, or affiliation. By George C. Marshall's time, the practice was not even to vote.[77] A handful of the most senior officers pursued political ambitions, usually trying to parlay wartime success into the presidency. A very few even ran for office while on active duty. But these were exceptions. The belief was that the military, as the neutral servant of the state, stood above the dirty business of politics. Professional norms dictated faith and loyalty not just in deed but in spirit to whoever held the

reins of power under the constitutional system. For Marshall's generation, partisan affiliation and voting conflicted with military professionalism.[78]

Marshall and his fellow officers must have sensed that the habit of voting leads to partisan thinking, inclining officers to become invested in particular policy choices or decisions that relate directly to their professional responsibilities.[79] Officers at every level have to bring difficult and sometimes unpopular duties to their troops and motivate the latter to carry them out. Likewise, senior officers must represent the needs and perspectives of the troops to political leaders even when they are unsolicited or unwanted. How effective can that advice be if the civilians know the officers are opposed to a policy in question? What are the effects on morale when the troops know their officers dislike, disrespect, or disagree with the politicians, or think a mission is unwise, ill conceived, or unnecessary? The consequences of partisanship can also be more subtle and indirect but equally far-reaching, even to the point of contempt for civilian policy and politicians or of unprofessional, disruptive behavior, as in 1993. The belief is current today among officers that the core of the Democratic Party is "hostile to military culture" and engaged in a "culture war" against the armed forces, mostly because of pressure for further gender integration and open homosexual service.[80] During the 2000 election campaign, when Al Gore stumbled briefly by supporting a "litmus test" on gays in the military for selecting members of the Joint Chiefs, he confirmed for many in uniform the idea that Democrats do not understand the military profession or care about its effectiveness. His campaign's effort to minimize the effect of absentee votes in Florida and elsewhere through technical challenges outraged the armed forces, raising worries that a Gore victory might spark an exodus from the ranks or that a Gore administration would have relations with the military even more troubled than Clinton's.[81]

Partisan politicization loosens the connection of the military to the American people. If the public begins to perceive the military as an interest group driven by its own needs and agenda, support—and trust—will diminish. Already there are hints. When a random survey asked a thousand Americans in the fall of 1998 how often military leaders would try to avoid carrying out orders they opposed, over two-thirds answered at least "some of the time."[82] Partisanship also poisons the relationship between the president and the uniformed leadership. When a group of retired flag officers, including former regional commanders and members of the Joint Chiefs, endorsed presidential candidates in 1992 and again in 2000, they broadcast their politicization to the public and further legitimated partisanship in the ranks—for everyone knows that four-stars never really retire. Like princes of the church, they represent the culture and the profession just as authoritatively as their counterparts on active duty. If senior retired officers make a practice of endorsing

presidential contenders, will the politicians trust the generals and admirals on active duty, in particular those who serve at the top, to have the loyalty and discretion not to retire and use their inside knowledge to try to overturn policies or elect opponents? Will not presidents begin to vet candidates for the top jobs for their pliability or (equally deleteriously) their party or political views, rather than for excellence, achievement, character, and candor? Over time, the result will be weak military advice, declining military effectiveness, and accelerating politicization.

The investment of officers in one policy or another will lead civilians to question whether military recommendations are the best professional advice of the nation's military experts. Perhaps one reason Bill Clinton and his people dealt with the military at arm's length was that he and they knew that officers were the most solidly Republican group in the government.[83] One need only read Richard Holbrooke's memoir about negotiating the Dayton accords in 1995 to plumb the depth of suspicion between military and civilian at the highest levels. Convinced that the military opposed the limited bombing campaign against the Bosnian Serbs, Holbrooke and Secretary of State Warren Christopher believed that the vice chairman of the Joint Chiefs was lying to them when he asserted that the Air Force was running out of targets.[84] Certainly officers have the right to vote and to participate privately in the nation's political life. No one questions the legal entitlement of retired officers to run for office or endorse candidates. But these officers must recognize the corrosive effects on military professionalism and the threat to the military establishment's relationship with Congress, the executive branch, and the American people that such partisan behavior has. Possessing a right and exercising it are two very different things. A second example of changing military professionalism has been the widespread attitude among officers that civilian society has become corrupt, even degenerate, while the military has remained a repository for virtue, perhaps its one remaining bastion, in an increasingly unraveling social fabric, of the traditional values that make the country strong. Historically, officers have often decried the selfishness, commercialism, and disorder that seems to characterize much of American society.[85] But that opinion today has taken on a harder, more critical, more moralistic edge; it is less leavened by that sense of acceptance that enabled officers in the past to tolerate the clash between their values and those of a democratic, individualistic civilian culture and to reconcile the conflict with their own continued service. Nearly 90 percent of the elite military officers (regular and reserves) surveyed in 1998–99 by the Triangle Institute for Security Studies agreed that "the decline of traditional values is contributing to the breakdown of our society." Some 70 percent thought that "through leading by example, the military could help American society become more moral," and 75

percent believed that "civilian society would be better off if it adopted more of the military's values and customs."[86] Is it healthy for civilian control when the members of the American armed forces believe that they are morally, organizationally, institutionally, and personally superior to the rest of society—and are contemptuous of that society? Do we wish civic society in a democratic country to adopt military norms, values, outlooks, and behaviors? In my judgment that is an utter misreading of the role and function of our armed forces. Their purpose is to defend society, not to define it. The latter is militarism, in the classic definition—the same thinking that in part inclined the French and German armies to intervene in the politics of their nations in the twentieth century.

A third, and most disturbing, change in military sentiment is the belief that officers should confront and resist civilians whose policies or decisions they believe threaten to weaken national defense or lead the country into disaster. Many hold that officers should speak out publicly, or work behind the scenes, to stop or modify a policy, or resign in protest. Some senior leaders have been willing to speak publicly on issues of national security, foreign relations, and military policy before it is formulated, and afterward as spokespersons for what are often highly controversial and partisan initiatives or programs. In 1998 and 1999, the respected retired Army colonel and political scientist Sam Sarkesian and the much-decorated Marine veteran, novelist, and former secretary of the Navy James Webb called publicly for military leaders to participate in national security policy debates, not merely as advisers to the civilian leadership but as public advocates, an idea that seems to resonate with many in the armed forces today.[87] "Military subservience to political control applies to existing policy, not to policy debates," admonished Webb—as if officers can subscribe to policy and debate it honestly at the same time.[88] Such behavior politicizes military issues and professional officers directly, for rare is the military issue that remains insulated from politics and broader national life. This willingness—indeed, in some cases eagerness—to strive to shape public opinion and thereby affect decisions and policy outcomes is a dangerous development for the US military and is extraordinarily corrosive of civilian control. Is it proper for military officers to leak information to the press "to discredit specific policies—procurement decisions, prioritization plans, operations that the leaker opposes," as Admiral Crowe in his memoirs admits happens "sometimes," even "copiously"?[89] Is it proper for the four services, the regional commanders, or the Joint Chiefs every year to advocate to the public directly their needs for ships, airplanes, divisions, troops, and other resources, or their views on what percentage of the nation's economy should go to defense as opposed to other priorities?[90] This advocacy reached such a cacophony in the fall of 2000 that the secretary of defense warned the military leadership not

"to beat the drum with a tin cup" for their budgets during the presidential campaign and the transition to a new administration.[91]

Do we wish the military leadership to argue the merits of intervention in the Balkans or elsewhere, of whether to sign treaties on land-mine use or war crimes, in order to mobilize public opinion one way or the other, before the president decides? Imagine that we are back in 1941. Should the Army and the Navy pronounce publicly on the merits or demerits of Lend-Lease, or convoy escort, or the occupation of Iceland, or the Europe-first strategy? Or imagine it is 1861—should the nation's military leaders publicly discuss whether to reinforce Fort Sumter? Would it be advisable for senior officers to proclaim openly their varied opinions of whether the South's secession ought to (or can) be opposed by plunging the country into civil war? Should senior military officers question the president's strategy in the midst of a military operation, as was done in 1999 through media leaks in the first week of the bombing campaign over Kosovo?[92]

In such instances, what happens to the president's, and Congress's, authority and credibility with the public, and to their ability to lead the nation? How does such advocacy affect the trust and confidence between the president, his cabinet officers, and the most senior generals and admirals, trust and confidence that is so necessary for effective national defense?[93]

The way in which military officers have interpreted a study of the role of the Joint Chiefs of Staff in the decision on intervention and in the formulation of strategy for Southeast Asia in 1963–65 exemplifies the erosion of professional norms and values. H. R. McMaster's *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff and the Lies That Led to Vietnam* is by all accounts the history book most widely read and discussed in the military in the last several years.[94] Officers believe that McMaster validates long-standing military convictions about Vietnam—that the Joint Chiefs, lacking a proper understanding of their role and not having the courage to oppose the Johnson administration's strategy of gradualism that they knew would fail, should have voiced their opposition, publicly if necessary, and resigned rather than carry out that strategy. Had they done so, goes this credo, they would have saved the country a tragic, costly, humiliating, and above all unnecessary, defeat.[95] McMaster's book neither says nor implies that the chiefs should have obstructed US policy in Vietnam in any other way than by presenting their views frankly and forcefully to their civilian superiors and speaking honestly to the Congress when asked for their views. It neither states nor suggests that the chiefs should have opposed President Lyndon Johnson's orders and policies by leaks, public statements, or by resignations, unless an officer personally and professionally could not stand, morally and ethically, to carry out the chosen policy. There is in fact no tradition of resignation in the

American military. In 1783, at Newburgh, New York, as the war for independence was ending, the American officer corps rejected individual or mass resignation—which can be indistinguishable from mutiny. George Washington persuaded them not to march on Congress or refuse orders in response to congressional unwillingness to pay them or guarantee their hard-earned pensions. The precedent has survived for more than two centuries. No American army ever again considered open insubordination. Proper professional behavior cannot include simply walking away from a policy, an operation, or a war an officer believes is wrong or will fail. That is what the Left advocated during the Vietnam War, and the American military rightly rejected it. Imagine the consequences if the Union army had decided in late 1862 that it had signed on to save the Union but not to free the slaves and had resigned en masse because of disagreement (which was extensive) with the Emancipation Proclamation. More recently, Air Force Chief of Staff Ronald Fogleman did not resign in protest in 1997, as many officers wish to believe; he requested early retirement and left in such a manner—quietly, without a full explanation—precisely so as *not* to confront his civilian superior over a decision with which he deeply disagreed.[96] All McMaster says (and believes), and all that is proper in the American system, is that military officers should advise honestly and forthrightly, or advocate in a confidential capacity, a course of action. Whether their advice is heeded or not, if the policy or decision is legal, they are to carry it out. Resignation in protest directly assails civilian control. Issuing a public explanation for resignation, however diplomatically couched, amounts to marshaling all of an officer's military knowledge, expertise, and experience—as well as the profession's standing with the public and reputation for disinterested patriotism—to undercut some undertaking or concept that the officer opposes. The fact that officers today either ignore or are oblivious to this basic aspect of their professional ethics and would countenance, even admire, such truculent behavior illustrates both a fundamental misunderstanding of civilian control and its weakening as a primary professional value.[97]

Our military leaders have already traveled far in the direction of self-interested bureaucratic behavior in the last half-century, to become advocates for policy outcomes as opposed to advisers—presenting not only the military perspective on a problem, or the needs of the military establishment and national defense, or the interests of their services or branches, but their own views of foreign and military policy—even, as we have seen, pressing these efforts outside the normal advisory channels. Some of this is unthinking, some the product of civilian abrogation of responsibility, and some is the unintended consequence of the Goldwater-Nichols Act, which so strengthened the chairman and the regional commanders. But let us be clear: some is quite

conscious. In his memoirs, Colin Powell, the most celebrated soldier of the era, wrote that he learned as a White House Fellow, from his most important mentor, that in the government "you never know what you can get away with until you try."[98] Is that a proper standard of professional behavior for a uniformed officer? He also declared that his generation of officers "vowed that when our turn came to call the shots, we would not quietly acquiesce in half-hearted warfare for half-baked reasons that the American people could not understand or support."[99] Is that a proper view of military subordination to civilian authority? Unfortunately, General Powell's views mirror attitudes that have become widespread over the last generation. The survey of officer and civilian attitudes and opinions undertaken by the Triangle Institute in 1998–99 discovered that many officers believe that they have the duty to force their own views on civilian decision makers when the United States is contemplating committing American forces abroad. When "asked whether . . . military leaders should be neutral, advise, advocate, or insist on having their way in . . . the decision process" to use military force, 50 percent or more of the up-and-coming active-duty officers answered "insist," on the following issues: "setting rules of engagement, ensuring that clear political and military goals exist . . ., developing an 'exit strategy,' " and "deciding what kinds of military units . . . will be used to accomplish all tasks."[100] In the context of the questionnaire, "insist" definitely implied that officers should try to compel acceptance of the military's recommendations. In 2000, a three-star general casually referred to a uniformed culture in the Pentagon that labels the Office of the Secretary of Defense as "the enemy"—because it exercises civilian control.[101] In 1999, staff officers of the National Security Council deliberately attempted to promulgate a new version of the national security strategy quickly enough to prevent the president from enunciating his own principles first.[102] In 1997 the chairman of the Joint Chiefs urged the chiefs to block Congress's effort to reform the military establishment through the Quadrennial Defense Review.[103] In the early 1990s, senior officers presented alternatives for the use of American forces abroad specifically designed to discourage the civilian leadership from intervening in the first place.[104] Twice in the past five years, members of the Joint Chiefs have threatened to resign as a means of blocking a policy or decision.[105]

Thus, in the last generation, the American military has slipped from conceiving of its primary role as advice to civilians followed by execution of their orders, to trying—as something proper, even essential in some situations—to impose its viewpoint on policies or decisions. In other words, American officers have, over the course of the Cold War and in reaction to certain aspects of it, forgotten or abandoned their historical stewardship of civilian control, their awareness of the requirement to maintain it, and their understanding of

the proper boundaries and behaviors that made it work properly and effectively. That so many voices applaud this behavior or sanction it by their silence suggests that a new definition of military professionalism may be forming, at least in civil-military relations. If so, the consequences are not likely to benefit national security; they could alter the character of American government itself.

Now I am sure that to many of you these concerns seem overblown. Certainly, there is no crisis. The American military conceives of itself as loyal and patriotic; it universally expresses support for civilian control as a fundamental principle of government and of military professionalism. Yet at the same time, the evidence is overwhelming that civil-military relationships have deteriorated in the US government. The underlying structures of civilian society and the military profession that traditionally supported the system of civilian control have weakened. Over the course of the last generation, much influence and actual power has migrated to the military, which has either been allowed to define, or has itself claimed, an expanded role in foreign policy and national security decision making.[106] The reasons are complex—partly circumstance, partly civilian inattention or politically motivated timidity. But a further reason is that military leaders have either forgotten or chosen to ignore the basic behaviors by which civil-military relations support military effectiveness and civilian control at the same time.

Whatever the causes, the consequences are dangerous. Increased military influence, combined with the American people's ignorance of or indifference to civilian control and the misreading of the bounds of professional behavior on the part of senior military officers, could in the future produce a civil-military clash that damages American government or compromises the nation's defense.

That civilians in the executive and legislative branches of government over the last generation bear ultimate responsibility for these developments is beyond doubt. Some on both sides seem to sense it. Secretaries of Defense came into office in 1989, 1993, and 2001 concerned about military subordination and determined to exert their authority. Civilian officials have the obligation to make the system work, not to abdicate for any reason. But to rely on the politicians to restore the proper balance is to ignore the conditions and processes that can frustrate civilian control. The historical record is not encouraging. Over two centuries, the officials elected and appointed to rule the military have varied enormously in knowledge, experience, understanding, and motivation. Their propensity to exercise civilian control and to provide sound, forceful leadership has been variable, largely situational, and unpredictable.[107]

Nor can the changes in American society and political understanding that have weakened civilian control be easily reversed. National defense will cap-

ture at best superficial public attention even during a war on terrorism, unless military operations are ongoing or the government asks for special sacrifice. And in wartime, Americans want to rely more on military advice and authority, not less. Fewer and fewer Americans will experience uniformed service, and without a conscious effort by our media to avoid caricaturing military culture and by our colleges and universities to expand military history and security studies, a rising generation of civilian leaders will lack not only the experience but also the comprehension of military affairs needed to make civilian control work effectively.

A better way to alter the equation is for officers to recall the attitudes and rejuvenate the behaviors that civilian control requires. Certainly every officer supports the concept. Every officer swears at commissioning "to support and defend the Constitution of the United States" and "bear true faith and allegiance" to the same.[108] Because civilian control pervades the Constitution, the oath is a personal promise to preserve, protect, defend, and support civilian control, in actual practice as well as in theory. The requirement for such an oath was written into the Constitution for precisely that purpose.[109] The oath is not to maximize one service's budget, or try to achieve a certain policy outcome, or to try to reshape civilian life toward a military vision of the good society.

Examine your own personal views of civilians, particularly of your clients: the American people, their elected officials, and those appointed to exercise responsibility in national security affairs. I must admit that for the 10-plus years I worked in the Department of Defense, I measured every senior officer and official I worked with and for, and occasionally I experienced feelings of dislike, distrust, and even contempt. Now a certain amount of caution, skepticism, and perhaps distrust is healthy. But contempt? I was wrong. Contempt for clients destroys the professional relationship. Lawyers cannot provide sound legal representation, doctors effective treatment, writers useful prose, ministers worthwhile support, teachers successful learning when they do not understand and respect their clients. Military officers and civil servants who feel contempt for their bosses are not likely to advise them wisely or carry out their policies effectively.

Investigate your own professional view of civilian control. On what do you base your thinking? Much of the problem may stem from the Cold War and from one particular campaign of it: Vietnam, which continues to cast a long, sometimes unseen shadow. Are you positive that your thinking about civil-military relations does not rest on the mistaken beliefs—and they are mistaken—that the war was lost because of too much civilian control? Or that we succeeded so magnificently in the Gulf War because the civilians got out of the

way and let the military run the war? Both of those interpretations do not fit the facts of what happened in either war.[110]

Ponder whether you are prepared to accept, as a principle of civilian control, that it includes the right of civilians to be wrong.[111] And to make mistakes—indeed to insist on making mistakes. These are very hard things to accept, given that peoples' lives hang in the balance, or the security of the nation. But remember that the military can be wrong—dead wrong—about military affairs, for after all, you are not politicians, and as Carl von Clausewitz wrote long ago, war is an extension of politics.[112] Were you prepared to work for and with, and to accept, a Gore administration had he won the 2000 election? And if there is doubt on your part, ponder the implications for civil-military relations and civilian control. It is likely that within the next dozen years there will be another Democratic administration. If the trend toward increasing friction and hostility in civil-military relations during the last three—the Johnson, Carter, and Clinton administrations—continues into the future, the national security of the United States will not be served.

Last of all, consider that for civilian control to function effectively, the uniformed military will not only have to forswear or abstain from certain behavior, but to actively encourage the civilians to exercise their authority and perform their legal and constitutional duty to make policy and decide. You cannot—and will not—solve these problems yourselves, nor is it your responsibility alone. Civilian behavior and historical circumstances are just as much the causes of the present problems in civil-military relations as any diminishing of military professionalism. But you can help educate and develop civilian leaders on their role and on the processes of policy making, just as your predecessors did, by working with them and helping them—without taking advantage of them even when the opportunity arises. Proper professional behavior calls for a certain amount of abstinence. We hear much about the need for abstinence in so many areas of our national life. We ask children to "just say no" to drugs and premarital sex; we ask our media to exercise restraint in their programming; we ask our politicians to abstain from the most despicable acts of self-interest. In this, you are being asked to do no more or less than other professionals who are asked to restrain their own self-interest in dealing with their clients and customers: lawyers to act against their self-interest and advise clients not to go to trial when not called for; doctors not to prescribe drugs or surgery that is not needed; teachers to help their students learn; clergy to encourage their parishioners or congregants not to commit sin.[113] It will be up to you, as it is to every professional, to shape the relationship with your client, just as these others do. And at its heart, that relationship involves civilian control in fact as well as in form.

Let me close with some distinctions that bear remembrance. In the long history of human civilization, there have been military establishments that have focused on external defense—on protecting their societies—and those have preyed upon their own populations.[114] The American military has never preyed on this society. Yet democracy, as a widespread form of governance, is rather a recent phenomenon, and our country has been fortunate to be the chief messenger of that democratization. For us, civilian control has been more a problem of making certain the civilians control military affairs than it has been keeping the military out of civilian politics. But if the United States is to teach civilian control—professional military behavior—to the rest of the world, our officers must look hard at our own system and our own behavior at the same time.[115] "No one pretends that democracy is perfect or all-wise," Winston Churchill observed in 1947. "Indeed, it has been said that democracy is the worst form of Government except all those other forms that have been tried. . . ."[116] Churchill certainly knew the tensions involved in civil-military relations as well as any democratic head of government in modern history. My purpose this evening has been to remind us to be conscious of these problems, on each side—civilian and military—and to work to ameliorate them.

