

AIR POWER

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History



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We are honored to feature "The Air Force's Enduring Legacy of Strategic Deterrence" by General Norton A. Schwartz, the nineteenth Chief of Staff of the USAF. In this article, the Chief demonstrates the importance of preserving our past, but also confirms history's utility to inform the future. Formulated in the aftermath of World War II, strategic deterrence played a vital role in national defense until shortly after the fall of the Soviet Union. After undergoing a period of neglect and lowered priority, our leaders realized that strategic deterrence remains an important element in safeguarding our nation and the world.

Charles A. Lindbergh became a national hero as the first man to successfully fly solo from New York to Paris in May 1927. He won a money prize, national and international celebrity, married socialite Anne Morrow, was victimized by the kidnapping and murder of his son, vilified for his public admiration of Nazi Germany's military machinery, and remained an iconic "rock star" throughout his life. Many years after his death, however, his secret life of infidelity was revealed. That disclosure will undoubtedly stimulate more analysis and revisionism. In "The Celebrity of Charles Lindbergh," Professor Stanley Shapiro peels away several of the layers surrounding his subject's complex life.

An historian who researched, wrote, and published Air Force history for half a century, Herman Wolk is eminently qualified to evaluate the controversial issues concerning the use of the atomic bombs against Japan in World War II. In the third article, "Arnold Races the Clock: The Battle of Japan," readers will sit in on the deliberations of the wartime leaders of the U.S., its Allies, and Japan. Readers will then better understand not only what decisions were made, but why.

In article four, "Air Force Combat Controllers at Desert One," Forrest Marion recounts the story of the failed attempt to rescue American hostages from Iranian captivity in April 1980. Marion's focus is on the neglected role of the Air Force Combat Control Team in the operation. Find out what went right, what went wrong, and the deleterious effects of the *haboob*.

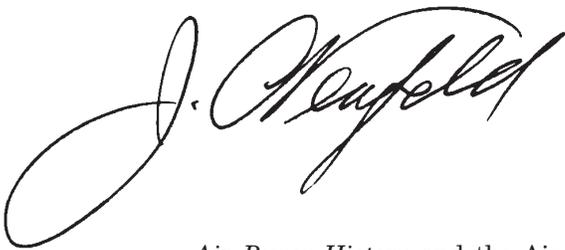
Rarely does an article generate as much controversy as did Marshall Michel's rhetorical question about the P-51 Mustang: "The Most Important Aircraft in History?" [*Air Power History*, Vol. 55, No. 4, pages 46-57.] In fact, we had space for only four pages of attacks on the P-51 and not enough room for a rebuttal by the author. See pages 68-71.

Lt. Gen. Michael A. Nelson, President of the Air Force Historical Foundation, had announced his retirement effective December 31, 2008, but agreed to extend for three more months, to permit time to find a successor. For Foundation news, see "The Executive Director's Message," pages 66-67.

Sadly, we report several obituary notices on history makers and historians, beginning on page 72 through the notice on the death of former Air Force Secretary Verne Orr on pages 74 and 75.