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Memorial Service Award, the Air Force Historical Foundation's President's Award, two Department of the Army Certificates for Patriotic Civilian Service, and the Department of the Air Force's Organizational Excellence and Exceptional Civilian Service Awards. A specialist in American military history and civil-military relations, he is the author of *Eagle and Sword: The Federalists and the Creation of the Military Establishment in America, 1783-1802* (1975). He has also edited, coedited, or coauthored some eight other volumes on American military history, including *The United States Military under the Constitution of the United States, 1789-1989* (1991) and *The Exclusion of Black Soldiers from the Medal of Honor in World War II* (1997), the report that resulted in the award of seven medals of honor to black soldiers of that conflict. Among his recent publications are "How Democracies Control the Military," *Journal of Democracy* 8 (October 1997), 140–53; and "An Officer Corps for the Next Century," *Joint Force Quarterly* no. 18 (Spring 1998), 76–80. Currently he is working on a book about presidential war leadership in American history and codirecting a project investigating the gap between military and civilian attitudes and culture in the United States today.

Notes

1. Defenders of the chiefs' behavior in the 1992–93 firestorm over gays in the military often assert that the Clinton administration's intention to lift the ban on homosexual service was blocked not by the military but by Congress. However, military leaders very clearly encouraged their retired predecessors to lobby the Congress against Clinton's intentions. "The word went out to the senior retirees," recalls a knowledgeable, well-connected retired Army brigadier general; "'We've lost unless you can generate enough pressure on Congress to block this.'" Theodore Metaxis to the author, 24 October 1999. See also Theo. C. Metaxis, "Discipline, Morale Require Ban on Homosexuals," *Fayetteville (NC) Observer-Times*, 28 January 1993, 15A, especially the closing two paragraphs, in which Metaxis calls on the public to "let the president and Congress know how you feel" and on the military to "put on your 'civilian hat,' the one you wear when you vote. Write your friends and relatives and let them know how you feel, and ask them to write to Washington. Then sit down and write to the president and Congress—let them know how you personally feel. For the officers and NCOs, tell them how your responsibility to command will be eroded. For the soldiers living in barracks, since the Clinton administration just doesn't 'get it,' call or write to them, explaining what the effect would be on you. If you don't take action, the torrent of PR publicity from the homosexual lobby may carry the day." See also Eric Schmitt, "The Top Soldier Is Torn between 2 Loyalties," *New York Times*, 6 February 1993, 1; "Aspin Seeks a Deal on Gays That the Brass Will Bless," *Congressional Quarterly*, 26 June 1993, 1670; Eric Schmitt and Thomas L. Friedman, "Clinton and Powell Forge Bond for Mutual Survival," *New York Times*, 4 June 1993, 1; Richard Lacayo, "The Rebellious Soldier," *Time*, 15 February 1993, 32; and Janet E. Halley, *Don't: A Reader's Guide to the Military's Anti-Gay Policy* (Durham, NC: Duke University Press, 1999), 20–25. The extent of the president's defeat is revealed in George Stephanopoulos, *All Too Human: A Political Education* (Boston: Little, Brown, 1999), 155–63; and Elizabeth Drew, *On the Edge: The Clinton Presidency* (New York: Simon and Schuster, 1994), 42–48, 248–51.

2. Quoted in John Lancaster, "Air Force General Demands Tight Formation for Commander in Chief," *Washington Post*, 22 April 1993, 1, and "Accused of Ridiculing Clinton, General Faces Air Force Probe," *Washington Post*, 8 June 1993, 21. See also "The President and the

General," 11 June 1993, 20, and "Transcript of President Clinton's News Conference," 16 June 1993, 14, both *Washington Post*; "A Military Breach?" *Seattle Post-Intelligencer*, 11 June 1993, 10; David H. Hackworth, "Rancor in the Ranks: The Troops vs. the President," *Newsweek*, 28 June 1993, 24; and Associated Press, "General's Lampoon of Clinton Not His First," *Washington Times*, 8 July 1993, 5.

3. The events described below were covered extensively in the daily press, journals of opinion, and other local and national media, 1993–2001.

4. The vitriol on gender and sexual orientation is revealed by Stephanie Gutman, *The Kinder, Gentler Military: Can America's Gender-Neutral Fighting Force Still Win Wars?* (New York: Scribner's, 2000).

5. The arguments over readiness became so ugly by 1998 that the Joint Chiefs and US senators engaged in public accusations of dishonest testimony and lack of support. *See* Eric K. Schmitt, "Joint Chiefs Accuse Congress of Weakening U.S. Defense," *New York Times*, 30 September 1998, 1. The military opposition to Clinton's interventions was almost immediate; see Richard A. Serrano and Art Pine, "Many in Military Angry over Clinton's Policies," *Los Angeles Times* (Washington ed.), 19 October 1993, 1. The arguments over readiness continued. *See* Elaine M. Grossman, "Congressional Aide Finds Spending on 'Core Readiness' in Decline," *Inside the Pentagon*, 28 June 2001, 1.

6. Rowan Scarborough, "Marine Officer Probed for Blasting Clinton," *Washington Times*, 11 November 1998, 1, and "Major Gets Punished for Criticizing President," *Washington Times*, 7 December 1998, 1; C. J. Chivers, "Troops Obey Clinton despite Disdain," *USA Today*, 18 November 1998, 27A; and Pat Towell, "Keeping a Civil Tongue," *CQ Weekly*, 2 January 1999, 26. Article 88, "Contempt toward officials," reads: "Any commissioned officer who uses contemptuous words against the President, the Vice President, Congress, the Secretary of Defense, the Secretary of a military department, the Secretary of Transportation, or the Governor or the legislature of any State, Territory, Commonwealth, or possession in which he is on active duty or present shall be punished as a court-martial may direct." US Department of Defense, *Manual for Courts-Martial United States (1995 Edition)* (Washington, DC: Joint Service Committee on Military Justice, 1995), A2–A23. The history of this provision and its enforcement is covered in John G. Kester, "Soldiers Who Insult the President: An Uneasy Look at Article 88 of the Uniform Code of Military Justice," *Harvard Law Review* 81 (1967–68): 1697–769; Daniel Blumenthal, "A Brief Overview of Article 88 of the Uniform Code of Military Justice," Strategy and Policy Seminar, Johns Hopkins School of Advanced International Studies, Washington, DC, 4 December 1998.

7. "Wicked Wit," *New York Post*, 11 October 1999, 6.

8. Thomas E. Ricks, "Military Personnel Warned on Politics," *Washington Post*, 30 November 2000, 35. An Army officer, receiving the reminder by mass distribution in his command, recalled that "this was perhaps the fourth or fifth time in the past 8 years [i.e., the Clinton administration] that I have received some official reminder of Article 88." Email to the author, 27 November 2000. See also Robert G. Bracknell [Capt, USMC], "The Marine Officer's Moral and Legal Imperative of Political Abstinence," *Marine Corps Gazette*, September 2000, 102–7.

9. Another major embarrassment singed the new administration when a female civilian staffer insulted Army lieutenant general Barry McCaffrey, a much-decorated and thrice-wounded veteran of Vietnam and commander of the 24th Infantry Division in the Gulf War. McCaffrey was then serving as assistant to the chairman of the Joint Chiefs of Staff. In response to a casual "good morning" in the White House, the staffer replied something to the effect of "We [or I] don't talk to people in uniform." Within hours the incident ricocheted all over Washington and into the press, to the mortification of the administration. The impact of this insult was felt most acutely inside the Washington Beltway and especially in the officer corps. Kenneth

T. Walsh, Bruce B. Auster, and Tim Zimmermann, "Clinton's Warrior Woes," *U.S. News and World Report*, 15 March 1993, 22ff.; and Carl M. Cannon, "Military Feeling Resentful toward the White House," *Buffalo (New York) News*, 23 March 1993, 5. McCaffrey was one of the officers featured in James Kitfield, *Prodigal Soldiers* (New York: Simon and Schuster, 1995); see also Jay Nordlinger, "Clinton's Good Soldier," *National Review*, 3 May 1999, 20–23.

10. Conversation with a senior official, Office of the Secretary of Defense, April 1993.

11. President Clinton undertook from the beginning to woo the military, in an attempt to overcome the hostility. Walsh et al., "Clinton's Warrior Woes," 22; Carl M. Cannon, "Clinton Reaches for Military Trust," *Baltimore Sun*, 30 May 1992, 22. But five years later, the relationship was hardly better than "a wary truce." "I can't think of any one thing the president has put more personal attention and caring into than his relationship with the military at all levels," White House press secretary Michael McCurry was quoted as saying. "He did it because he understood that he began with a significant deficit. He has tried to make a personal and human connection with his commanders and all the way down the chain." Brian McGrory, "U.S. Military, Clinton Achieve a Wary Truce," *Boston Globe*, 22 February 1998, 1. Indeed, two four-star officers having professional relationships with Clinton praised his discharge of his duties as commander in chief. *See* Richard H. Kohn, ed., "The Early Retirement of General Ronald R. Fogleman, Chief of Staff, United States Air Force," *Aerospace Power Journal*, Spring 2001, 16; and Wesley K. Clark [Gen, USA], *Waging Modern War: Bosnia, Kosovo, and the Future of Combat* (New York: Public Affairs, 2001), 290. However, the "personal and human connection" apparently never altered the Clinton hating in the officer corps generally, which lasted for both his terms. *See* David Halberstam, *War in a Time of Peace: Bush, Clinton, and the Generals* (New York: Scribner's, 2001), 415–19; and Joseph Curl, "Military Finds Refreshing Change with New Commander in Chief," *Washington Times*, 13 February 2001, 1. For the economic trade emphasis of the administration's foreign policy, see Halberstam, *War in a Time of Peace*, 242; and David E. Sanger, "Economic Engine for Foreign Policy," *New York Times*, 28 December 2000, A1. Scholarly analyses of the Clinton foreign policy are William C. Berman, *From the Center to the Edge: The Politics and Policies of the Clinton Presidency* (Lanham, MD: Rowman and Littlefield, 2001), 35–38; and Andrew J. Bacevich, *American Empire: The Realities and Consequences of U.S. Diplomacy* (Cambridge, MA: Harvard University Press 2002).

12. Jane Perlez, "For 8 Years, a Strained Relationship with the Military," *New York Times*, 28 December 2000, A13.

13. "Clinton and the Generals," *Vanity Fair*, September 2001, 230.

14. In 1996, former congressman and secretary of defense (and now vice president) Dick Cheney observed: "If you look at the '92 election, the '94 congressional election, and I think even the 1996 presidential election, there has been almost no discussion—this will be the third election cycle without it—of the U.S. role in the world from a security standpoint, or strategic requirements, what our military ought to be doing, or how big the defense budget ought to be." Quoted in Stephen M. Duncan, *Citizen Warriors: America's National Guard and Reserve Forces and the Politics of National Security* (Novato, CA: Presidio, 1997), 225.

15. The most insightful brief analysis of the overall character of the military establishment is Eliot A. Cohen, "Defending America in the Twenty-first Century," *Foreign Affairs*, November/December 2000, 40–56. For another persuasive argument for continuity with the Cold War establishment, see William Greider, *Fortress America: The American Military and the Consequences of Peace* (New York: PublicAffairs, 1998).

16. Michael R. Gordon, "Cuts Force Review of War Strategies," *New York Times*, 30 May 1993, 16. Barton Gellman, "Rumblings of Discord Heard in Pentagon; Aspin's Civilian Leadership, Management Style and Agenda Irk Some Officers," *Washington Post*, 20 June 1993, 1; and John Lancaster, "Aspin Opts for Winning 2 Wars—Not 1½—at Once; Practical Effect of Notion

Is Uncertain amid Huge Military Budget Cuts," *Washington Post*, 25 June 1993, A6. For a broad analysis of the Bottom-Up Review, see Donald Kagan and Frederick W. Kagan, *While America Sleeps: Self-Delusion, Military Weakness, and the Threat to Peace Today* (New York: St. Martin's, 2000), chap. 14.

17. The disjunction between resources and requirements, which became the subject of much debate and recrimination in the late 1990s, was clear by 1995. *See* Daniel Gouré and Jeffrey M. Ranney, *Averting the Defense Train Wreck in the New Millennium* (Washington, DC: Center for Strategic and International Studies, 1999), 1; and Don M. Snider, "The Coming Defense Train Wreck," *Washington Quarterly*, Winter 1996, 89–101, with commentary on "what to do about it," 103–24. Wesley Clark recalls that when he was a lieutenant general and head of plans (J-5) on the Joint Staff, beginning in 1994, "We had constructed a closed cycle bureaucratic instrument that would focus the U.S. Armed Forces' thinking on only two primary conflicts and then drive marginal investments of scarce resources to enhance these capabilities at the expense of other possible employments." This "wasn't intended to be a strategy for employing the forces—it was meant to defend the size of the military." Clark, *Waging Modern War*, 47, 36.

18. A brief analysis of these dilemmas is John F. Lehman and Harvey Sicherman, "Demilitarizing the Military," Foreign Policy Research Institute *Wire*, July 1997. More extended analyses are Gouré and Ranney, *Averting the Defense Train Wreck*, chaps. 1–2; and Greider, *Fortress America*, esp. 28–29, 36–39, 42–45.

19. For recent indications of how electronics and miniaturization, leading to greater accuracy of weapons, faster acquisition of targets, and more comprehensive networking of computer systems, and the like, might be affecting warfare and the armed services, see James Kitfield, "The Permanent Frontier," *National Journal*, 17 March 2001, 780; Joseph Fitchett, "Spying from Space: U.S. to Sharpen the Focus," *International Herald Tribune*, 10 April 2001, 1; Glenn W. Goodman Jr., "Futuristic Army Vision: The Service's Future Combat System Is a True Leap-Ahead Program," *Armed Forces Journal International*, May 2001, 26; James Ware, "Virtual Defense," *Foreign Affairs*, May/June 2001, 98–112; Nicholas Lemann, "Dreaming about War," *The New Yorker*, 16 July 2001, 32–38; and Bill Owens [Adm, USN, Ret.] with Ed Offley, *Lifting the Fog of War* (New York: Farrar, Straus, Giroux, 2000). An argument for continuity, at least for ground warfare, is Stephen Biddle, "Assessing Theories of Future Warfare," in *The Use of Force after the Cold War,* ed. H. W. Brands (College Station: Texas A&M University Press, 2001), 217–88. For an overview, see Lawrence Freedman, *The Revolution in Strategic Affairs*, International Institute for Strategic Studies, Adelphi Paper 318 (Oxford, UK: Oxford University Press, 1998).

20. Congress began pressing the Joint Chiefs of Staff and Department of Defense to consider the problem of overlapping roles and missions among the armed services as early as 1992. Congress formed a commission to address those issues in 1995, pressed for a broader Quadrennial Defense Review (QDR) in 1997 (with a National Defense Panel to review and critique the effort immediately after), another QDR in 2001, and in 1998 urged the US Commission on National Security/21st Century to take an "end to end," or more comprehensive, look at national security and report in 2001. *See* Les Aspin, *Report on the Bottom-Up Review* (Washington, DC: Office of the Secretary of Defense, October 1993); *Directions for Defense, Roles and Missions Commission of the Armed Forces: Report to Congress, the Secretary of Defense, and the Chairman of the Joint Chiefs of Staff,* 24 May 1995, executive summary; William S. Cohen, *Report of the Quadrennial Defense Review*, May 1997; Report of the National Defense Panel, December 1997, *Transforming Defense: National Security in the 21st Century*; *Road Map for National Security: Imperative for Change: The Phase III Report of the U.S. Commission on National Security/21st Century, March 15, 2001* (n.p. [Washington]: n.p. [U.S. Commission on National Security/21st Century], 2001); Background on the Quadrennial Defense Review May 1997, H.R. 3230,

National Defense Authorization Act for Fiscal Year 1997, Title IX, Subtitle B, Sec. 923, *Quadrennial Defense Review—Force Structure Review*, http://www.comw.org/qdr/backgrd.html. For background, see Lorna S. Jaffe, *The Development of the Base Force* (Washington, DC: Joint History Office, Office of the Chairman of the Joint Chiefs of Staff, July 1993); *National Security Strategy of the United States* (Washington, DC: White House, August 1991); and Colin Powell, Les Aspin, "DOD Bottom-Up Review, September 1, 1993," Defense Department briefing, Federal Information Systems Corporation, Federal News Service, accessed through Academic Universe, s.v. "Bottom Up Review" (13 December 2000). For an insider's admission of paralysis on change within the Pentagon and the failure of outside reform efforts, see Owens, *Lifting the Fog of War*, 32–42, 166–77, 207–19. Revealing reportage about the 1997 QDR is in George Wilson, *This War Really Matters: Inside the Fight for Defense Dollars* (Washington, DC: Congressional Quarterly Press, 2000), chaps. 1–3.

21. As of 26 June 2001, some two-thirds of the 50 major recommendations of the US Commission on National Security/21st Century "were being acted upon in some fashion by the Administration or Congress." Memorandum, "Recommendations' Status," 26 June 2001, enclosed in Charles G. Boyd to the author, 27 June 2001. The author was a member of the national security study group supporting the commission. The G. W. Bush administration is at least rhetorically committed to change; see James Gerstenzang, "Bush Offers New Vision of Military," *Los Angeles Times*, 12 December 2001, 1.

22. The battle over transforming defense policy during the first months of the Bush administration in 2001 was covered extensively in the press. See, for example, reports by Thomas E. Ricks, *Washington Post*, 20, 25 May; 22 June; 14, 19, 25 July; 3, 7, 18, 31 August; 9 December 2001; Al Kamen, *Washington Post*, 16 May 2001. Also reports by Elaine Grossman, *Inside the Pentagon*, 31 May; 14 June; 5, 19, 26 July; 17 August 2001; Stan Crock, *Business Week*, 2 July, 6 August 2001; James Dao, Thom Shanker, Thomas L. Friedman, *New York Times*, 3 June; 11, 13, 14, 19, 26, 30 July; 18 August; 2 September 2001; James Kitfield, Sydney J. Freedberg Jr., and George C. Wilson, *National Journal*, 3 March, 9 June, 14 July, 3 November 2001; Bill Gertz, Rowan Scarborough, *Washington Times*, 24 April; 25 May; 11, 29 June; 13 July; 30 August 2001; Robert Holzer, *Defense News*, 4–10 June, 23–29 July 2001; Morton M. Kondracke, *Roll Call*, 26 July 2001; Andrea Stone, *USA Today*, 27 July 2001; by William M. Arkin, washingtonpost.com, 4 June, 16 July 2001; Pat Towell, *Congressional Quarterly Weekly*, 12 May, 21 July 2001; Eun-Kyung Kim, Lisa Burgess, *European Stars and Stripes*, 24 May, 2 June 2001; Vago Muradian, Hunter Keeter, *Defense Daily International*, 4 May 2001, and *Defense Daily*, 11, 25 May 2001; and Michael Duffy, *Time*, 27 August 2001. Also, editorials and opinion pieces in the *Washington Post*, 7 February, 27 August 2001; *Weekly Standard*, 14 May, 23 July 2001; *Los Angeles Times*, 24 May 2001; *New York Times*, 25 May, 13 July, 20 August 2001; *Washington Times*, 25 May, 10 June 2001; *London Financial Times*, 27 June, 31 July 2001; *Wall Street Journal*, 13 July; 1, 27 August 2001; *USA Today*, 18 July 2001; *Boston Globe*, 22 July 2001; *U.S. News and World Report*, 13 August 2001; *Milwaukee Journal Sentinel*, 27, 28 August 2001; and *Newsweek*, 3 September 2001. The first public attacks on Rumsfeld's efforts by the services came in a widely disseminated email from former Army chief of staff Gordon Sullivan, head of the Association of the US Army, on 5 May and from active-duty and retired naval officers defending aircraft carriers (Capt William Toti in the *Washington Times*, 23 April 2001; the Chief of Naval Operations, Adm Vernon Clark, quoted in *Inside the Navy*, 4 June 2001; retired admiral Leighton W. Smith Jr., in *National Defense*, June 2001). For an analysis of the institutional barriers to change, see Thomas Mahnken, "Transforming the U.S. Armed Forces: Rhetoric or Reality?" *Naval War College Review*, Summer 2001, 81–89. "If we could achieve a 15 percent transformation in 10 years, I would consider that reasonable," Deputy Secretary of Defense Paul Wolfowitz admitted in August 2001. For the current direction of "transformation," see Paul Wolfowitz, "Opportuni-

ties and Challenges for American National Power" (keynote address, Fletcher Conference on "Focusing National Power," Washington, DC, 14 November 2001), 49–51, http://www.ifpa.org/pdf/ffinal2001.pdf.

23. See, for example, Paul Quinn-Judge, "Doubts of Top Brass on the Use of Power Carry Great Weight," *Boston Globe*, 20 April 1994, 12.

24. My understanding of the Kosovo air campaign comes from Clark, *Waging Modern War*; Andrew J. Bacevich and Eliot A. Cohen, eds., *War over Kosovo: Politics and Strategy in a Global Age* (New York: Columbia University Press, 2001); Halberstam, *War in a Time of Peace*, 364ff.; Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica, CA: RAND Corporation, 2001); Michael Mandelbaum, "A Perfect Failure," *Foreign Affairs*, October 1999, 2–8; Daniel L. Byman and Matthew C. Waxman, "Kosovo and the Great Air Power Debate," and Barry R. Posen, "The War for Kosovo," both *International Security,* Spring 2000, 5–84.

25. In 1998–99, the Triangle Institute for Security Studies (TISS) "Project on the Gap between the Military and Civilian Society" compared the attitudes, opinions, values, and perspectives of elite officers on active duty and in the reserves with a sample of elite civilians in the United States and with the mass public. The officer sample came from senior-year cadets and midshipmen at the service academies and in the Reserve Officers Training Corps and from officers selected for in-residence attendance at staff and war colleges and for the Capstone Course (for new flag officers) at National Defense University, in Washington, DC. Comparable samples of reserve and National Guard officers were also surveyed. The elite civilian sample was a random selection from *Who's Who in America* and similar biographical compilations. The general-public sample came from a telephone poll, using a portion of the survey's questions, conducted by Princeton Survey Research Associates. Information on the project and its methods can be found in the introduction and conclusion in Peter D. Feaver and Richard H. Kohn, eds., *Soldiers and Civilians: The Civil-Military Gap and American National Security* (Cambridge, MA: MIT Press, 2001). The figures for military officers cited in this essay do not include students in pre-commissioning programs. In the survey, 49 percent of the active-duty military officers said they would leave military service "if the senior uniformed leadership does not stand up for what is right in military policy." This was the second most-listed choice of nine offered, exceeded only by "if the challenge and sense of fulfillment I derive from my service were less" (68 percent). (All percentages are rounded to the nearest whole number.) For a sense of the bitterness in the officer corps, particularly toward the senior uniformed leadership, see "Chief of Staff of the Army's Leadership Survey: Command and General Staff College Survey of 760 Mid-Career Students (Majors with a Few LTCs)," n.d. [Spring 2000]; Ed Offley, "Young Officers' Anger, Frustration Stun Navy's Top Brass," *Seattle Post-Intelligencer*, 29 January 2000, A1; Rowan Scarborough, "Army Colonels Reject Choice Assignments," *Washington Times*, 1 November 2000, A1; Paul Richter, "Glamour of America's Military Schools Fading for Youth," *Los Angeles Times*, 15 August 2000, 16; Justin P. D. Wilcox [Cpt, USA, "Military Experience Exposes 'Readiness Lie,'" *USA Today*, 5 September 2000, 26. Wilcox, a West Pointer, was leaving the service after five years because of underfunding, "more attention placed on landscaping and details . . . than on training," because "pursuit of mediocrity has become the norm," and for other reasons. "When," he asked, "will a general officer finally lay his stars on the table and stand up to the current administration for his soldiers?" One of the earlier attacks on the senior leadership was David H. Hackworth, "Too Much Brass, Too Little Brash," *Atlanta Constitution*, 2 March 1994, 11. For survey data and analysis, see *American Military Culture in the Twenty-first Century: A Report of the CSIS International Security Program* (Washington, DC: Center for Strategic and International Studies, 2000), xxii, xxv, 17–18, 23–24, 45, 71–72. For an indication of a slippage in quality, see David S. C. Chu and John Brown, "Ensuring Quality People in De-

fense," in *Keeping the Edge: Managing Defense for the Future,* ed. Ashton B. Carter and John P. White (Cambridge, MA: MIT Press, 2001), 206. These events followed the downsizing of the armed services, which in the Army officer corps damaged morale, loosened organizational commitment, and undermined professionalism. *See* David McCormick, *The Downsized Warrior: America's Army in Transition* (New York: New York University Press, 1998), chap. 4, esp. 127–29.

26. I am indebted to Alfred Goldberg, historian in the Office of the Secretary of Defense since 1973, for the insight about civilian control being situational. I used this definition first in "Out of Control: The Crisis in Civil-Military Relations," *National Interest*, Spring 1994, 16–17. A similar definition, emphasizing the relative weight of military and civilian in decisions and decision making, is found in Michael Desch, *Civilian Control of the Military: The Changing Security Environment* (Baltimore: Johns Hopkins University Press, 1999), esp. chaps. 1–3 and appendix. See also the discussion in Yehuda Ben Meir, *Civil-Military Relations in Israel* (New York: Columbia University Press, 1995), chap. 2 ("Civilian Control"). In an important forthcoming work on civil-military relations, Peter Feaver distinguishes between trying to overthrow civilian authority (as in a coup) and simply shirking in carrying out the orders or wishes of the civilians. He explores the latter in depth, interpreting military subordination to civil authority as a variable rather than a given. See his *Armed Servants: Agency, Oversight, and Civilian Control* (Cambridge, MA: Harvard University Press, 2003).

27. Pentagon reporter David Martin, in his "Landing the Eagle," *Vanity Fair*, November 1993, 153, described the Joint Staff this way: "Made up of 1,400 men and women, mostly in uniform, the Joint Staff analyzes the military consequences of the various options proposed by the administration. The answers they come up with can stop a fledgling policy dead in its tracks. You want to stop the bloodshed in Bosnia? Sure, we can do it. But it will take 500,000 troops and the second you pull them out the fighting will resume." For an indication of the Joint Staff's analytical (and political) advantages over the Office of the Secretary of Defense in the 2001 QDR, see Elaine Grossman, "Shelton Mulls Holding Key Civilian-Led Review to Exacting Standards," *Inside the Pentagon*, 2 August 2001, 1. See also James Kitfield, "Pentagon Power Shift," *Government Executive*, April 1994, 72.

28. Owens, *Lifting the Fog of War*, 172–74; John M. Shalikashvili, et al., "Keeping the Edge in Joint Operations," in *Keeping the Edge,* ed. Carter and White, 39–42, 44–45; Robert Holzer and Stephen C. LeSueur, "JCS Quietly Gathers Up Reins of Power," *Defense News*, 13–19 June 1994.

29. Conversation with an officer at a war college, June 1999. In late 2001, Secretary of Defense Donald Rumsfeld asked Congress's permission to reduce the various legislative liaison staffs in the Pentagon by almost half, to 250, because, as he reportedly believed, "some congressional liaison officers may be working at cross purposes with the Bush administration's plan by pushing their own agency or command instead of the Pentagon's top priorities." Rick Maze, "Senate Wants to Reduce Number of Military Liaisons," ArmyTimes.com, 4 December 2001.

30. Dana Priest, "The Proconsuls: Patrolling the World," in three front-page installments: "A Four-Star Foreign Policy?," "An Engagement in 10 Time Zones," and "CINCs Don't Swim with State," *Washington Post*, 28, 29, and 30 September 2000, respectively. See also the remarks of Dana Priest and Robert B. Oakley in the State Department Open Forum, 23 March 2001, and US Secretary of State, "Civil Military Affairs and U.S. Diplomacy: The Changing Roles of the Regional Commanders- in-Chief," cable message to all diplomatic and consular posts, 1 July 2001. Writing from Paris, the journalist William Pfaff had highlighted the change a year earlier. "It is not too much to say that there is a distinct foreign policy of military inspiration, conducted from the Pentagon," he wrote, citing the conflicting messages sent by the American military to its Indonesian counterparts during the East Timor crisis. *See* Pfaff, "Beware of a Military Penchant for a Parallel Foreign Policy," *International Herald Tribune*, 22 September 1999. For an indication of how one regional commander actively sought to determine policy

and influence diplomacy, in this case intervention to prevent ethnic cleansing in Kosovo, see Clark, *Waging War*, chaps. 5–6. Another regional commander, Marine Corps general Anthony Zinni of US Central Command, described himself as a "proconsul," hinting an analogy with a post in the ancient Roman republic and empire that mixed enormous political, military, and judicial powers over the population of a province. This author may have been the first to suggest that label to General Zinni, in an exchange at US Central Command headquarters, Tampa, Florida, April 1998.

31. See the sources in note 22 above. An insightful summation is Michael Duffy, "Rumsfeld: Older but Wiser?," *Time*, 27 August 2001, 22–27.

32. Andrew J. Bacevich, "Discord Still: Clinton and the Military," *Washington Post*, 3 January 1999, C1.

33. Email communication to a colleague, 2 February 1999.

34. Wilson, *This War Really Matters*, takes a detailed, and particularly revealing, look at the "decision-making process for national defense" (p. 3) for the 1997–99 period, especially the interactions between the civilians in the executive branch, the Congress, and the Joint Chiefs. To understand the extent to which the armed services are expected to press their own institutional interests with Congress, see Stephen K. Scroggs, *Army Relations with Congress: Thick Armor, Dull Sword, Slow Horse* (Westport, CT: Praeger, 2000).

35. Lewis Sorley, *Thunderbolt: General Creighton Abrams and the Army of His Times* (New York: Simon and Schuster, 1992), 361–64; Herbert Y. Schandler, *The Unmaking of a President: Lyndon Johnson and Vietnam* (Princeton, NJ: Princeton University Press, 1977), 39, 56, 103, 305; and Eric Q. Winograd, "Officials: Homeland Defense Mission Will Mean Changes for the Guard," *Inside the Army*, 19 November 2001, 1. James Schlesinger, the secretary of defense who must have approved this change in force structure, confirmed this interpretation in the very process of questioning it: "This would not really be like Abe [Abrams]. He had the view that the military must defer to the civilians, even to an extraordinary degree. I speculate that the military sought to fix the incentives so that the civilians would act appropriately." Quoted in Duncan, *Citizen Warriors*, 271–72.

36. William J. Crowe Jr. (Adm, USN), *The Line of Fire: From Washington to the Gulf, the Politics and Battles of the New Military* (New York: Simon and Schuster, 1993), 41, 127, 152–59, 161, 177, 180–85, 189–90, 212–41, 304–5, 309, 312–19, 341–45; and Bob Woodward, *The Commanders* (New York: Simon and Schuster, 1991), 40.

37. See, for example, Barton Gellman, "Rumblings of Discord Heard in Pentagon," *Washington Post*, 20 June 1993, A1.

38. J. G. Prout III, memorandum for the Commander in Chief, US Pacific Fleet, "Subj: CNO Comments at Surface Warfare Flag Officer Conference (SWFOC)," 23 September 1994, copy in possession of the author.

39. *Directions for Defense, Roles and Missions Commission of the Armed Forces, Report to Congress, the secretary of defense, and the chairman of the Joint Chiefs of Staff*, 24 May 1995, Executive Summary, http://www.channelingreality.com/Documents/rumsfeld/FAS_Unified_Command_Roles_Missions.pdf; and Robert Holzer, "Experts: Streamlined Staff at OSD Could Save Billions," *Defense News*, 2–8 December 1996, 28.

40. For insight into the military's influence over the character of the intervention in Bosnia, see Ivo H. Daalder, *Getting to Dayton: The Making of America's Bosnia Policy* (Washington, DC: Brookings Institution Press, 2000), 140–53, 173–78; Dan Blumenthal, "Clinton, the Military, and Bosnia, 1993–1995: A Study in Dysfunctional Civil Military Relations," Soldiers, Statesmen, and the Use of Force Seminar, Johns Hopkins School of Advanced International Studies, Washington, DC, 7 June 1999; and Clark, *Waging War*, 55–66, 73, 79–80. Clark, who was the senior US military adviser at the Dayton negotiations, put it this way (p. 59): "Under our agree-

ment, we were seeking to limit the obligations of the military . . . but to give the commander unlimited authority to accomplish these limited obligations." A background analysis is Susan L. Woodward, "Upside-Down Policy: The U.S. Debate on the Use of Force and the Case of Bosnia," in *Use of Force*, ed. Brands, 111–34. In an analysis of civil-military conflicts between 1938 and 1997, Michael C. Desch argues that civilian control weakened in the United States during the 1990s. He finds that civilians prevailed in fifty-nine of sixty-two instances of civil-military conflict before the 1990s but in only five of twelve in that decade. See his *Civilian Control of the Military*, chap. 3 and appendix.

41. Charles G. Boyd, "America Prolongs the War in Bosnia," *New York Times*, 9 August 1995, 19, and "Making Peace with the Guilty: The Truth about Bosnia," *Foreign Affairs*, October 1995, 22–38. The op-ed began, "Having spent the last two years as deputy commander of the U.S. European Command, I have found that my views on the frustrating events in Bosnia differ from much of the conventional wisdom in Washington."

42. Bill Keller, "The World according to Powell," *New York Times Magazine*, 25 November 2001, 65.

43. For a fuller discussion of General Powell's efforts to circumvent civilian control, see Kohn, "Out of Control," 8–13, and with Powell's reply, comments by John Lehman, William Odom, and Samuel P. Huntington, and my response in *National Interest*, Summer 1994, 23–31. Other profiles and supporting material are in Jon Meacham, "How Colin Powell Plays the Game," *Washington Monthly*, December 1994, 33–42; Charles Lane, "The Legend of Colin Powell," *New Republic*, 17 April 1995, 20–32; Michael R. Gordon and Bernard E. Trainor, "Beltway Warrior," *New York Times Magazine*, 27 August 1995, 40–43; Keller, "World according to Powell," 61ff.; Michael C. Desch and Sharon K. Weiner, eds., *Colin Powell as JCS Chairman: A Panel Discussion on American Civil-Military Relations, October 23, 1995,* Project on U.S. Post–Cold War Civil-Military Relations, Working Paper 1 (Cambridge, MA: Harvard University, John M. Olin Institute for Strategic Studies, December 1995); and Lawrence F. Kaplan, "Yesterday's Man: Colin Powell's Out-of-Date Foreign Policy," *New Republic*, 1 January 2001, 17–21.

44. Eric Schmitt and Elaine Sciolino, "To Run Pentagon, Bush Sought Proven Manager with Muscle," *New York Times*, 1 January 2001, 1; and Bill Gertz and Rowan Scarborough, "Inside the Ring," *Washington Times*, 26 January 2001, A9. Significantly, Powell's close friend Richard Armitage, who had been mentioned frequently for the position of deputy secretary of defense, was not offered that position and instead became deputy secretary of state.

45. T. Harry Williams, *Lincoln and His Generals* (New York: Random House, 1952), remains indispensable. See also Richard N. Current, *The Lincoln Nobody Knows* (New York: McGraw-Hill, 1958), 169; David Herbert Donald, *Lincoln* (New York: Simon and Schuster, 1995), 386–88; and Bruce Tap, *Over Lincoln's Shoulder: The Committee on the Conduct of the War* (Lawrence: University Press of Kansas, 1998), 151–54.

46. Timothy D. Johnson, *Winfield Scott: The Quest for Military Glory* (Lawrence: University Press of Kansas, 1998), 217–19; and John E. Marszalek, *Sherman: A Soldier's Passion for Order* (New York: Free Press, 1993), 386–89.

47. Mark Russell Shulman, *Navalism and the Emergence of American Sea Power, 1882–1893* (Annapolis, Md.: Naval Institute Press, 1995), 46–57, 152–53; Paul A. C. Koistinen, *Mobilizing for Modern War: The Political Economy of American Warfare, 1865–1919* (Lawrence: University Press of Kansas, 1997), 48–57; Benjamin Franklin Cooling, *Gray Steel and Blue Water Navy: The Formative Years of America's Military-Industrial Complex, 1881–1917* (Hamden, CT: Archon Books, 1979), chaps. 3–4, postscript. See also Kurt Hackemer, *The U.S. Navy and the Origins of the Military-Industrial Complex, 1847–1883* (Annapolis, MD: Naval Institute Press, 2001), and his "Building the Military-Industrial Relationship: The U.S. Navy and American Business, 1854–1883," *Naval War College Review,* Spring 1999, 89–111.

48. DeWitt S. Copp, *A Few Great Captains: The Men and Events That Shaped the Development of U.S. Air Power* (Garden City, NY: Doubleday, 1980); David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917–1945* (Ithaca, NY: Cornell University Press, 1998), 66–69, 81–84, 86–90, 102–3, 158–60, 220–22, 227–28; and Randall R. Rice, "The Politics of Air Power: From Confrontation to Cooperation in Army Aviation Civil-Military Relations, 1919–1940" (dissertation, University of North Carolina at Chapel Hill, 2002).

49. Quoted in Marriner Eccles, *Beckoning Frontiers: Public and Personal Recollections*, ed. Sidney Hyman (New York: Knopf, 1951), 336. For a sense of Theodore Roosevelt's troubles with the services, see his letters to Elihu Root, 7 March 1902; to Oswald Garrison Villard, 22 March 1902; to Leonard Wood, 4 June 1904; and to Truman H. Newberry, 28 August 1908, quoted in Elting E. Morison, ed., *The Letters of Theodore Roosevelt*, 8 vols. (Cambridge, MA: Harvard University Press, 1951–54), vol. 3, 241, 247; vol. 4, 820; vol. 6, 1199. See also the forthcoming study of Roosevelt as commander in chief by Matthew M. Oyos, who supplied excerpts from the above documents; and Oyos, "Theodore Roosevelt, Congress, and the Military: U.S. Civil-Military Relations in the Early Twentieth Century," *Presidential Studies Quarterly* 30, no. 2 (June 2000): 312–30.

50. The civil-military battles of the 1940s, 1950s, and 1960s are covered in a number of works, among them: Demetrios Caraley, *The Politics of Military Unification: A Study of Conflict and the Policy Process* (New York: Columbia University Press, 1966); Herman S. Wolk, *The Struggle for Air Force Independence, 1943–1947* (Washington, DC: Air Force History and Museums Program, 1997); Jeffrey G. Barlow, *Revolt of the Admirals: The Fight for Naval Aviation, 1945–1950* (Washington, DC: Naval Historical Center, 1994); Steven L. Rearden, *The Formative Years, 1947–1950,* vol. 1 of *History of the Office of the Secretary of Defense* (Washington, DC: Historical Office, Office of the Secretary of Defense, 1984); Robert L. Watson, *Into the Missile Age, 1956–1960,* vol. 4 of *History of the Office of the Secretary of Defense* (Washington, DC: Historical Office, Office of the Secretary of Defense, 1997); Andrew J. Bacevich, "Generals versus the President: Eisenhower and the Army, 1953–1955," in *Security in a Changing World: Case Studies in U.S. National Security Management,* ed. Volker C. Franke (Westport, CT: Praeger, 2002), 83–99; and Deborah Shapley, *Promise and Power: The Life and Times of Robert McNamara* (Boston: Little, Brown, 1993).

51. For a brief history of civilian control, see Richard H. Kohn, "Civil-Military Relations: Civilian Control of the Military," in *The Oxford Companion to American Military History,* ed. John Whiteclay Chambers II (New York: Oxford University Press, 1999), 122–25. Similar interpretations of the conflict inherent in the relationship are Russell F. Weigley, "The American Military and the Principle of Civilian Control from McClellan to Powell," *Journal of Military History*, special issue, vol. 57 (1993): 27–59; Russell F. Weigley, "The American Civil-Military Cultural Gap: A Historical Perspective, Colonial Times to the Present," in *Soldiers and Civilians,* ed. Feaver and Kohn, chap. 5; Ronald H. Spector, "Operation Who Says: Tension between Civilian and Military Leaders Is Inevitable," *Washington Post*, 22 August 1999, B1; and Peter D. Feaver, "Discord and Divisions of Labor: The Evolution of Civil-Military Conflict in the United States," paper presented at the annual meeting of the American Political Science Association, Washington, DC, 1993. A particularly cogent analysis from a generation ago, by a scholar who both studied the issues and participated as a senior civilian official in the Pentagon, is Adam Yarmolinsky, "Civilian Control: New Perspectives for New Problems," *Indiana Law Journal* 49 (1974): 654–71.

52. See, for example, Dana Priest, "Mine Decision Boosts Clinton-Military Relations," *Washington Post*, 21 September 1997, A22; Ernest Blazar, "Inside the Ring," *Washington Times*, 8 June 1998, 11; Jonathan S. Landay, "U.S. Losing Handle on Its Diplomacy in a Kosovo 'at War,' " *Christian Science Monitor*, 5 June 1998, 7; and Daniel Rearick, "An Unfortunate Opposi-

tion: U.S. Policy toward the Establishment of the International Criminal Court" (honors thesis, University of North Carolina at Chapel Hill, 2000).

53. In *The Clustered World: How We Live, What We Buy, and What It All Means about Who We Are* (Boston: Little, Brown, 2000), a study of consumerism and lifestyles, Michael J. Weiss identifies the military as one of "sixty-two distinct population groups each with its own set of values, culture and means of coping with today's problems" (p. 11). His thesis is that the country has become splintered and fragmented (see pp. 258–59 and chap. 1). For the military's "presence" in American society, see the late Adam Yarmolinsky's comprehensive *The Military Establishment: Its Impacts on American Society* (New York: Harper and Row, 1971) and James Burk, "The Military's Presence in American Society," in *Soldiers and Civilians*, ed. Feaver and Kohn, chap. 6. In 1985, "a group of 31 military and veterans organizations that lobby for the uniformed services on personnel and pay issues" representing some "6 million veterans and their families" banded together to form the "Military Coalition," a force that in the opinion of one thoughtful retired general is "potentially far more numerous and powerful than the NRA!!!" Stephen Barr, "Military Pay Expert Retires," *Washington Post*, 12 March 2001, B2; and Ted Metaxis, email to the author, 24 October 1999.

54. Donald Rumsfeld, "Rumsfeld's Rules," DefenseLink, rev. ed., 17 January 2001.

55. Department of Defense, *Quadrennial Defense Review Report*, 30 September 2001, https://archive.defense.gov/pubs/qdr2001.pdf; Anne Plummer, "Pentagon Launches Some 50 Reviews in Major Defense Planning Effort," *Inside the Pentagon*, 15 November 2001, 1; and John Liang, "Rumsfeld Supports Switching Future QDRs to Administration's Second Year," InsideDefense.com, 6 December 2001.

56. Thomas E. Ricks, "Target Approval Delays Cost Air Force Key Hits," *Washington Post*, 18 November 2001, 1; Ricks, "Rumsfeld's Hands-On War: Afghan Campaign Shaped by Secretary's Views, Personality," *Washington Post*, 19 December 2001, 1; Esther Schrader, "Action Role a Better Fit for Rumsfeld," *Los Angeles Times*, 11 November 2001, 22; Lawrence F. Kaplan, "Ours to Lose: Why Is Bush Repeating Clinton's Mistakes?," *New Republic*, 12 November 2001, 25–26; Robert Kagan and William Kristol, "Getting Serious," *Weekly Standard*, 19 November 2001, 7–8; J. Michael Waller, "Rumsfeld: Plagues of Biblical Job," *Insight Magazine*, 10 December 2001; Damian Whitworth and Roland Watson, "Rumsfeld at Odds with His Generals," *London Times*, 16 October 2001, 5; and Toby Harnden, "Rumsfeld Calls for End to Old Tactics of War," *London Daily Telegraph*, 16 October 2001, 8.

57. Quoted in Donald Smythe, *Guerrilla Warrior: The Early Life of John J. Pershing* (New York: Scribner's, 1973), 278.

58. Omar N. Bradley, *A Soldier's Story* (New York: Henry Holt, 1951), 147. For an outline of the four factors underlying civilian control in the United States historically, see my "Civilian Control of the Military," 122–25.

59. The Gallup polling organization has surveyed Americans annually on their confidence in major institutions since the early 1970s, and the military has topped the list since 1987, with over 60 percent expressing a "great deal" or "quite a lot" of confidence. *See* Frank Newport, "Military Retains Top Position in Americans' Confidence Ratings," Gallup, 25 June 2001, https://news.gallup.com/poll/4540/military-retains-top-position-americans-confidence-ratings.aspx; "Small Business and Military Generate Most Confidence in Americans," Gallup, 15 August 1997, https://news.gallup.com/poll/4360/small-business-military-generate-most-confidence-americans.aspx; and "Gallup Poll Topics: A-Z: Confidence in Institutions," 8–10 June 2001, accessed 2 December 2001, https://news.gallup.com/poll/1597/confidence-institutions.aspx. For excellent analyses of the change in public attitudes toward the military since the late 1960s, see David C. King and Zachary Karabell, "The Generation of Trust: Public Confidence in the U.S. Military since Vietnam," revision of a paper presented to the Duke University political sci-

ence department, 29 January 1999, published in 2002 by the American Enterprise Institute; and Richard Sobel, "The Authoritarian Reflex and Public Support for the U.S. Military: An Anomaly?," paper presented at the annual meeting of the Midwest Political Science Association, 16 April 1999. Respect for lawyers is low and has been declining in recent years. *See* Darren K. Carlson, "Nurses Remain at Top of Honest and Ethics Poll," Gallup, 27 November 2000, https://news.gallup.com/poll/2287/nurses-remain-top-honesty-ethics-poll.aspx.

60. Joseph S. Nye Jr., Philip D. Zelikow, and David C. King, eds., *Why People Don't Trust Government* (Cambridge, MA: Harvard University Press, 1997); and Albert H. Cantril and Susan Davis Cantril, *Reading Mixed Signals: Ambivalence in American Public Opinion about Government* (Washington, DC: Woodrow Wilson Center Press, 1999). The decline in trust of government and confidence in public institutions has not been limited to the United States. *See* Susan J. Pharr and Robert D. Putnam, eds., *Disaffected Democracies: What's Troubling the Trilateral Countries?* (Princeton, NJ: Princeton University Press, 2000). Trust in government in the United States after the 11 September attacks jumped dramatically to the highest level since 1968. Frank Newport, "Trust in Government Increases Sharply in Wake of Terrorist Attacks," Gallup, 12 October 2001, https://news.gallup.com/poll/4984/trust-government-increases-sharply-wake-terrorist-attacks.aspx; Alexander Stille, "Suddenly, Americans Trust Uncle Sam," *New York Times*, 3 November 2001, A11; and John D. Donahue, "Is Government the Good Guy?" *New York Times*, 13 December 2001, A31. Whether the attacks will reverse the long-term trend remains to be seen.

61. For critiques of journalism in general and coverage of the military in particular, see Bill Kovach and Tom Rosenstiel, *Warp Speed: America in the Age of Mixed Media* (New York: Century Foundation Press, 1999); and Scott Shuger, "First, the Bad News: The Big Daily Newspapers Get Some Things Right. National Defense Isn't One of Them," *Mother Jones* (September/October 1998): 72–76. My views come from a decade of close reading of reporting on national security issues. An example of lack of interest in civil-military relations is the absence in the media of reaction to and interpretation of the detailed and persuasive reports of Dana Priest (see note 30 above) about the growth in power of the regional commanders, discussed previously. Typical of press misunderstanding is the editorial "Unifying Armed Forces Requires Radical Change" in the 18 June 2001 *Honolulu Star-Bulletin,* calling for abolition of the separate military departments, replacement of the JCS by a "single Chief of Military Staff who would command the armed forces," and further empowerment of the regional commanders. The editorial purports to "make the Secretary of Defense a genuine master of the Pentagon rather than a referee among warring factions," but the recommendations would destroy a secretary's ability to monitor and supervise one of the world's largest, and most complex, bureaucratic structures.

62. *See* William J. Bennett, *The Index of Leading Cultural Indicators: American Society at the End of the Twentieth Century*, updated and expanded ed. (New York: Broadway Books, 1999); Marc Miringoff and Marque-Luisa Miringoff, *The Social Health of the Nation: How America Is Really Doing* (New York: Oxford University Press, 1999); James H. Billington, "The Human Consequences of the Information Revolution," Ditchley Foundation Lecture 37 (Chipping Norton, UK: Ditchley Foundation, 2000); Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon and Schuster, 2000); Everett Carl Ladd, *The Ladd Report* (New York: Free Press, 1999); Weiss, *The Clustered World*, 10–11, 14–15, 19–25, 43–44; Theda Skocpol and Morris P. Fiorina, eds., *Civic Engagement in American Democracy* (Washington, DC: Brookings Institution Press, 1999), essays 1, 12, 13; Derek Bok, *The Trouble with Government* (Cambridge, MA: Harvard University Press, 2001), 386–98; William Chaloupka, *Everybody Knows: Cynicism in America* (Minneapolis: University of Minnesota Press, 1999); Robert D. Kaplan, *An Empire Wilderness: Travels into America's Future* (New York: Random House, 1998); and Adam B. Seligman, *The Problem of Trust* (Princeton, NJ: Princeton

University Press, 1997). More hopeful though still cautious pictures are Robert William Fogel, *The Fourth Great Awakening & the Future of Egalitarianism* (Chicago: University of Chicago Press, 2000); and Francis Fukuyama, *The Great Disruption: Human Nature and the Reconstitution of Social Order* (New York: Free Press, 1999).

63. In the Triangle Institute for Security Studies survey, a number of the 250-some questions examined attitudes about the proper role of the military in society. For example, 49 percent of elite civilians and 68 percent of the mass public agreed ("strongly" or "somewhat") that "in wartime, civilian government leaders should let the military take over running the war," a position echoed by even as distinguished a scholar as Amitai Etzioni ("How Not to Win the War," *USA Today*, 7 November 2001, 15). To the question, "Members of the military should be allowed to publicly express their political views just like any other citizen," 59 percent of the civilian elite and 84 percent of the general public agreed. Civilians were much more likely than the military to condone leaking documents to the press in various situations. The distinguished sociologist James A. Davis felt the results "make one's hair stand on end" but suggested as a "simple explanation" that they are accounted for by "cynicism about civilian politics," Americans' high regard for "their military," and by the ideas that civilian control is "a fairly sophisticated doctrine, while common sense suggests that important decisions should be made by people who are best informed." See his "Attitudes and Opinions among Senior Military Officers and a U.S. Cross-Section, 1998–1999," in *Soldiers and Civilians*, ed. Feaver and Kohn, 120 and esp. table 2.10. My point is that whatever the explanation, the very positive image of the military held by Americans in the last dozen or so years diverges considerably from what seems to have been the historical norm. *See* C. Robert Kemble, *The Image of the Army Officer in America: Background for Current Views* (Westport, CT: Greenwood, 1973); and Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, MA: Harvard University Press, 1957), particularly part 2. At the same time, 47 percent of the general public did *not* think "civilian control of the military is absolutely safe and secure in the United States," and 68 percent thought that "if civilian leaders order the military to do something that it opposes, military leaders will seek ways to avoid carrying out the order" at least "some of the time" (30 percent thought "all" or "most of the time"). For the decline in civics education and understanding, see Chris Hedges, "35% of High School Seniors Fail National Civics Test," *New York Times*, 21 November 1999, 17; and Bok, *Trouble with Government*, 403–6.

64. For the caricatures in popular literature and films, see Howard Harper, "The Military and Society: Reaching and Reflecting Audiences in Fiction and Film," *Armed Forces & Society* 27 (2001): 231–48. Charles C. Moskos, "Toward a Postmodern Military: The United States as a Paradigm," in *The Postmodern Military: Armed Forces after the Cold War,* ed. Charles C. Moskos, John Allen Williams, and David R. Segal (New York: Oxford University Press, 2000), 20; Moskos, "What Ails the All-Volunteer Force: An Institutional Perspective," *Parameters*, Summer 2001, 34–35; and "Interview: James Webb," US Naval Institute *Proceedings*, April 2000, 78–79, all argue that the military is pictured negatively in film. But King and Karabell, "Generation of Trust," 6–7, judge that current portrayals are the most "positive . . . since World War II."

65. Gary Hart, *The Minuteman: Restoring an Army of the People* (New York: Free Press, 1998), particularly chaps. 1, 3.

66. In the TISS survey of "elite" officers, some 40 percent of the National Guard and 25 percent of the reserve respondents listed their occupation as "military," which suggests that they are in uniform full-time or work somewhere in national defense, either for government or industry. *See* David Paul Filer, "Military Reserves: Bridging the Culture Gap between Civilian Society and the United States Military" (master's thesis, Duke University, Durham, NC, 2001), 46–47. In the fiscal year 2001 defense authorization act, 6.6 percent of the Army National

Guard and 20.6 percent of the Air National Guard were authorized to be "dual status" civilian technicians and uniformed members. Charlie Price (National Guard Bureau of Public Affairs) email to author, 12 February 2001.

67. The similarity "attitudinally" between active-duty officers and the National Guard and reserves on some of the questions in the TISS survey is addressed in Filer, "Military Reserves." Other congruence is evident in the data.

68. See, for example, Jack Kelly, "U.S. Reliance on Guards, Reservists Escalating," *Pittsburgh Post-Gazette*, 28 October 2000, 9; Steven Lee Myers, "Army Will Give National Guard the Entire U.S. Role in Bosnia," *New York Times*, 5 December 2000, A8; Winograd, "Officials: Homeland Defense Mission Will Mean Changes," 1; David T. Fautua, "Army Citizen-Soldiers: Active, Guard, and Reserve Leaders Remain Silent about Overuse of Reserve Components," *Armed Forces Journal International*, September 2000, 72–74; John J. Miller, "Unreserved: The Misuse of America's Reserve Forces," *National Review*, 23 July 2001, 26ff.; and Duncan, *Citizen Warriors*, 214–7 and n25. Duncan calls the 1995 deployment of Guardsmen and reserves to the Sinai for six months of peacekeeping duty "unprecedented." See also Peter Bacqué, "Guard Troops Will Head for Sinai in '95," *Richmond Times-Dispatch*, 28 January 1994, B6. The reserve-component contribution to active-duty missions has risen from about 1 million man-days in 1986 to approximately 13 million in each of the years 1996, 1997, and 1998. CSIS, *American Military Culture*, 19. See also Conrad C. Crane, *Landpower and Crises: Army Roles and Missions in Smaller-Scale Contingencies during the 1990s* (Carlisle, PA: US Army Strategic Studies Institute, January 2001), 29–30.

69. Personal exchange, panel discussion on civil-military relations, Marine Corps Staff College, Quantico, VA, September 1998; personal exchange, lecture/discussion with 26 state adjutant generals, US Army War College, Carlisle, PA, October 1998.

70. The decline in citizen-soldiering and some of its implications are addressed in Andrew J. Bacevich, "Losing Private Ryan: Why the Citizen-Soldier Is MIA," *National Review*, 9 August 1999, 32–34. Also see the following articles, all in *Parameters*, Summer 2001: Elliott Abrams and Andrew J. Bacevich, "A Symposium on Citizenship and Military Service," 18–20; Eliot A. Cohen, "Twilight of the Citizen-Soldier," 23–28; and James Burk, "The Military Obligation of Citizens since Vietnam," 48–60. Also Hart, *Minuteman*, esp. 16–17, 21–25. For a recent review of the end of conscription, see David R. Sands, "Military Draft Now Part of Past: Spain and Italy are the Latest European Nations to Abandon Compulsory Service," and "U.S. Talk of a Draft Probably Hot Air," *Washington Times*, 31 December 2000, 1, 4.

71. In the TISS survey, well over 90 percent of the civilian elite said that the people they came into contact with "in the social or community groups to which [they] belong" were either "all civilians" or "mostly civilians with some military." The same was true (over 90 percent of respondents) in the workplace. Americans (both elite and general public) who have not served in the military also have fewer close friends who now serve or are veterans. The prospects for diminished civilian contact with, understanding of, and support for the military are analyzed in Paul Gronke and Peter D. Feaver, "Uncertain Confidence: Civilian and Military Attitudes about Civil-Military Relations," in *Soldiers and Civilians*, ed. Feaver and Kohn, chap. 3. Congressman Ike Skelton, ranking Democrat on the House Armed Services Committee, had already discerned the trend and its implications for support of the military; see Rasheeda Crayton, "Skelton Calls for More Military Support," *Kansas City Star*, 12 November 1997, 15. A more general comment comes from Brent Scowcroft, national security adviser to Presidents Gerald Ford and George H. W. Bush: "With the lessened contact between the American people and the military . . . the results will not be healthy." Scowcroft, "Judgment and Experience: George Bush's Foreign Policy," in *Presidential Judgment: Foreign Policy Decision Making in the White House,* ed. Aaron Lobel (Hollis, NH: Hollis, 2001), 115. The declining propensity of youth to

serve is noted in Thomas W. Lippman, "With a Draft Cut Off, Nation's Society Climate Changed Sharply," *Washington Post*, 8 September 1998, 13. Lippman cites Pentagon "Youth Attitude Tracking Survey" figures indicating that some 32 percent of youth "expressed some desire to join the military" in 1973, the last year of the Cold War draft, but that by 1993 the figure had dropped to 25 percent and by 1997 to 12 percent. See also Moskos, "What Ails the All-Volunteer Force," 39–41.

72. William T. Bianco and Jamie Markham, "Vanishing Veterans: The Decline of Military Experience in the U.S. Congress," in *Soldiers and Civilians*, ed. Feaver and Kohn, chap. 7.

73. Norman Ornstein, "The Legacy of Campaign 2000," *Washington Quarterly*, Spring 2001, 102; William M. Welch, "Most U.S. Lawmakers Lack Combat Experience," *USA Today*, 12 November 2001, 12. Writing before 11 September, Ornstein calls the present "Congress . . . clearly and irrevocably a post–Cold War Congress. Eighty-three percent, or 363 members, of the House were first elected in the 1990s, since the Berlin Wall fell, along with 57 members of the Senate. Few of these lawmakers, in either party, have an abiding interest in the U.S. role in the world. International issues are simply not high on their priority list." He notes also that in a typical post–World War II Congress, some three-quarters of the senators and more than half the representatives were veterans. Importantly, the newer veterans in Congress are quite likely to be Republicans, whereas in the past veterans were more or less evenly split. Donald N. Zillman, "Maintaining the Political Neutrality of the Military," *IUS* [Inter-University Seminar on Armed Forces and Society] *Newsletter*, Spring 2001, 17. In 2000, a retired rear admiral "started a 'National Defense P[olitical] A[ction] C[ommittee]' to support congressional candidates who have served in the armed forces." "Inside Washington, D.C.: G.I. Joes and G.I. Janes Ready Their PAC," *National Journal*, 9 September 2000, 2759.

74. According to the newsletter of the Federal Voting Assistance Program, the military began voting in greater percentages than the public in 1984, and in 1996 "at an overall rate of 64%, compared to the 49% rate generated by the general public. The Uniformed Services' high participation rate can be directly attributed to the active voter assistance programs conducted by Service Commanders and to assistance from the state and local election officials in simplifying the absentee voting process and accommodating the special needs of the Uniformed Services." See "Military Retains High Participation Rates," *Voting Information News*, July 1997, 1. In the 1980 election, military voting was below civilian (49.7 to 52.6 percent). In the 1992 election, the Defense Department expanded the program, according to a reporter, "to register and turn out military voters," changing the "emphasis . . . from ensuring availability of voting forms to mustering ballots at the polls." Setting "for the first time . . . a target rate for participation," this "new focus on voter turnout . . . has led some Democratic and some independent analysts to suspect the Bush administration is trying to energize a predictably sympathetic voter base." Barton Gellman, "Pentagon Intensifies Effort to Muster Military Voters," *Washington Post*, 17 September 1992, A1. See also Daniel A. Gibran, *Absentee Voting: A Brief History of Suffrage Expansion in the United States* (Washington, DC: Federal Voting Assistance Program, August 2001).

75. Ole R. Holsti, "A Widening Gap between the U.S. Military and Civilian Society? Some Evidence, 1976–1996," *International Security*, Winter 1998/1999, 11; and TISS survey data. Some observers think the actual Republican figure is much higher, many officers being reluctant to reveal a preference, "knowing full and well what the reaction would be if the percentage of Republicans in the elite military ranks was seen to approach 85 to 90 per cent, which I am told is a reasonable figure." This well-connected West Point graduate continued, "We're in danger of developing our own in-house Soviet-style military, one in which if you're not in 'the party,' you don't get ahead. I have spoken with several . . . who were run out of the Army near the beginning of their careers when commanders became aware that they had voted for Clinton in 1992. I have no doubt they are telling me the truth, and . . . I've spoken with some . . .

who confirm their stories." Enclosure in Tom Ricks to the author 20 November 2000. Generals and admirals—who, as older, more senior, and more experienced officers could be expected to be imbued with the more traditional ethic of nonaffiliation—have a slightly higher independent or nonpartisan self-identification. In 1984, *Newsweek* (9 July, p. 37) surveyed 257 flag officers, about a quarter of those on active duty; the results were Republican 52 percent, Democrat 4 percent, independent 43 percent, "don't know" 1 percent. Holsti's 1984 officer sample contained 29 percent independents. The TISS survey included seventy-four one- and two-star officers: Republican 57 percent; Democrat 9 percent; independent, no preference; and "other," 34 percent. The TISS active-duty sample was 28 percent independent/no preference/other.

76. Pat Towell, "GOP Advertises Differences with Commander in Chief in Military-Oriented Papers," *Congressional Quarterly Weekly*, 11 December 1999, 2984; Republican National Committee advertisement, "Keeping the Commitment: Republicans Reverse Years of Military Neglect," *Air Force Times*, 13 December 1999, 57; Republican National Committee postcard to University of North Carolina Army ROTC cadre members, n.d. [Fall 2000], in possession of author; Frank Abbott to author, 11 October 2000; and David Wood, "Military Breaks Ranks with Non-Partisan Tradition," *Cleveland Plain Dealer*, 22 October 2000, 16. Just prior to the election, the Republican National Committee paid for email messages from Colin Powell urging recipients to vote for "our Republican team"; Powell to Alvin Bernstein, subject "A Message from Colin L. Powell," 6 November 2000, in possession of author. In the 2000 election, about 72 percent of *overseas* military personnel, targeted particularly by Republicans, voted. The overall voting rate for the civilian population was 50 percent. Robert Suro, "Pentagon Will Revise Military Voting Procedures," *Washington Post*, 23 June 2001, 2. The Bush campaign pushed to count overseas military ballots, even questionable ones, in counties where Bush was strong and to disqualify those in counties where Gore was strong, nearly resulting in a large enough net gain to swing the outcome by itself. David Barstow and Don Van Natta Jr., "How Bush Took Florida: Mining the Overseas Absentee Vote," *New York Times*, 15 July 2001, 1.

77. Christopher McKee, *A Gentlemanly and Honorable Profession: The Creation of the U.S. Naval Officer Corps, 1794–1815* (Annapolis, MD: Naval Institute Press, 1991), 107–8; William B. Skelton, *An American Profession of Arms: The Army Officer Corps, 1784–1861* (Lawrence: University Press of Kansas, 1992), chap. 15; Edward M. Coffman, *The Old Army: A Portrait of the American Army in Peacetime, 1784–1898* (New York: Oxford University Press, 1986), 87–96, 242–3, 266–9; and Peter Karsten, *The Naval Aristocracy: The Golden Age of Annapolis and the Emergence of Modern American Navalism* (New York: Free Press, 1972), 203–13.

78. Gen Lucian K. Truscott Jr., in *The Twilight of the U.S. Cavalry: Life in the Old Army, 1917–1942* (Lawrence: University Press of Kansas, 1989), remembers that "there was never much partisan political feeling on military posts, even during years of presidential elections. . . . [T]he military were isolated from the political rivalries. . . . Then too, Regular Army officers were sworn to uphold and defend the Constitution . . . and . . . carried out orders regardless of the political party in power. . . . Further, few officers maintained voting residence, and absentee voting was relatively rare at this time" (p. 130). Edward M. Coffman, who has spent over two decades studying the peacetime Army (his volume covering the social history of the Army, 1898–1941, to follow his *The Old Army*, is near completion [Coffman, *The Regulars: The American Army, 1898-1941* (Cambridge, Mass.: Belknap, 2004)]), found that regular officers in the nineteenth century "generally stayed out of politics with rare exceptions" and during "the 20th century" had "virtually no participation in voting. For one thing, the absentee ballot was not in vogue—and then there was the problem of establishing residency but, as I picked up in interviews [Coffman has done several hundred with veterans of the 1900–40 era], they didn't think it was their place to vote. Again and again, both officers and their wives told me that they didn't vote until after retirement." Coffman, email to the author, 23 July 1999. Nonpartisanship and

lack of voting in the 1930s is confirmed by Daniel Blumenthal in "Legal Prescriptions, Customary Restrictions, Institutional Traditions: The Political Attitudes of American Officers Leading Up to World War II," seminar paper, National Security Law Course, Duke University Law School, 4 April 1998.

79. I agree with Lance Betros, "Political Partisanship and the Military Ethic in America," *Armed Forces & Society* 27 (2001): 501–23, that the mere act of voting is not partisan, but I think that continual voting over time for the same party can lead to partisanship that *does* harm military professionalism. In a March 1999 discussion at the Naval War College, Adm Stanley Arthur felt that officers who are sincere about their votes "take ownership" of them, a commitment that could undermine their ability to be neutral, apolitical instruments of the state. I do not find that promoting one's armed service, writing about national defense issues to affect policy, and making alliances with politicians to advance one's own personal and service interests are the same as the partisanship of identifying personally with the ideology and political and cultural agendas of a political party, which is the kind of partisanship that has emerged in the last two decades. For a different view, see Betros, "Officer Professionalism in the Late Progressive Era," in *The Future of Army Professionalism,* ed. Don Snider and Gayle Watkins (New York: McGraw-Hill, 2002).

80. Mackubin Thomas Owens, "The Democratic Party's War on the Military," *Wall Street Journal*, 22 November 2000, 22. See also Tom Donnelly, "Why Soldiers Dislike Democrats," *Weekly Standard*, 4 December 2000, 14.

81. Ed Offley, "Rejected Military Votes Spark New Furor in Florida Election Count," *Stars and Stripes Omnimedia*, 20 November 2000; Thomas E. Ricks, "Democratic Ballot Challenges Anger Military," *Washington Post*, 21 November 2000, A18; Kenneth Allard, "Military Ballot Mischief," *Washington Times*, 27 November 2000; and Elaine M. Grossman, "Rift over Florida Military Ballots Might Affect a Gore Administration," *Inside the Pentagon*, 30 November 2000, 1.

82. TISS, "Survey on the Military in the Post-Cold War Era," 1999. The question read: "If civilian leaders order the military to do something that it opposes, military leaders will seek ways to avoid carrying out the order: all of the time [9 percent chose this answer]; most of the time [21 percent]; some of the time [38 percent]; rarely [20 percent]; never [8 percent]; no opinion [4 percent]." The telephone survey of over 1,000 people was administered by Princeton Survey Research Associates in September 1998.

83. I made this argument more fully in "The Political Trap for the Military," *Raleigh (North Carolina) News & Observer*, 22 September 2000, A19, orig. pub. *Washington Post*, 19 September 2000, A23. See also Charles A. Stevenson, "Bridging the Gap between Warriors and Politicians," paper presented at the annual meeting of the American Political Science Association, Atlanta, Georgia, 2–5 September 1999.

84. Richard Holbrooke, *To End a War* (New York: Random House, 1998), 144–46, 361–62. An indication of the bitterness that developed between Holbrooke and Adm Leighton W. Smith, commander in chief, Allied Forces Southern Europe, who carried out the bombing on behalf of NATO's governing body, is in "Frontline: Give War a Chance," WGBH Educational Foundation, 2000, aired 11 May 1999, Public Broadcasting System. For a dispassionate view of the misunderstanding between political and military officials, see "Summary," in *Deliberate Force: A Case Study in Effective Bombing,* ed. Col Robert C. Owen, USAF (Maxwell AFB, AL: Air University Press, 2000), 500–5.

85. Huntington, *Soldier and the State*, chaps. 2, 8–11; 361–67; James L. Abrahamson, *America Arms for a New Century: The Making of a Great Military Power* (New York: Free Press, 1981), 138–47; and Karsten, *Naval Aristocracy*, 187–93.

86. In the TISS survey, the answers "agree strongly" or "agree somewhat" were given to the assertion, "The decline of traditional values is contributing to the breakdown of our society,"

according to the following distribution ("military" being defined as active-duty, reserve on active duty, and National Guard up-and-coming officers): military, 89 percent; civilian elite, 70 percent; mass public, 82 percent. For the statement "through leading by example, the military could help American society become more moral," the figures were military 70 percent and civilian elite 42 percent (the mass public was not surveyed on this question). For "civilian society would be better off if it adopted more of the military's values and customs," the distribution was: military, 75 percent; civilian elite, 29 percent; and mass public, 37 percent. See also Davis, "Attitudes and Opinions," in *Soldiers and Civilians*, ed. Feaver and Kohn, 116–19. For more analysis of the military view of civilian society, see Gronke and Feaver, "Uncertain Confidence," 147ff. On p. 149 they write, "Elite military officers evaluate civilian society far more negatively than do elite civilians." The use of the military as a role model for society has a long history in American thinking; in the 1980s, the Chief of Naval Operations, James D. Watkins, was a leading proponent of that view. Peter Grier, "Navy as National Role Model?" *Christian Science Monitor*, 4 June 1986, 1.

87. Sam C. Sarkesian, "The U.S. Military Must Find Its Voice," *Orbis*, Summer 1998, 423–37; and James H. Webb Jr., "The Silence of the Admirals," U.S. Naval Institute *Proceedings*, January 1999, 29–34. Sarkesian expanded the argument in Sam C. Sarkesian and Robert E. Connor Jr., *The U.S. Military Profession into the Twenty-first Century: War, Peace and Politics* (London: Frank Cass, 1999), esp. chaps. 11, 12. Even as respected and experienced a defense reporter as George C. Wilson has implied that the senior military leadership should speak out publicly in disagreement with their civilian superiors. This sentiment became something of a mantra in the middle and late 1990s as senior officers were accused of caving in to political correctness. *See* Wilson, "Joint Chiefs Need to Be More Gutsy," *National Journal*, 20 November 1999, 3418.

88. Webb, "Silence of the Admirals," 34.

89. Crowe, *Line of Fire*, 214. The 1998–99 TISS survey asked under what circumstances "it is acceptable for a military member to leak unclassified information or documents to the press." The figures for active-duty officers were:

Survey choices	Agree	Disagree	No Opinion
A. "a crime has been committed and the chain of command is not acting on it . . ."	26%	70%	4%
B. "doing so may prevent a policy that will lead to unnecessary casualties . . ."	30%	65%	6%
C. "doing so discloses a course of action that is morally or ethically wrong . . ."	28%	65%	7%
D. "he or she is ordered by a superior . . ."	17%	76%	7%
E. "doing so brings to light a military policy or course that may lead to disaster for the country . . ."	39%	55%	6%
F. "never."	41%	49%	10%

Reserve and National Guard officers were slightly more willing to agree to leak, but at the same time, a higher percentage of them (46 percent) answered "never."

90. Peter J. Skibitski, "New Commandant Intends to Push for More Resources for Pentagon," *Inside the Navy*, 15 November 1999, 1; Hunter Keeter, "Marine Commandant Calls for Defense Spending Increase," *Defense Daily*, 16 August 2000, 6; John Robinson, "Outgoing 6th Fleet Commander Warns Fleet Size Is too Small," *Defense Daily*, 22 September 2000, 1; Elaine M. Grossman, "Defense Budget Boost to 4 Percent of GDP Would Pose Dramatic Shift," *Inside the Pentagon*, 31 August 2000, 3; Steven Lee Myers, "A Call to Put the Budget Surplus to Use for

the Military," *New York Times*, 28 September 2000, A24; Cindy Rupert, "Admiral: Navy Pales to Past One," *Tampa Tribune*, 21 October 2000, 2; Linda de France, "Senior Navy Officers: 'We Need More Ships, Planes, Subs,' " *Aerospace Daily*, 30 October 2000, and "In Next QDR, 'Budgets Need to Support Our asking,' General Says," *Aerospace Daily*, 4 December 2000; Vickii Howell, "Admiral Tells Civic Clubs Navy Needs More Ships, Subs," *Birmingham* (Alabama) *News*, 16 November 2000, 6B; Robert I. Natter, "Help Keep This the Greatest Navy," US Naval Institute *Proceedings*, December 2000, 2; and Rowan Scarborough, "Military Expects Bush to Perform," *Washington Times*, 26 December 2000, 1.

91. Rowan Scarborough, "Cohen Tells Military Leaders 'Not to Beat Drum with Tin Cup,'" *Washington Times*, 8 September 2000, 4. Secretary Cohen told them, according to his spokesman, "to be honest but. . . ." According to Thomas E. Ricks and Robert Suro, "Military Budget Maneuvers Target Next President," *Washington Post*, 5 June 2000, 1, the armed services began ignoring civilian orders on the budget as early as June 2000, in order to "target" the next administration.

"We're going for the big money," an officer on the Joint Staff was quoted as saying. . . . Pentagon insiders say the Clinton administration, which long has felt vulnerable on military issues, doesn't believe it can afford a public feud with the chiefs—especially in the midst of Gore's campaign. So, these officials say, aides to defense Secretary William S. Cohen are seeking only to avoid confrontation and to tamp down the controversy. . . . One career bureaucrat in the Office of the Secretary of Defense said privately that he was offended by the arrogant tone service officials have used in recent discussions. . . .By contrast, a senior military official said the chiefs' budget demands represent a "repudiation of bankrupt thinking" in both the White House and Congress, which have asked the military to conduct a growing number of missions around the world in recent years without paying the full bill.

92. Bradley Graham, "Joint Chiefs Doubted Air Strategy," *Washington Post*, 5 April 1999, A1. See also Maj Kenneth R. Rizer, USAF, *Military Resistance to Humanitarian War in Kosovo and Beyond: An Ideological Explanation,* Fairchild Paper (Maxwell AFB, Ala.: Air University Press, 2000), 1–2, 7, 41–42.

93. The regular public promotion of service interests by officers began when the Navy and Army in the late nineteenth and early twentieth centuries formed coherent understandings of their own roles in national defense and formal doctrines for war fighting in their respective domains of sea and land (and later air). The institutionalization of service advice on military subjects and public pronouncements on national security affairs has circumscribed civilian control to a degree. Efforts to limit the military's public voice, beginning perhaps in the first Wilson administration (1913–17), have been episodic and often ineffective. *See* Allan R. Millett, *The American Political System and Civilian Control of the Military: A Historical Perspective* (Columbus: Mershon Center of the Ohio State University, 1979), 19, 27–30; Karsten, *Naval Aristocracy*, 301–13, 362–71; Abrahamson, *America Arms for a New Century*, 147–50; Betros, "Officer Professionalism," in press; and Johnson, *Fast Tanks and Heavy Bombers*, 68–69.

94. Published in New York by HarperCollins, 1997. The author was McMaster's adviser at the University of North Carolina at Chapel Hill, 1992–96, for the seminar papers, master's thesis, and doctoral dissertation that resulted in the book.

95. McMaster hints at such an interpretation only by implying that the Army chief of staff, Harold K. Johnson, might have been justified in resigning (p. 318); by implying that the chiefs should have "confront[ed] the president with their objections to McNamara's approach to the war" (p. 328); by stating that "the president . . . expected the Chiefs to lie" and "the flag officers should not have tolerated it" (p. 331); and by blaming the chiefs for going along with a strategy they believed would fail and thus sharing the culpability with their deceitful civilian superiors for losing the war "in Washington, D.C., even before Americans assumed sole responsibility for

the fighting in 1965 and before they realized the country was at war; indeed, even before the first American units were deployed" (pp. 333–34). The interpretation of long standing in military thinking since the Vietnam War is that the war lacked clear objectives, that it was lost because a fallacious strategy was imposed by deceitful politicians who limited American power and micromanaged military operations, and because the American people, with no stake in the war (in part because elites avoided service), were biased against the American effort by a hostile press. Rosemary Mariner, a retired naval captain and pioneer naval aviator, remembers "a certain litany to the Vietnam War story" in "every ready room" and at every "happy hour" from "flight training and throughout subsequent tactical aviation assignments" (she was commissioned in 1973), a "tribal lore that Robert S. McNamara was the devil incarnate whom the Joint Chiefs obviously didn't have the balls to stand up to. . . . Had the generals and admirals resigned in protest or conducted some kind of a second 'admiral's revolt,' the war would have either been won or stopped." Thus Mariner's "initial reaction to McMaster's book was that it simply affirmed what had been viewed as common wisdom." Conversation with the author, 13 April 2000, Durham, NC; email to the author, 14 May 2001. Indications of the impact of Vietnam on officer thinking are in George C. Herring, "Preparing Not to Fight the Last War: The Impact of the Vietnam War on the U.S. Military," in *After Vietnam: Legacies of a Lost War,* ed. Charles Neu (Baltimore: Johns Hopkins University Press, 2000), 73–77; David Howell Petraeus, "The American Military and the Lessons of Vietnam: A Study of Military Influence and the Use of Force in the Post-Vietnam Era" (PhD diss., Princeton University, Princeton, NJ, 1987); and Frank Hoffman, *Decisive Force: The New American Way of War* (Westport, CT: Praeger, 1996).

96. Fogleman explained his motives in a 1997 interview and specifically rejected the notion that he resigned in protest. Kohn, ed., "Early Retirement of Fogleman," 6–23, esp. 20.

97. While there is no tradition of resignation in the American armed forces, it has happened, and occasionally senior officers have considered or threatened it. In 1907, "Admiral Willard H. Brownson resigned as chief of the Bureau of Navigation after the president [Theodore Roosevelt], over Brownson's protests, appointed a surgeon rather than a line officer to command a hospital ship." Oyos, "Roosevelt, Congress, and the Military," 325. George C. Marshall offered or intimated resignation, or was reported to have done so, at least a half-dozen times when chief of staff, but he claimed later to have actually threatened it only once—and in retrospect characterized his action as "reprehensible." Forrest C. Pogue, *George C. Marshall: Ordeal and Hope* (New York: Viking, 1966), 461n33, 97–103, 285–87; and *George C. Marshall: Organizer of Victory, 1943–1945* (New York: Viking, 1973), 246–47, 492–93, 510–11. Gen Harold K. Johnson considered resigning several times, and in August 1967 the Joint Chiefs (absent one member) considered resigning as a group over the Vietnam War. *See* Lewis Sorley, *Honorable Warrior: General Harold K. Johnson and the Ethics of Command* (Lawrence: University Press of Kansas, 1998), 181–82, 223–24, 263, 268–70, 285–87, 303–4. In 1977, on a flight to Omaha from Washington, Gen F. Michael Rogers suggested to four of his colleagues that all of the Air Force's four-stars should resign over President Jimmy Carter's cancelation of the B-1 bomber, but nothing came of the discussion. *See* Erik Riker-Coleman, "Political Pressures on the Joint Chiefs of Staff: The Case of General David C. Jones," paper presented at the annual meeting of the Society for Military History, Calgary, Alberta, 27 May 2001. The source for the discussion of mass resignation is Bruce Holloway [Gen, USAF], oral history interview by Vaughn H. Gallacher [Lt Col, USAF], 16–18 August 1977, US Air Force Historical Research Agency, Maxwell AFB, AL, 424–26. In a discussion about pressure to resign over the cancelation of the B-1, Gen David C. Jones (oral history interview by Lt Col Maurice N. Marynow, USAF, and Richard H. Kohn, August–October 1985 and January–March 1986, 178–9, 181) commented, "I think there are cases where people should perhaps resign: first, if they are ever pressured to do something immoral, illegal, or unethical; second, if you possibly felt you hadn't had your day in court—if you

hadn't been able to express your views; or if we had been inhibited in the conversation to the Congress. . . . It seems to me that it is very presumptuous that somebody in the military can set themselves up on a pedestal, that they have the answer to the country, that the President who has just been elected on a platform of cutting the defense budget, is somehow so wrong that we are in this pedestal position, that we know the answers in this country. . . . It is up to the military to make its case, and then salute smartly once that case is made. . . . The only thing I have seen while I was in the military that really would be . . . a condition of resignation would be somehow during the Vietnam War. But probably . . . it would have been for the wrong reasons [—] . . . the White House . . . determining the targets . . . or whatever. The more fundamental reason is how in the world did we get ourselves involved in a land war in Southeast Asia [?] . . . [W]e are really servants of the people. The people make their decisions on the President. We are not elected; the President is elected. It's only in that regard if number one, they are trying to corrupt you by ignoring you and by muzzling you and all that sort of stuff. . . . Or if something is of such national importance, and I'm not sure anybody can predict it." In 1980, Gen Edward N. Meyer, chief of staff of the Army, was asked by the secretary of the Army to rescind a statement he had made to Congress about "a hollow army." Meyer refused and offered his resignation, but it was not accepted. Kitfield, *Prodigal Soldiers*, 201–3. Retired Marine Corps commandant Charles C. Krulak (question and answer session, Joint Services Conference on Professional Ethics, Springfield, Virginia, 27–28 January 2000, enclosed in an email from a colleague to the author, 1 February 2000) claimed that "it had become known within the Pentagon that fifty-six Marine General Officers would 'turn in their suits' if mixed gender training were imposed on the Marine Corps. . . . The Marines drew a line in the sand, and the opposition folded."

98. Colin L. Powell with Joseph E. Persico, *My American Journey* (New York: Random House, 1995), 167.

99. Powell, *My American Journey*, 149. In May 1983, then–Lt Col Wesley Clark "suggested a line of argument" to then Brigadier General Powell for introducing a transition plan to the incoming Army chief of staff: "Isn't the most important thing never to commit U.S. troops again unless we're going in to win? No more gradualism and holding back like in Vietnam, but go in with overwhelming force?" According to Clark, "Powell agreed. . . . This argument captured what so many of us felt after Vietnam." Clark, *Waging Modern War*, 7. Clark remembered that "in the Army, it had long been an article of resolve that there would be 'no more Vietnams,' wars in which soldiers carried the weight of the nation's war despite the lack of public support at home" (p. 17).

100. Ole R. Holsti, "Of Chasms and Convergences: Attitudes and Beliefs of Civilians and Military Elites at the Start of a New Millennium," in *Soldiers and Civilians*, ed. Feaver and Kohn, 84, 489, and tables 1.27, 1.28.

101. Lt Gen Ronald T. Kadish, USAF, director, Ballistic Missile Defense Organization, "Remarks," 6 December 2000, Space and Missile Defense Symposium and Exhibition, Association of the United States Army, El Paso, TX.

102. Frank Hoffman, email to the author, 14 March 2000. Hoffman, a member of the national security study group assisting the U.S. Commission on National Security/21st Century, reported his conversation with a "Joint Staff Officer that the Joint Staff and the military officers in the NSC were coordinating a rapid schedule to preclude the president from announcing a Clinton Doctrine on the use of force in late October. It was expressed in the conversation that it was hoped that publishing a strategy with narrow use of force criteria would cut out the president from contradicting himself late in the month in a speech that would contravene the military's idea of how to use military force."

103. Kohn, "Early Retirement of Fogleman," 12.

104. "Why is it . . . that whatever the question is—enforcing a peace agreement in Bosnia, evacuating the U.N. from Bosnia, or invading Haiti, the answer is always 25,000 Army troops?," asked one Marine officer of a reporter. By mid-1995, the uniformed leadership was more divided on opposing interventions. *See* Thomas E. Ricks, "Colin Powell's Doctrine on Use of Military Force Is Now Being Questioned by Senior U.S. Officers," *Wall Street Journal*, 30 August 1995, A12; and Quinn-Judge, "Doubts of Top Brass," 12.

105. Kohn, "Early Retirement of Fogleman," 18. Another possible resignation was voiced privately in 2000. Conversation with a senior military officer, January 2001.

106. In "The Pentagon, Not Congress or the President, Calls the Shots," *International Herald Tribune*, 6 August 2001, journalist William Pfaff calls the military "the most powerful institution in American government, in practice largely unaccountable to the executive branch." He considers the Pentagon's "power in Congress" to be "unassailable." In "The Praetorian Guard," *National Interest*, Winter 2000/2001, 57–64, Pfaff asserts (p. 63) that American "military forces play a larger role in national life than their counterparts in any state outside the Third World." See also Desch, *Civilian Control*, chap. 3 and appendix; Charles Lane, "TRB from Washington," *New Republic*, 15 November 1999, 8; Melvin Goodman, "Shotgun Diplomacy: The Dangers of Letting the Military Control Foreign Policy," *Washington Monthly*, December 2000, 46–51; and Gore Vidal, "Washington, We Have a Problem," *Vanity Fair*, December 2000, 136ff.

107. For the long-term congressional forfeiture of authority in national security, see Louis Fisher, *Congressional Abdication on War & Spending* (College Station: Texas A&M University Press, 2000), chaps. 1–4.

108. The oath every American military officer takes upon commissioning reads: "I, [name], do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties of the office on which I am about to enter. So help me God." The requirement and wording is in 5 USC §3331 (1966). An oath to support the Constitution is required of "all executive and judicial officers" as well as senators and representatives, of the national and state governments, by US Constitution, Article VI, para. 3.

109. For civilian control in the Constitution, see Richard H. Kohn, "The Constitution and National Security: The Intent of the Framers," in *The United States Military under the Constitution of the United States, 1789-1989,* ed. Richard H. Kohn (New York: New York University Press, 1991), 61–94.

110. A good bibliography of the literature on the Vietnam War is George C. Herring, *America's Longest War: The United States and Vietnam, 1950–1975*, 3rd ed. (New York: McGraw-Hill, 1996). The most convincing explanations of the American defeat explore the inability of the United States and South Vietnam to prevent communist forces from contesting the countryside and thereby continuing combat and the failure to establish an indigenous government that could command the loyalty or obedience of the population, in the crucial period 1965–68, before the American people lost patience with the cost and inconclusiveness of the struggle and forced American disengagement. The best discussion to date of civil-military relations in the Persian Gulf War is Michael R. Gordon and Gen Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown, 1995). The memoirs of Generals Powell and Schwarzkopf confirm the very strong oversight and occasional intervention by the Bush administration in strategy and operations during the fighting. The senior British commander in the Gulf, General Sir Peter de la Billiere, *Storm Command: A Personal Account* (London: HarperCollins, 1992), remembers (p. 103) that "Schwarzkopf was under intense pressure from Washington . . . to consider other plans being dreamt up by amateur strategists in the Pentagon," but (pp. 139–40) that as late as early December 1990 he "had no written directive as to

how he should proceed[,] . . . no precise instructions as to whether he was to attack Iraq as a whole, march on Baghdad, capture Saddam, or what." See also George Bush and Brent Scowcroft, *A World Transformed* (New York: Random House, 1998), 302ff.

111. That civilian control includes the right of the civilians to be "wrong" is the insight of Peter D. Feaver. See his "The Civil-Military Problematique: Huntington, Janowitz and the Question of Civilian Control," *Armed Forces & Society* 23 (1996): 154.

112. The importance of firm civilian control, even to the point of interference in technical military matters, in order to assure a strong connection between ends and means, is the argument of Eliot A. Cohen, "The Unequal Dialogue," in *Soldiers and Civilians*, ed. Feaver and Kohn, chap. 12.

113. S. L. A. Marshall, the famous journalist and reserve officer who from the 1930s through the 1970s studied and wrote so influentially about soldiers, soldiering, battle, and war, was not contrasting the military from other professions but people in uniform from all others when he wrote: "The placing of the line of duty above the line of self-interest . . . is all that distinguishes the soldier from the civilian. And if that aspect of military education is slighted for any reason, the nation has lost its main hold on security." *The Soldier's Load and the Mobility of a Nation* (1947; repr. Quantico, VA: Marine Corps Association, 1980), 104.

114. I am indebted to University of North Carolina at Chapel Hill emeritus professor of political science Raymond Dawson for this distinction.

115. Since the end of the Cold War, the Department of Defense has created at least three new institutes for security studies to teach democratic defense practices, particularly civilian control of the military, to other nations. Presently there are at least four, meant to serve uniformed officers, defense officials, and political leaders from formerly communist countries in Europe and Central Asia, Latin America, Africa, and the Asia-Pacific region.

116. Speech to the House of Commons, 11 November 1947, quoted in Robert Rhodes James, ed., W*inston S. Churchill: His Complete Speeches*, 8 vols. (New York: Chelsea House, 1974), vol. 7, 7566.

Reflections on Military Professionalism*

Andrew Bacevich

It is with trepidation that I deliver the 2014 Harmon Lecture. To be chosen for this task is a great honor, of course, but it also represents a considerable responsibility. The first Harmon Lecture that I can recall reading was one delivered in 1970 by General Sir John Winthrop Hackett. Hackett, something of a soldier-scholar, had recently retired after a very successful career in the British army. He chose to call his presentation "The Military in the Service of the State." His subject was the profession of arms.†

The American profession of arms was, at that very moment, in deep trouble. The Vietnam War, its American phase having begun in earnest during my plebe year in 1965, was still ongoing and obviously not going well. The war had divided the country, members of my own generation not least of all. In 1968, the Tet Offensive had shattered expectations of anything approximating a victorious outcome. The My Lai massacre, news of which broke the following year, left an indelible stain on the reputation of US forces. A failed cover-up engineered by senior officers only made matters worse. To top things off, an American-led invasion of Cambodia in the spring of 1970, not long before Hackett visited this institution, triggered a fresh bout of angry protest at home. This culminated with the shooting of college students by National Guardsmen at Kent State University.

It was not a happy time to be a soldier. As I boarded a plane en route to Cam Ranh Bay that summer, I knew one thing for sure: whatever we were doing in Vietnam, victory was no longer the aim. What I did not know, but soon discovered, was that the army in which I was serving teetered on the brink of disintegration.

Astonishingly, in his presentation to the cadet wing, Hackett ignored Vietnam. He did not mention the professional crisis even then enveloping the American officer corps, affecting my own service above all. Perhaps he was being polite. Perhaps Hackett may have been saying things that he himself believed. In any case, he served up blather dressed up as profound truths.

"Military institutions," Hackett announced, "form a repository of moral resource which should always be a source of strength within the state." By adhering to virtues that defined the military professional ethic—he mentioned in particular "fortitude, integrity, self-restraint" along with "the surrender of

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†See General Sir John Hackett, "The Military in the Service of the State," in Harry R. Borowski ed., *The Harmon Memorial Lectures in Military History, 1959-1987* (Washington, DC: Office of Air Force History, 1988. General Hackett's lecture was the thirteenth Harmon Memorial Lecture and was given on 22 October 1970.

the advantage of the individual to a common good"—soldiers served as moral beacons for society as a whole. The military profession, Hackett continued, thereby provided "a well from which to draw refreshment for a body politic in need of it."

As a young officer, serving in a time of considerable moral confusion, I may have found consolation in this description. Today I find it too pat and too self-congratulatory. Hackett pandered to his listeners. He told them what they wanted to hear rather than what they needed to hear. As a consequence, he did them a great disservice.

What Hackett might have said is this: Adherence to the military professional ethic is hard. To reduce that ethic to a laundry list of clichés is to conceal just how hard it is. Making it harder still is the fact that the inculcation of professional values occurs in an environment that may actually undermine those values.

Let me take my own undergraduate institution as an example. The motto of the military academy—in many respects, the motto of the officer corps as a whole—is "Duty, Honor, Country." I think it's fair to say that the West Point that I attended back in the 1960s drilled that phrase into us. Here, reduced to a mere three words, was the code that was to define our behavior.

Yet even while insisting that cadets embrace that code, West Point was simultaneously promoting a different set of values, which fostered a different conception of what it means to be a military professional. In this alternative conception, professionalism is about ascending the rungs of a ladder. The higher you ascend the greater your claim to professional standing. So rank, badges, awards, and prestigious assignments—these become the hallmarks of status.

Those responsible for designing the intensive socialization process that defined the West Point experience in my day would reject the charge that they were promoting values at odds with Duty, Honor, and Country. But they were, even if unconsciously or out of ignorance. At West Point, rhetoric and everyday lived experience were not in harmony, a condition that cannot help but induce bewilderment, if not cynicism.

Furthermore, when we completed our apprenticeship at West Point and received our commissions, we discovered that this other value set—the one that placed a premium on individual recognition and advancement—pervaded the officer corps. In Vietnam, it was reaching epidemic proportions. In this environment, keeping faith with the code defined by Duty, Honor, and Country posed no small challenge.

I will not stand here and tell you that I myself met that challenge satisfactorily. I did not. Perhaps paradoxically, my personal failings eventually led me to appreciate just how demanding the military professional ethic is. For me, falling short of the standard became a belated source of corrective education.

That was many years ago, of course. I have long since left your profession. I am today merely an interested, although I hope sympathetic, observer.

As such, I am troubled by the evidence that another crisis of sorts is afflicting the profession of arms. I do not think for a second that the crisis compares even remotely to the crisis provoked by Vietnam. But it is a crisis all the same, one that has in recent months caught the attention of both Secretary of Defense Chuck Hagel and Gen Martin Dempsey, current chairman of the Joint Chiefs of Staff.* I will not rehearse the evidence of this current crisis in detail, but it is everywhere. It ranges from stupefying misconduct by senior officers to cheating scandals—cheating conspiracies really—involving younger officers charged with responsibility for the nation's land-based nuclear strike forces.†

It also includes reprehensible actions by service academy cadets and midshipman manifestly clueless about what it means to behave in a manner becoming an "an officer and a gentleman." I ask your forgiveness for using that gendered yet still evocative phrase.

What troubles me more still is my suspicion that those inhabiting the upper reaches of the Pentagon have little conception of how to address the problem. They know something's gone awry. They are at a loss for how to fix what's broken. I note that Secretary Hagel recently appointed a flag officer to serve as his "senior advisor on military professionalism." While bureaucratically predictable, this is the equivalent of President Obama adding to the White House staff a "senior advisor for bipartisanship."‡ It's a gesture—what you do to make a show of doing something, hoping thereby to conceal the fact that you actually don't know what to do.

As a practical matter, the addition of a one-star admiral to the Office of the Secretary of Defense—already consisting of the secretary, a deputy secretary, an executive secretary, five undersecretaries, six deputy undersecretaries, fifteen assistant secretaries, and five principal deputy assistant secretaries along with some 2,400 other military and civilian personnel—is unlikely to have a transformative effect. No doubt high-sounding exhortations will rain down from on high. But when it comes to navigating through the ethical challenges you will encounter upon being commissioned, don't expect much in terms of

*This remark came a few months after the a sexual assault and harassment crisis in the US military, as reported in Associated Press, "Obama Says Military Leaders 'Ashamed' of Their Failure to End Sexual Abuse," FOX News, http://www.foxnews.com/politics/2013/05/16/joint-chiefs-chairman-cites-crisis-over-alleged-military-sexual-assaults.html, 16 May 2013.

†Ernesto Londono, "U.S. Air Force Relieves Nine Officers following Nuclear Test Cheating Probe," *Washington Post*, 27 March 2014, https://www.washingtonpost.com/world/national-security/us-air-force-fires-nine-officers-following-nuclear-test-cheating-probe/2014/03/27/9e5eaffa-b5e0-11e3-b899-20667de76985_story.html.

‡On 25 March 2014, Secretary of Defense Chuck Hagel named Rear Adm Margaret "Peg" Klein to serve as his senior advisor for Military Professionalism, see "SECDEF Announces Senior Advisor for Military Professionalism," Navy.mil, http://www.navy.mil/submit/display.asp?story_id=79890, 25 March 2014.

concrete assistance. For that kind of guidance, don't bother to look up. Instead, look within.

So where might you turn for help in anticipating those challenges? Although my own academic training is in history, I vote for literature. Of course, we live in an age when reading has become a euphemism for submitting to the demands of the electronic devices to which we tether ourselves. Taking the time to absorb something as long as a novel may seem like a throwback from an earlier day, like holding hands at a movie show or breaking for afternoon tea.

In fact, however, the library at this institution contains an impressive body of literature that explores and reflects on what it means to be a military professional. Much of that literature is American, the work of writers who during the wars of the twentieth century witnessed at firsthand the moral and ethical dilemmas to which military service gives rise. What I want to do this evening is to call to your attention to one such writer and to one particular novel that might resonate with you.

The writer is James Salter. The novel is his first book *The Hunters.*[*] Let me tell you a little bit about Salter. He graduated from West Point in 1945. After receiving his commission, he trained as an aviator and transferred to the Air Force upon its creation in 1947. By 1952, he was a fighter pilot, flying F-86s in Korea where he was credited with downing one MiG-15. A few years later, he resigned his commission to become a full-time writer, subsequently achieving considerable success.[†]

The action in *The Hunters* takes place in Korea more or less when Salter himself served there. It's late in the war. At Panmunjom, truce talks are underway, although when or even if they will produce positive results is impossible to say. At Kimpo Air Base, not far outside of Seoul, Col Dutch Imil commands an F-86 fighter wing. An ace during World War II and again in Korea, Imil exudes a crude, swaggering charisma.

*James Salter, *The Hunters*, revised edition (New York: Harper Bros., 1956; Washington, DC: Counterpoint, 1997).

†A cult writer who enjoyed critical success, James Salter died in 2015. *See* Michael Carlson, "James Salter Obituary," *Guardian*, https://www.theguardian.com/books/2015/jun/22/james-salter, 22 June 2015. His entire literary career was the subject of a volume in Twayne's United States Author's Series, edited by Frank Day of Clemson University. *See* William Dowie, *James Salter* (New York: Twayne Publishers, 1998). In 1958, *The Hunters* was adapted and released as a film (20th Century Fox, 1982; DVD 2004).

A four-plane formation of F-86 Sabre jets of the 51st Fighter Interceptor Wing turns into skies over Korea in 1952. Before resigning from the Air Force to become an author, James Salter flew these aircraft and downed a MiG in combat over Korea. DOD photo (VIRIN HF-SN-98-07348).

He will stop at nothing, Salter writes, "to have a great wing, one of the glories of which would become legend." For Imil, glory is defined quantitatively. Legendary pilots down MiGs. Legendary fighter wings down lots of MiGs.

That is the sole measure of merit. For Imil, literally nothing else matters. He is supremely indifferent to the war's larger purposes.

So too are the officers under his command. They are oblivious to any connection between the air war they are waging high above the Yalu and the ground combat ongoing across the mid-section of the Korean peninsula below. At Kimpo, they inhabit their own hermetically sealed world—a common aspect of military life where the outfit to which you belong defines the limits of the universe.

As the novel opens, Capt Cleve Connell arrives at Kimpo to join Imil's outfit. Connell brings with him a reputation for being a hot pilot, at least in peacetime. He and his new commander have a history. Connell had served under Imil in Panama after World War II. So Imil welcomes the new arrival with considerable enthusiasm, certain that Cleve will add to the wing's tally of kills.

At thirty-one, Cleve knows that his flying days are numbered. He is, according to Salter, "not too old." Yet his vision isn't as sharp as it once was. As a pilot, he has passed his prime. Still, he is eager to test himself in combat.

In Korea, Salter writes, Cleve expects to "make a valedictory befitting his years." By becoming an ace, he will achieve a form of immortality. He will, he reflects, "attain himself."

As far as Imil is concerned, all it takes to become an ace is guts and skill. Those who want a fight find a fight. Those who press the fight get kills, although sometimes a bit of creative bookkeeping helps.

So at least Salter suggests when he describes Imil browbeating a young lieutenant into confirming another pilot's claim of having scored a victory. The very junior officer [Dawes] tells his overbearing commander [Imil] that he can't verify the claim.

"Try to remember, Dawes," Imil urges. "Think. Think of your career."

Thus prompted, Dawes duly remembers. "As a matter of fact," he replies, "I do seem to recall seeing that MiG smoking."

"Certainly you did."

"Yes, that's right. It was on fire. Now that I think back, I remember it. He got it, all right. There's no doubt about it."*

Thanks to Dawes' sudden epiphany, the wing adds another downed MiG to its scorecard.

As Cleve soon learns, however, when it comes to aerial combat, fortune too plays a large role. This is true of all war, of course. As Clausewitz reminds us, "No other human activity is so continuously or universally bound up with chance."

*Salter, *The Hunters*, 44–45.

In Korea, MiGs venture south from their sanctuaries in China when they choose to, not when the Americans want them to. So although Cleve flies his share of missions, luck eludes him. Contacts with the enemy are few. Glory remains beyond reach. Compounding Cleve's frustration is the far greater success enjoyed by a brash young lieutenant assigned to Cleve's own flight. Ed Pell—his preferred handle is "the Doctor"—has guts and skill *and* luck.

He also possesses a crucial fourth quality: as with Imil, his conscience does not pose much of a constraint. Pell, writes Salter, is "as free of idealism as a boy raised in the slums."

In Pell's moral universe—as in Imil's—what matters is that an action *count*, not whether it *deserves* to be counted. You've no doubt encountered this attitude yourself.

In our own day, it has become commonplace. We see it everywhere from steroid-ingesting baseball players keen to rack up home runs to ambitious politicians keen to inflate their vote count. It's called selling your soul.

When it comes to downing MiGs, Pell easily accommodates Dutch Imil's priorities. Disregarding SOPs when they get in his way, endangering others, playing fast-and-loose with the truth, "the Doctor" scores one kill after another. Soon enough he displaces Cleve as the wing commander's fair-haired boy. In the eyes of his fellow fighter pilots, who are simultaneously comrades and competitors, "the Doctor" achieves the status of hero, role model, and celebrity. He is, in short, what Cleve had imagined himself destined to become.

Meanwhile, Cleve himself has turned out to be something of a bust. He is the athlete who looks good in practice but can't get it done at game time.

"It was all unbelievable," Salter writes. "Cleve was completely unaccustomed to the part he was playing . . . . [H]e had to accept it, but it was somehow wrong, immensely so. . . . He said nothing. He kept it inside, where, like a serpent, it devoured him."*

It gradually dawns on Cleve that he is not going to "attain himself" in Korea. Fate is conspiring against him. He is not going to become an ace. He is not going to gain immortality.

Meanwhile, Pell, for whom Cleve feels nothing but scorn, is doing all of those things. In achieving the status to which Cleve himself had aspired, Pell brazenly violates basic standards of professional conduct that makes his success all the more unbearable.

Nowhere in the book does Cleve consciously reflect on the normative dimensions of officership. You'll find no references to Duty, Honor, Country here. Yet Pell's cavalier behavior, to which Imil turns a blind eye or even en-

*Salter, 79.

courages, offends him. It also leads Cleve to question the ambitions that he himself had entertained when he had arrived in Korea. Salter writes:

> He had come to acquit himself but now he was not sure. He had come for a climax of victory, but in a way he did not want that now. He wanted more, to be above wanting it, to be independent of having to have it. And he knew, with utmost certainty, he would never achieve that. Cleve was a prisoner of the war. If he did not get MiGs he would have failed, not only in his own eyes but in everyone's . . . . He would have seized anything that allowed him release. He dreaded the need to sacrifice himself on this pitiless altar, of fighting for something he no longer had the strength to disdain.*

Impulsively, and recklessly, Cleve sets out to restore those standards, or at least to punish Pell for disregarding them.

On the day that Pell gets his fifth MiG—as luck would have it, Cleve was not on the mission—another officer in Cleve's flight is shot down. Pell was the lost officer's wingman. Scuttlebutt has it that to get his MiG, Pell had abandoned his lead, for fighter pilots a cardinal sin.

At a gathering of the wing's officers, with Pell present, Cleve confronts Imil.

"I want Pell grounded," he declares.

"What in hell are you talking about?"

"Ground him," Cleve says again. "I want to see that he doesn't fly anymore."

"A man with five victories, and you want me to ground him. What's wrong with you?"

"He killed his leader today. If he'd shot him down personally, it wouldn't have been any different."

Pell speaks up. "It wasn't my fault. He wouldn't break."

"You're a liar. You never told him to."

Imil dismisses the assembly and wheels on Cleve.

"What are you trying to do, Connell? Wreck the group?"

"No, sir. I'm trying to uphold it."

Of course, what Cleve is trying to uphold—or more accurately, restore—is the notion that some things matter more than getting MiGs.†

Imil angrily ends the conversation. He is not about to take his cues from a mere captain, especially one who apparently lacks the stuff that makes for great fighter pilots. In the eyes of his commander, Cleve has become persona non grata. In the eyes of the pilots who comprise Pell's following, he is a spoilsport, a loser consumed by envy.

Meanwhile, Pell—who soon registers his sixth kill—has become, in Salter's words, "the most famous pilot in the Air Force." Fan mail pours in. Magazines clamor for interviews. Pretty girls send their pictures. Generals shower him with praise. As the killer of MiGs, he has become, so it seems, a living legend.

*Salter, 161.

†Salter, 168–69.

The end of Cleve's combat tour—and his release from purgatory—is approaching. He has only eleven missions left to fly before going home.

Suddenly and unexpectedly, his luck changes.

A big fight is in the offing, with hundreds of MiGs reported gathering at bases just inside China. Imil orders a maximum effort; every available aircraft with every available pilot will fly. There is, however, a problem with Cleve's plane. The gun camera isn't working. He and his wingman, a run-of-the-mill lieutenant named Billy Hunter, take off anyway, the last two fighters off the strip.

No fight occurs. It is all a feint. Although swarms of enemy fighters launch, they do not give battle. As the lead ships in Imil's wing begin running short on fuel, they turn back south.

Cleve trails behind, now alone with his wingman. Then just before breaking station, they suddenly encounter four MiGs.

Now among enemy fighter pilots, there is one—perhaps Chinese, perhaps Russian—whom the Americans have nicknamed Casey Jones. The sight of the distinctive black stripes on Casey's MiG-15 strikes fear into the stoutest hearts. Casey is the best of the best. And he is murderously ferocious. Cleve now finds himself in a fierce dogfight with Casey himself. Here is Salter's masterful description of its conclusion:

> Casey broke left. French curves of vapor trailed from his wingtips. Cleve was behind him on the inside, turning as hard as he could. The bright pipper of his sight was creeping up on the MiG…. He squeezed the trigger. The tracers arced out, falling mostly behind. …. They were just above the trees. …. He fired again. …. Solid strikes along the fuselage. There was a burst of white flame and a sudden flood of smoke. The MiG pulled up sharply, climbing. It was slipping away from him, but as it did, he laced it with hits. Finally, trailing a curtain of fire, it rolled over on one wing and started down.*

In a stroke, Cleve has outdone all the others. He has achieved the seemingly unachievable. He has redeemed himself. Now all he needs is to return get to Kimpo. There vindication waits.

Cleve radios a cryptic sitrep to home base: They'd downed one.

Unfortunately, as he and Hunter head back south, they are precariously low on fuel. They climb to 38,000 feet. A hundred miles north of Kimpo they run out of gas.

Bailing out over North Korea is not an attractive option. They will glide toward home base, slowly losing altitude with each mile. Cleve's run of good fortune holds. He reaches the runway and makes a dead stick landing.

Hunter is not so lucky. He crashes a half-mile short. The sole witness to his duel with Casey Jones is killed instantly.

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*Salter, 219–20.

Imil and a scrum of other pilots, including Pell, meet Cleve as he dismounts from his cockpit. A crew chief confirms that Cleve's gun camera has malfunctioned.

"There goes the damned confirmation," Imil complains.

"It doesn't matter," Cleve replies.

"Don't be so goddamned casual. Of course it matters."

"Not this time."

"What are you talking about?"

"It was Casey Jones."

Coming from Cleve, this was an extraordinary claim, verging on the preposterous.

"Are you sure?" Imil asks.

"There's no film, Colonel," Pell shouts. "There's no one to confirm it now."

"No," Imil agrees. "There's not."

The prize Cleve has won—the ultimate prize of having bested Casey Jones—is slipping away. What is rightly his, what he had earned, is about to be lost.

How should he respond? How would I? How would you?

The test Cleve faces, in its way hardly less demanding than taking on the enemy ace, requires an instantaneous response. It is a test for which slogans, platitudes, or eloquent speeches are worse than useless. Cleve has only instinct on which to draw.

So before the prize can be taken, he gives it away. He lies. In doing so, he repudiates the shabby standard that Imil upholds and that Pell has so adeptly exploited.

"Oh yes, there is," Cleve announces.

"Who?"

"I can confirm it . . . Hunter got him."

"It had come out almost unconsciously," Salter writes. "Malice had brought it, and protest, and the sweeping magnanimity that accompanies triumph."*

His effort to repeal Kimpo's prevailing moral order having failed, Cleve seizes this unexpected opportunity to reassert his own conception of what duty and honor require.

Yet doing so means first renouncing all that he himself had so eagerly sought, surrendering it precisely at the moment when it lay within his grasp.

"Billy Hunter would have his day as a hero," Salter continues. "Cleve could give him that, at least. . . . He had kept a pledge. His heart cried out to go among them and tell them how he had fulfilled whatever promise he had, how in the clean sky he had met and conquered a legend." Now no one would know. Ever. Except Cleve himself. Salter continues, "He felt as if he had finally passed from youth into a real maturity, one in which he soberly realized the

*Salter, 226–27.

price that had to be paid to abide by the ideals that were once so bright and compelling. The reckoning was dear; but for all that they had cost him, he held them even more fiercely."*

Here Salter might have ended his book. But he chose to do otherwise. After all, the war did not end that day. It continued. Each day, Americans strapped themselves into their planes and flew north.

On one of his very last missions, Cleve gets into another fight. This time he loses (Is it luck? Has age caught up with him?) and is killed.

Immortality? No, none. Instead, Cleve will be forgotten, a pilot who by all accounts never quite lived up to his advanced billing. There Salter's story summarily concludes.

The reader may wonder what fate had in store for the others.

Surely the MiGs harvested by the pilots under Imil's command will earn him at least one more promotion. Yet he is probably too rough around the edges to go further. We might imagine him retiring to San Antonio or Colorado Springs, probably playing golf and drinking himself to death.

Pell is much smoother, of course. With his many talents, not least an aptitude for self-promotion and knowing how to play the game, Pell will make it much closer to the top.

Perhaps he ends up on a stage like this, making solemn pronouncements to young cadets about Duty, Honor, and Country or, in the manner of Sir John Hackett, extolling the armed services as a reservoir of rectitude and virtue.

Of course, the real life equivalents of Imil and Pell, the commanders who ran the air war in Korea and the pilots who became aces, are themselves long since forgotten. I don't expect that many of you know their names. I don't. Nor do our countrymen. Whatever glory these Airmen may have won, whether deserved or stolen, has proven transitory.

Which seems to me to be Salter's point: The dreams of glory that motivated Imil and Pell, and for which Cleve hungered, amount to fool's gold. As such, such a prize is hardly worth compromising yourself to acquire.

By comparison, real gold is not easily found. As Cleve eventually discovers, it requires knowing yourself.

Never easily attained, self-knowledge becomes all the more difficult to acquire in a world where Dutch Imil's ethical elasticity too often prevails and where slick connivers like Pell get ahead.

So what did Cleve ultimately discover? What might an aspiring military professional take from a book such as this?

*Salter, 228–29.

This, I think: What ultimately matters is not who you might become tomorrow or the day after. No, what matters is what you do today and what that says about who you are.

With that I will stop, wishing you well in your own quest for self-knowledge.

Thank you.

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Military Professionals and the Warrior Ethos in the Aftermath of War*

Brian McAllister Linn

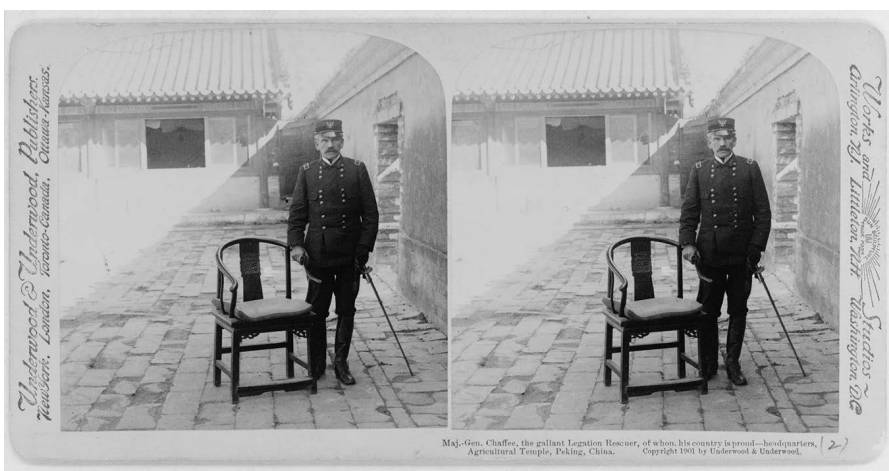
What happens to those who wear their nation's uniform when the guns stop firing, the bombs stop dropping, and the armed forces move into that difficult period that might be termed *recovery from war*? The sad truth is that we don't know much about the phenomena of military recovery. As the British poet Thomas Hardy observed almost a century ago, "war makes rattling good history; but peace is poor reading."[1] Indeed, most of the writing about the "peacetime" armed forces is actually about the "prewar" armed forces. Thanks to *Beetle Bailey* and other caricatures, many Americans share Ford Madox Ford's dismissal of peacetime "real soldiering" as "parades, social events, and spit and polish."[2] Historians and military officers are so fixated on finding the causes for future wars that they seldom study peacetime militaries as anything but preparatory schools. From this perspective, the *peacetime* armed forces are more accurately defined as the *prewar* armed forces. But as any historian knows, foreknowledge of how the next war is going to turn out makes it relatively easy to pinpoint the weapons, the individuals, and the doctrines that proved important. But for those who lack this historical hindsight, who are living through the aftermath of the last war, and who lack a clear vision of the future—the challenges of being a military professional in peacetime are much more complex.

In a 1909 interview, Lt Gen Adna R. Chaffee warned that "the success of the aeroplane as a toy" had encouraged "hysterical people" to predict that the destruction and terror wrought by aerial bombing would soon lead to the abolition of war. The old general was having none of this: "I believe damned little of this aeroplane business. I don't believe aeroplanes are ever going to win a war. And I hold the same opinion of automobiles."[3] The next war, Chaffee continued, would be won like all previous wars, by those able to withstand physical hardships and emotional traumas, who could retain their discipline and morale, who could both lead and follow on the battlefield. In less than five years, with the outbreak of World War I, both the airplane and the automobile would become essential components of modern warfare, and remain so. But should we consign Chaffee to the historical rubbish heap as another of the ground-bound "brass hats" that Billy Mitchell and other aviation pioneers condemned? Or, does Chaffee's comment simply reflect a perpetual dilemma of the professional soldier in peacetime: to reconcile the military certainties

*Harmon Memorial Lecture #60, 2017.

acquired in a lifetime of service with the unpredictability of future conflict? Does Chaffee stand with all those who view war, and indeed all military activity, as dependent on the "human element" against those who claim they can reduce warfare to a scientific process, one in which victory goes to the latest superweapon, or to those who better manage technology, organization, administration, personnel, and other resources?[4]

If any soldier personified the warrior ethos of his day, it was Adna R. Chaffee. When the Civil War broke out he was just a teenager, but he immediately enlisted as a private in the Sixth Cavalry. He fought in most of that regiment's 60 combat engagements during the war and then devoted another quarter-century to hard campaigning on the western frontier. He received the equivalent of two Distinguished Service Crosses for heroism in combat. Once, when confronted by a much larger enemy force, he led his troops into battle with the inspirational words: "*Forward. If any man is killed, I will make him a corporal.*" Between 1898 and 1902 he fought in Cuba, led the American expeditionary force against the Boxers in China, and commanded in the final campaigns against the Filipino insurgents. When, in 1904, he was appointed the US Army's Chief of Staff, he also became the first person to advance from private to lieutenant general.[5]



A stereographic view of Maj Gen Adna R. Chaffee, taken at the Headquarters, Agricultural Temple, Peking, China, 14 March 1901. Courtesy of Library of Congress (no. 2001699843).

Almost a century after Chaffee dismissed the airplane as "a toy," US Air Force Chief of Staff Gen T. Michael Moseley introduced the "Warrior Ethos" initiative. This was intended to serve as "the foundation of what it means to be an Airman. It is a hardiness of spirit, and moral and physical courage." The Warrior Ethos "traces its roots to the era when the Air Force first became an

independent service. Since the days when bombers and fighters first soared into the wild blue yonder, Airmen have trained for or engaged in combat."[6] Sgt Daniel Wheeler put it more bluntly: those who had recently enlisted "have the impression that we are a chair force. We are trying to change that assumption and show them we are warriors, just like the rest of the services."[7] Some believed General Moseley's decision to embrace the "warrior ethos" was influenced by the strategic realities of 2007. That year, American forces were in the midst of two lengthy, costly, and controversial counterinsurgency campaigns. Both the nature of those conflicts and the counterinsurgency methods Americans had adopted would have been very familiar to General Chaffee. But a decade afterwards—and with counterinsurgency largely discredited—the Air Force's commitment remains firm. In 2012 the US Air Force Academy incorporated a definition of the Warrior Ethos as "a hardiness of spirit despite physical and mental hardships" as part of its curriculum. An institutional outcome titled "Warrior Ethos as Citizen Airmen" is part of the curriculum, and in 2017 the US Air Force Academy hosted a National Character and Leadership Symposium with the theme "The Warrior Ethos and the American Airman."[8]

To those who remember the Cold War US Air Force, the service's commitment to the "warrior ethos" signifies several radical changes in both mission and image. The first and most startling choice is the shift away from its long focus on airpower as *the* foundation of American military power. Whether the theory was pre–World War II strategic bombardment, or John Warden's "Air Campaign," or more recent "Effects Based Operations," the underlying assumption was that airpower could do it alone. The Air Force image was also high-tech, symbolized by sleek fighters and powerful bombers in which the individual was often invisible. When humans were portrayed, they were also always pilots, as evidenced in movies, comics, and novels. In marked contrast, both the rhetoric and the images of the "Warrior Ethos" publicity campaign portrayed not pilots or airplanes but camouflaged enlisted personnel holding rifles, boots definitely on the ground.[9]

For historians, the term "Warrior Ethos" immediately raises issues of professional identity. Indeed, for decades scholars—both uniformed and civilian—have pondered when and why did warriors transform into professional soldiers, sailors, and airmen? There is, of course, much debate on what defines a military professional.[10] But there is unquestionably a consensus on warriors and their ethos, at least in literature that is remarkably similar across time and culture. At the fundamental level, a "warrior" is understood to be an individual who wages war—with the connotation that she or he is a master of martial arts whose life is centered on the defeat of their opponents—preferably in single combat. Warriors were associated with such martial virtues as courage, physical and mental toughness, sacrifice, honor, dedication, and persistence.

Gen Robin Olds, one of the most famous aces in US Air Force history, recalled that one of the great attractions of being a fighter pilot was that he imagined them as "warriors . . . keen, fearless, steely-eyed gladiators of the wild blue."[11]

Perhaps the first personification of the "Warrior Ethos" emerged almost 3,000 years ago in *The Iliad.* Greece's greatest warrior, Achilles, fought not for king and cause but for wealth and reputation. When the leader of the Greek forces, King Agamemnon, claimed for himself Achilles's war prize, a slave girl, the great hero responded:

> You shameless schemer, why should any Achaean leap to obey your orders to march or wage war? No Trojan spearmen brought me here to fight: they have done me no wrong. No horse or cow of mine have been stolen . . . My hands bear the brunt of the fiercest fight, but when the wealth is shared, yours is the greater, while I return, weary with battle, to the ships, with some small fraction for my own . . . it is better to lead my beaked ships home than stay here dishonored piling up wealth and goods for you.[12]

This speech shows that the Greeks recognized that warrior virtues were often inseparable from warrior vices: selfishness, pride, greed, egotism, rage, a quickness to take offense—and so on. After cursing Agamemnon, Achilles retired to his tent and let the Trojans pillage the Greek camp. He finally returned to the battlefield, not for patriotism but revenge, and his anger over the death of his friend was so all-consuming that Achilles defiled the corpse of the great Trojan warrior, Hector.

There are other examples of the "warrior ethos" across the centuries that show both its heroic image and its dark side. The early Anglo-Saxon poem *Beowulf* tells of a hero who swears to kill the monster Grendel barehanded because his opponent does not know how to use weapons. Beowulf slays Grendel, but only after the monster kills many others. The medieval epic, *The Song of Roland*, describes how Roland and Charlemagne's rear guard were ambushed as they were leaving Spain by an overwhelming host. Oliver, his best friend, begged Roland to blow his horn to summon reinforcements. Roland refused: seeking help in battle might be taken for cowardice and tarnish his reputation. He would rather die than suffer such infamy. By refusing to summon aid Roland not only caused his own death, but that of his best friend and all the soldiers he commanded.

In his famous Crispin's Day speech before the Battle of Agincourt in 1415, Shakespeare's Henry the Fifth rebukes one of his commanders for wishing the English had more troops:

> But if it be a sin to covet honor,
>
> I am the most offending soul alive.
>
> No, faith, my coz, wish not a man from England:
>
> God's peace! I would not lose so great an honour
>
> As one man more, methinks, would share from me.[13]

This is stirring stuff. But those familiar with Shakespeare's play know that royal ministers who feared he would cut their privileges tricked Henry into invading France. Shakespeare never resolves whether Henry's motives are to benefit his kingdom or to expand his own glory.

Americans have always been acutely aware—in a way many other societies are not—of the difference between true warriors and glory-seekers. The defenders of the Alamo and George Armstrong Custer may be celebrated for their courage, but they are also regarded as participants in a futile, unnecessary sacrifice. The most celebrated American warriors have tended to be both more practical and more altruistic. Their "warrior ethos" is less the selfish pursuit of fame than the higher calling of sacrificing for a cause that transcends personal profit. Whether volunteer, lifetime professional, or draftee, the American combatant has remained a citizen. Think of Hawkeye in the *Last of the Mohicans*, the Minutemen at Lexington, Molly Pitcher at Monmouth, Andrew Jackson at New Orleans, Joshua Chamberlain at Little Round Top, Frank Luke—the first pilot to receive the Medal of Honor—at the Meuse Argonne, or World War II's Audie Murphy and Richard Bong. And, if we extend this celebrity into the future, think of Ellen Ripley in the movie *Aliens*. One interesting theme of this distinct American Warrior Ethos is that the hero is usually a reluctant combatant who only becomes a warrior because circumstances demand it. This may be reflective of the historical fact that the American colonies, and later the United States, were established after warriors had been largely replaced by professionals in Western Europe.

Why did professionals supplant warriors? Most of the reasons are practical: cost-effectiveness, state priorities, public order, business, and so forth. For all his importance in war, what does the warrior contribute in peacetime? In many societies, warriors gave little to the general good. They spent their time around the feasting table, drinking, fighting, boasting, and extorting hospitality. They usually demanded that their status and honors be passed on to their descendants, regardless of whether their sons had inherited their martial abilities. They were also unreliable and, like Achilles, prone to storm off in a rage. Like Roland, they had a bad habit of placing their personal honor above the accomplishment of the mission, the safety of their troops, or their responsibility to their commanders. And, like Henry the Fifth, warriors often created wars for no other cause than their own glory.[14]

In most advanced civilizations the rulers, and their citizens, concluded that the cost, the social disruption, and above all the unreliability of warriors in peacetime far exceeded their worth in war. Thus both governments and the public demanded military forces that could also be useful in peacetime, would not terrorize civilians, and were obedient to the political leaders. Over time—a lot of time—the warrior became the professional.

In contrast to much older cultures that celebrated the individual warrior or owed their survival to "warrior kings," the American professional comes from a tradition in which established or "standing" military organizations had extensive responsibilities in both peace and war. By the time the Founding Fathers gathered to write the Constitution, Western European officers' obligations encompassed far more than the warriors' duty to wave a sword and lead men into battle. Officers were expected to master the art and science of war, to be able to build fortifications; to survey and map territory; to recruit, train, and maintain their troops; discuss the campaigns of Julius Caesar—in Latin—and myriad other skills. This Western European professional ethos formed the basis of the United States military forces, and the importance of this ethos was incorporated in the early military legislation. The Constitution provided for a citizen-soldier force that could be called into federal service to repel invasion, suppress insurrection, or uphold the law. The Militia Act of 1792 further distinguished citizen-soldiers as a state-based reserve and established limits on the nature and length of their federal obligation. The Peace Establishment Act of 1802 organized the federal government's standing army, and it was followed by the creation of the US Military Academy that defined the national army's officers as professionals who required specialized education in the arts and sciences of war. Subsequent legislation over the next century further confirmed the career or "regular" officer's professional identity, often by linking it to educational achievement.

From the beginning, the US military's professional ethos was directed at serving the nation in whatever capacity was required. In common with many developing countries, in the first decades of its existence the United States required less warfighters than officers skilled in engineering, management, technology, administration, governance, and so on. Similarly, in the nineteenth century the United States Navy's officers performed many functions during peacetime. They were diplomats, surveyors, maritime police, trade representatives—everything from exploring the Antarctic to establishing relations with the Empire of Japan. But only in the 1890s did the Navy start developing a theory of maritime warfare and a war college to teach strategy. Army officers such as Zebulon Pike explored the West, others served as a frontier constabulary, and still others designed and built the fortifications that protected America's harbors. But it might be argued that the one mission the US Army did not do well was preparing for war—as is evident by studying the first weeks of the Civil War or the Spanish-American War.[15]

In the twentieth century the professional ethos of the American armed forces evolved, but it was a further turn away from the warrior ethos of Achilles and Roland. In the Spanish-American War of 1898, many senior commanders were killed because they relied on a style of combat leadership they had

learned 30 years earlier in the Civil War. For example, at the battle of San Juan Heights, the 3rd Brigade's commander, leading from the front, was an early casualty. His replacement had barely taken command before he too was shot. The next commander lasted no more than five minutes before he was also wounded. Casualties among company commanders were equally high. In the Philippines, Gen Henry W. Lawton—always in his white uniform—was killed as he walked in front of the firing line. Another Civil War veteran, Col Emerson Liscum, was shot down holding his regiment's flag during the Boxer Rebellion.

Within barely a decade, such displays of public heroism were viewed as neither professional nor admirable. A senior officer who walked along the firing line to demonstrate his courage was not revered by his troops but hated for recklessly endangering their lives. World War I showed that it was not warriors, or even armies, that went to war, but entire nations. Victory required mobilizing and coordinating the nation's financial, industrial, manpower, agricultural, and public resources. World War I battles often lasted for months, killed and maimed in the hundreds of thousands, and resulted in only a few miles of territory changing hands. Industrialization, new technologies, mass armies, the management of the nation at war, and other changes bulldozed the last romance from the battlefield. As one officer wrote in 1916, "War has become a business, like any other business, where sentiment has little value. It has but one watchword—efficiency. Glory is no more the soldier's dream, but only success . . . . The hero who in scarlet and bearskin strode so picturesquely across the field of battle and drove the enemy at the bayonet's point, now lies on his belly in the dirt and shoots at an unseen enemy a mile away."[16] Mastering this new form of warfare required ever more professional skill and also incorporating the martial virtues inherent in the Warrior Ethos.

Yet if the conduct of war changed, the responsibilities of the American professional soldier in war's long aftermath grew exponentially. Indeed, since the end of the Spanish-American War, the twentieth-century professional has spent much of his (and later her) time facing a distinct set of postwar challenges unimagined by any warrior. Almost invariably, the end of war has unleashed a host of institutional reforms that, whatever their long-term benefit, have always created short-term organizational chaos. After the Spanish-American War, the US Army undertook the "Root Reforms" that created a general staff system, a program of lifetime professional military education, the first joint service strategic board, and made the National Guard a federal reserve force. After World War I, the National Defense Act created a cadre professional force to serve as the foundation for a mass conscript army—but Congress's refusal to fund this legislation left the armed forces little more than hollow shells. After World War II, the National Defense Act of 1947 created the US Air Force but also began the integration of the separate armed forces

into the Department of Defense, an integration that has been strengthened after every subsequent war. That same year Congress passed the Officer Personnel Act that made service in the armed forces a lifetime career, complete with a ladder of promotion, a rising salary structure, generous benefits, and a retirement plan.[17]

In addition to the inevitable legislative reorganizations, each postwar service has also had to "professionalize" its officer corps—and since 1898 this has been largely done through the service's educational system. One officer, who had risen from lieutenant to full colonel in World War II, recalled that it was not until he attended command and staff college that he became aware of his deficiencies: "I knew how to be [a corps] G-3. I had learned it the hard way in battle . . . . But when it came to anything else that a colonel is supposed to be able to do I was practically helpless."[18] However, in many cases professionalization is less urgent than inculcating prewar traditions and standards of behavior among those viewed as ruined by their war experience. There are more than a few accounts of veterans at service schools whose first day of class consisted of being told by their instructors—most of whom had never deployed overseas—that they lacked the discipline, intelligence, and ability for the peacetime force. Take Robin Olds, who graduated in 1943 from the US Military Academy. He returned to the Academy as a football coach barely two years later, at the age of 22, a combat-hardened major who had shot down 12 German airplanes, commanded a squadron, and been awarded a Silver Star. He had barely checked in to his quarters when he was braced by a colonel whose "two little ribbons" included an administrator's commendation. After chewing him out for various uniform violations, the colonel ended his harangue with the crushing comment: "This is West Point. I don't know where you've been, but we do things differently around here."[19] From Olds' perspective, the postwar US Military Academy was not teaching either a "warrior ethos" or a "professional ethos" but what might be more accurately described as a "chickenshit ethos."

Another consistent postwar priority had been stabilizing the enlisted ranks. Since 1902, successive drawdowns have forced the American armed forces to decide not only who will remain in uniform and who will be discharged, but also who needs to be recruited for the peacetime force. As with officers, it is a proven truism that many in the enlisted grades who were promoted rapidly during the war are unable to perform all their peacetime duties. In many cases these enlisted personnel's high postwar rank does not reflect either combat leadership or technical ability, but that they happened to be on hand to fill a vacancy in an NCO grade. By the mid-1950s, largely as a result of rapid promotions in World War II and Korea, roughly one out of four noncommissioned officers in the United States Army was functionally illiterate.

Most of these NCOs were not only incapable of performing their jobs, but their bad leadership drove out the motivated, educated, and skilled soldiers the service needed. The Army responded with a ruthless purge: in 18 months it demoted or reclassified 16,000 noncommissioned officers and separated another 11,000. Those who survived the winnowing were given ample educational opportunities and access to better rank and pay, and thousands of junior NCOs, whose path had been blocked by the wartime generation, could finally rise in rank.[20] This ruthless winnowing of the NCO ranks was exceptional in its scope, but a similar purge occurred after both Vietnam and the Gulf War—followed by a decade-long effort to rebuild a cadre of competent, professional NCOs.

In addition to shedding the relics of the last war, it is a constant of the American military experience that each postwar force must recruit and retain those who can perform the very different duties of peace. This is of particular concern to a high-tech service such as the Air Force that requires not just labor, but skilled labor, and not just skilled labor, but skilled labor in occupations usually of high value in the civilian sector. From the beginning, Air Force recruiting images have emphasized the service as a place to learn valuable skills leading to a lifetime career in the service *or* a high-paying job in the civilian sector. And from the public's perspective, the Air Force has been popular because of its track record of producing skilled workers who are often better motivated, more self-disciplined, and with a stronger work ethic than those who lack military service. The contribution of the Air Force, and the other services, to American business, industry, agriculture, education, and other fields is considerable.

Another constant of the postwar military experience is how to define the peacetime mission. Today's politicians sometimes make inane comments such as: "The military is not a social experiment. The purpose of the military is to kill people and break things."[21] Historians know that the nation's armed forces have always been a laboratory for social experimentation, particularly in the aftermath of war. After the Spanish-American War, temperance advocates banned the sale of alcohol on military posts on the grounds that they, and not the armed forces, had the obligation to protect the morals of service personnel. For their part, the services argued they were the ideal place to "Americanize" the immigrant population. After World War I both the Army and Navy emphasized vocational education, boasting that the services were "the school of the nation." The very high quality of Air Force personnel in the 1950s and 1960s was a direct effect of another great social experiment—imposing compulsory military service on the nation's young men. Perhaps as many as 80 percent of the highly educated, technically skilled Airmen who wore blue during these decades had not so much volunteered for the US Air

Force as they had avoided being drafted into the US Army.[22] Simultaneous with conscription came another social experiment—racial integration. This was first passively resisted by the armed forces and then, under the twin demands of waging the Korean War and creating defensive forces in Europe, was done with such speed and lack of conflict that the military soon became the nation's most racially diverse institution. In the late 1970s and 1980s the American armed forces led the nation in gender integration, even to letting women into the service academies. In most cases, the benefits of these social changes have been enormous and quickly recognized by the service leaders and the public. Indeed, that very politician who so confidently proclaimed that the American "military is not a social experiment" would do well to reflect that one reason African-American children can attend public schools in his own state's capital is because the US Army integrated those schools in 1957. If that is not employing the American military as a successful social experiment, I am not sure what is.

The years following any war inevitably challenge the professional ethos with drawdowns, equipment shortages, personnel issues, and a host of other problems. The aftermath of World War I is instructive in this regard, particularly in the Pacific territories where the forces were expected to be in immediate readiness for war. Despite their critical position at the extreme end of America's defensive shield, postwar correspondence from both Hawaii and the Philippines is filled with complaints about obsolete and broken-down aircraft, inadequate maintenance, a lack of fuel and spare parts, personnel shortages, and all the other humdrum, day-to-day problems you might expect of peacetime professional military service in some sleepy backwater. Ira Eaker, later to become famous as the architect of the Eighth Air Force in World War II, recalled that at Clark Field in the Philippines in 1921 his squadron built their own bomb racks to practice with coconuts on various targets.[23] He was not exaggerating. When the commanding officer staged an alert, it took over two hours to get the airplanes ready. Of the 16 warplanes, only 12 made it to the flying line, and of these only eight had guns.[24] Compounding these problems, in an early effort at pre-positioning, the Army dismantled some 200 obsolete aircraft and shipped them to the Philippines as a war reserve. They arrived soaked by sea spray, their canvas rotted and wood so warped that the officer in charge of aviation estimated it would take over 152,000 man-hours to uncrate and repair them. Four years later, his successor reported that the warehouse costs for these airplanes was $6,000 a month—or roughly 400 times the pay of an Airman.[25] When they could scrape together enough airplanes to practice, the pilots spent their time working with the coast artillery's antiaircraft gunners, towing targets, and other routine, boring, and monotonous duties.

Military aviation in Hawaii in the aftermath of World War I was in little better shape. As in the Philippines, Oahu's aviation personnel were overwhelmed by the avalanche of hundreds of obsolete aircraft sent as a war reserve—all of which required repacking, replacing canvas and wood, and rebuilding engines. Of the 250 warplanes shipped in 1922, only 14 were operable within two years. A year later, an inspection of the two bomber squadrons stationed at Pearl Harbor found that not only were the planes obsolete and poorly maintained, but "it has been impossible to train one complete combat crew as a unit for even one bombing team."[26]

In their rush to identify the heroes, the airplanes, the doctrines that would later prove successful in World War II, historians often ignore the individual sacrifice of those who remained in the American armed forces during the long years of peace. Stationed in remote Pacific or Southwestern airfields, living in war-built barracks condemned by safety inspectors, lacking spare parts or fuel, flying obsolete and dangerous aircraft, peacetime service bore little resemblance to the heroic image portrayed by the "knights of the sky" in film and fiction. It took a strong professional ethos to stay in the service, a commitment reflecting determination, patriotism, selflessness, and above all a dedication to something greater than individual glory. And it also required being useful to the nation in ways that had little to do with being a warrior. As part of the Army, Air Corps professionals ran the Civilian Conservation Corps that not only provided jobs and skills to young Americans but also saved our national parks. Some Air Corps officers such as Carl Spaatz, Pete Quesada, James Doolittle, and Ira Eaker established the limits and potentials of long-range flight. All would go on to illustrious careers in war, but their peacetime contributions as professionals should not be overlooked. The Air Corps also helped American civilians by spraying crop fields, conducting search-and-rescue missions, and even delivering the US Mail. In short, the Air Corps, like all the armed forces, proved they were not a separate warrior caste but able to assume either military or civilian responsibilities when the nation required them.

The final challenge for the peacetime professional soldier is to anticipate the nature of the next war. At the beginning of my talk, I quoted General Chaffee's claim in 1909 that the airplane would not win any war. Chaffee's dogmatic assertion did not survive World War I, and the aftermath of that conflict saw the rise of what might be termed airpower theory. The guns had barely fallen silent when those "voices from the central blue" such as Giulio Douhet, Hugh Trenchard, and William "Billy" Mitchell predicted that the airplane would, if it had not already, revolutionize warfare.[27] In the 1920s the Air Corps Tactical School began to develop the concepts of daylight precision bombardment—and the airplanes required to execute these concepts—that

were later applied in World War II. Yet while I applaud the accuracy of some of their predictions, I must also point out how many things they got wrong. From very early on American aviation enthusiasts based much of their arguments for resources on the imminent danger of a sudden aerial attack on the United States. By 1925 they had so alarmed the public that the president formed a special Air Board to analyze the threat. It concluded that not only was the nation under no danger from aerial attack but that given the effective bombardment range was perhaps 300 miles, there was no foreseeable threat. Internal US Army studies not only confirmed the impossibility of aerial attack but the prohibitive cost of providing defense against a potential one. Just to protect the city of New York would have required virtually all the antiaircraft artillery guns in the continental United States, most of the troops, and much of the service's budget.[28] But these cold hard facts did not stop Billy Mitchell from pronouncing New York City "the ideal target for aerial attack" and asserting that "when the air raiders come" the city would be soon reduced to "a heap of dead and smoldering ashes" with its population "a yelling, bloody, fighting mass of humanity."[29] Whatever else one can say of these aviation theorists, they certainly did not believe that American civilians possessed any semblance of a warrior ethos.

Even when the postwar aviation prophets did "get it right" and correctly identified not only the enemy but the actual target, and even the most likely day and time for the attack, their predictions were often so wrong in the details as to be all but useless. In 1924, after touring Hawaii and the Philippines, Billy Mitchell wrote a report that predicted the Japanese would bomb Pearl Harbor, and even that they would do this on a Sunday morning. But in that same report he insisted, "There is nothing whatever to fear from so-called naval airplane carriers, because not only can they not operate efficiently on the high seas but, even if they could, they cannot place sufficient aircraft in the air at one time to insure a concerted operation."[30] In Mitchell's scenario, the Japanese strapped canvas-and-wood airplanes onto submarines and sampans—apparently with no damage from seawater or wind—and landed them secretly on an isolated Hawaiian island where they would soon build an airbase. Then, at a time when over-sea navigation was so problematic that there were standing orders not to lose sight of land—and the range of a US DH-4 bomber was less than 400 miles—the Japanese would fly dozens of airplanes across the 1,100 miles of open ocean from Midway to the secret airbase. This combined force would then rise and conduct three attacks within 24 hours that would shatter Honolulu and Pearl Harbor. The head of the Air Service himself admitted this plan was largely theoretical, and the commander in Hawaii maliciously noted that he had offered Mitchell an airplane to fly the very route he confidently predicted hundreds of Japanese would take without a single casualty.

Mitchell refused. Perhaps when confronted with mountainous waves and high winds, Mitchell's professional ethos trumped his warrior ethos.[31]

Although he failed to predict the revolutionary potential of new technology, Chaffee was correct in his dismissal in two respects. First, no war has yet been won entirely by either the airplane or the automobile—they have all required, and usually depended on the courage, discipline, and efficiency of the people behind these machines. Second, although not all of them deserve Chaffee's description of "hysterical people," there are still far too many self-styled military futurists who predict the imminent arrival of technologies so destructive, so powerful, and so awe-inspiring that war must soon be abolished. In the 1950s the prophets claimed the next war would be won by—depending on your service—submarine-based ballistic missiles, airborne thermonuclear strategic bombs, or tactical atomic weapons. In the 1970s, smart weapons, main battle tanks, and flying platforms would win future wars. In the 1980s and 1990s it was stealth warfare, computers, smart weapons, sensors, satellites, and so on. Indeed, in the two decades prior to the Iraq-Afghanistan wars, American military commentators often promised—much like the aerial enthusiasts in Chaffee's day—that there had been a technologically inspired Revolution in Military Affairs. Both the services and the defense community rolled out scores of buzzwords posing as doctrine—Fourth Generation War, Vision 2010, Full Spectrum Dominance, Shock-and-Awe—all promising the American armed forces rapid, decisive, and near bloodless victory. Indeed, according to its proponents, this New American Way of War would allow the United States to wage wars with virtually scientific precision, selectively striking key strategic targets with impunity, "taking down" the enemy's command and control system before it had a chance to react—all cumulatively creating cognitive collapse and rapid surrender. But, as Chaffee warned, this "new" American Way of War quickly reverted to brutal and lengthy slugging matches bearing more than a passing resemblance to the old American Way of War.[32]

Perhaps it was this dangerous heresy that war had become no more than the correct application of technology that prompted Gen T. Michael Moseley to recognize the importance of reestablishing the human element within the US Air Force. And from the beginning, the "Warrior Ethos" carried with it recognition that Americans, and especially military officers, must maintain a historical perspective. Technology may promise much, but it has yet to deliver on the promises of either the post–World War I aviation enthusiasts or those of more recent proponents of Fourth Generation Warfare, Shock-and-Awe, or Full Spectrum Dominance.

An American officer made this point in 1915, when World War I had already made it clear that Chaffee was mistaken, that both the automobile and the airplane had transformed battlefields. Nevertheless, this officer told his

readers, do not to look to future weapons to defend the nation. Instead, he urged that they study the past and learn the lessons of history. He noted that in ancient days every man had been a warrior, but with the development of modern commercial societies there had come specialization and military affairs had devolved on a small minority of professionals who defended the community. Now, with the rise of the industrial society, war had once again become democratized, with every citizen now eligible for service. War again demanded warriors, and he warned that Americans must reject those false prophets who preached that new wonder weapons would somehow relieve the citizen of any personal obligation to sacrifice for his nation's existence:

> The average individual always attempts to avoid personal service and places reliance wherever possible on machines or new inventions to do the work which only human blood and bone is capable of doing. This is particularly true of a non-military nation which is constantly looking out for some invention or marvelous thing which shall be so deadly and destructive as to make war impossible [but] those who have placed their sole reliance on instruments have experienced a disastrous end.[33]

These wise words came from none other than Billy Mitchell.

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Appendix

Harmon Memorial Lectures 1988–2017

All but one of the Harmon Memorial Lectures were delivered at the United States Air Force Academy in Colorado. Due to the untimely death of the invited speaker, the thirty-fourth Harmon Lecture was never delivered or submitted. Following is a chronological listing of lectures 31 through 60. For a listing of the first 30 lectures, see the appendix in Harry R. Borowski, *The Harmon Memorial Lectures in Military History, 1959–1987* (Office of Air Force History, 1998).

31. "The Intelligence Revolution: A Historical Perspective," Sir Harry Hinsley, 1988.

32. "Airpower, Armies, and the War in the West, 1940," R. J. Overy, 1989.

33. "'Cold Blood': LBJ's Conduct of Limited War in Vietnam," George C. Herring, 1990.

34. "Postwar Perspectives on the Greater East Asia Co-Prosperity Sphere," Joyce C. Lebra, not delivered, 1991.

35. "United States Policy vis-à-vis Korea, 1850–1950," John Edward Wilz, 1992.

36. "Codebreaking and the Battle of the Atlantic," David Kahn, 1994.

37. "The Structure of Military-Technical Transformation," William H. McNeill, 1994.

38. "The Place of World War II in History," Gerhard L. Weinberg, 1995.

39. "Shaping Junior Officer Values in the Twentieth Century: A Foundation for a Comparative Perspective," Dave R. Palmer, 1996.

40. "Battles Not Fought: The Creation of an Independent Air Force," Stephen L. McFarland, 1997.

41. "'Fighting with Allies': The Hand-Care and Feeding of the Anglo–American Special Relationship," Warren F. Kimball, 1998.

42. "The Erosion of Civilian Control of the Military in the United States Today," Richard H. Kohn, 1999

43. "Making Experience Count: American POW Narratives from the Colonial Wars to Vietnam," Robert C. Doyle, 2000.

44. "The Aircraft that Decided World War II: Aeronautical Engineering and Grand Strategy, 1933–1945, The American Dimension," John F. Guilmartin Jr., 2001.

45. "The West at War and the Burdens of the Past," Victor Davis Hanson, 2002.

46. "The Wright Brothers and the Birth of the Air Age," Tom D. Crouch, 2003.

47. "The Code of the Warrior," Shannon E. French, 2004.

48. "Patton and Rommel: Men of War in the Twentieth Century," Dennis Showalter, 2005.

49. "National Security: Space and the Course of Recent US History," Roger D. Launius, 2006.

50. "Matching Mountains and Fulfilling Missions: One Grad's Assessment of USAFA's True Value," Mark Clodfelter, 2007.

51. "France and the Armistice of 1918," Robert A. Doughty, 2009.

52. "Hubert R. Harmon and the Air Force Academy: The Man and the Issues," Phillip S. Meilinger, 2010.

53. "The Daemon of Geopolitics: Karl Haushofer, Rudolf Hess, and Adolph Hitler," Holger H. Herwig, 2011.

54. "On the Making of History: John Boyd and American Security," Grant T. Hammond, 2012.

55. "Eisenhower Rising: The Ascent of an Uncommon Man," Rick Atkinson, 2013.

56. "Reflections on Military Professionalism," Andrew Bacevich, 2014.

57. "'Abandoned to the Arts & Arms of the Enemy': Placing the 1781 Virginia Campaign in Its Racial and Political Context," Gregory J. W. Urwin, 2014.

58. "The Profession of Air Arms in the Twenty-First Century," John A. Warden III, 2015.

59. "Airpower and Warfare, 1950–Present: Success, Failures, and Enduring Challenges," Jeremy Black, 2016.

60. "Military Professionals and the Warrior Ethos in the Aftermath of War," Brian McAllister Linn, 2017.

Index

Over the past thirty years, these essays from the world's leading military historians, including a number of our own Air University faculty, have helped to educate our nation's future air and space professionals. The insights presented at the Air Force Academy's oldest and most prestigious named lecture have ensured generations of cadets had the requisite foundation in military history and were fully prepared to perform their required duties in the service of our great nation. Airmen, military professionals, and civilian academics will all benefit from a close reading of these seminal essays on such topics as airpower, leadership, warfighting, professionalism, and military thought.

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