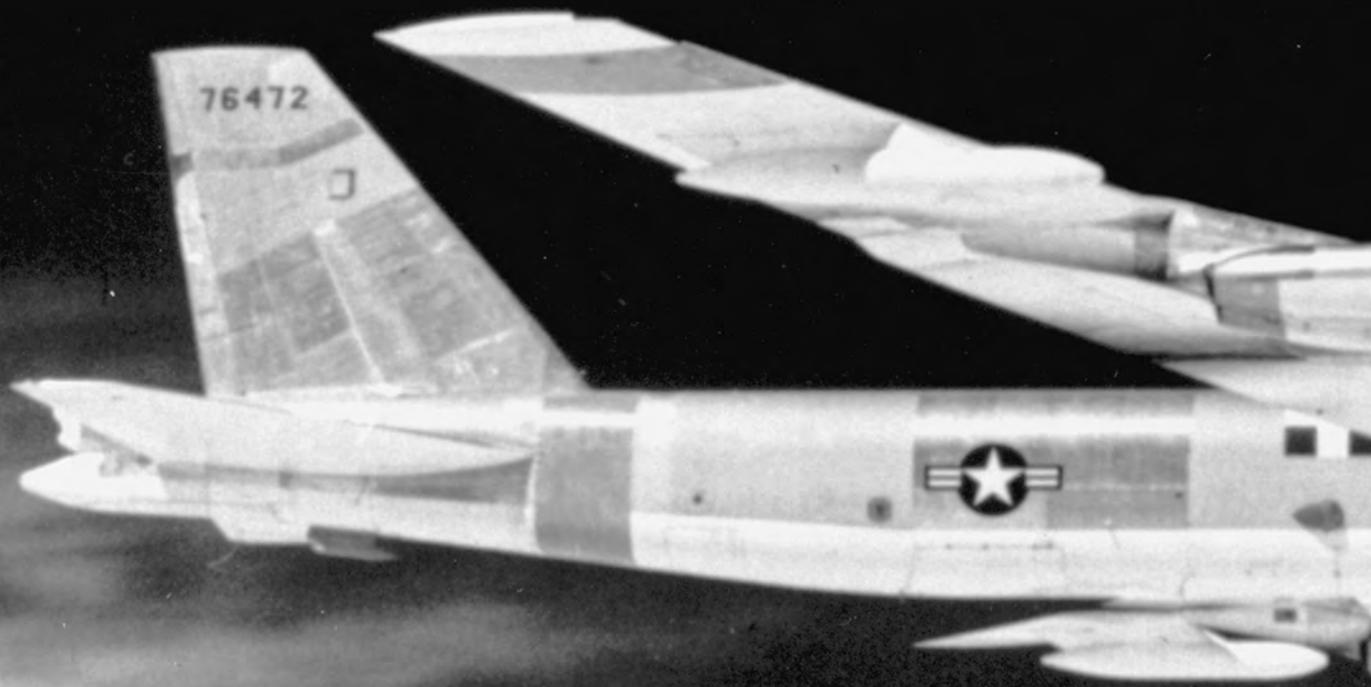
We have plenty of book reviews, a few books received, and of course, the long-running favorite—Bob Dorr's "History Mystery."

Your letters are welcome. Please let us know what you think of the journal – articles, reviews, departments. How can we do better? Send comments to my e-mail: Jneufeld@comcast.net or write to: *Air Power History*, 11908 Gainsborough Rd., Potomac, MD 20854.



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The Air Force's Legacy of Nuclear Deterrence



Enduring War



General Norton A. Schwartz
Chief of Staff, U.S. Air Force

(Overleaf) USAF test-launch of an AGM-28 Hound Dog missile, a stand-off nuclear missile that remained in the inventory for 15 years.

(Right top) Fat Man, the atomic bomb dropped on Nagasaki.

(Right below) Little Boy, the Hiroshima atomic bomb.

On August 6, 1945, President Harry S. Truman released a statement to the American people and the world that opened a new era in history:

Sixteen hours ago, an American airplane dropped one bomb on [Hiroshima] and destroyed its usefulness to the enemy. That bomb had more power than 20,000 tons of T.N.T. It had more power than two thousand times the blast power of the British "Grand Slam" which is the largest bomb ever used in the history of warfare.... It is an atomic bomb.¹

Three days after the crew of the B-29 *Enola Gay* dropped "Little Boy" on Hiroshima; the crew of *Bockscar* dropped "Fat Man" on Nagasaki. The two atomic bombs killed tens of thousands of people and destroyed the two cities. The explosions, coupled with the declaration of war by the Soviet Union on Japan on August 8, 1945, convinced Emperor Hirohito that the U.S. now had "a cruel new weapon" that could destroy the Japanese homeland.² Certainly, other actions, including the Air Force's firebombing of major enemy cities between March and August 1945, destroyed Japan's war production industry and drove millions of evacuees from the Japanese urban areas, and the U.S. Navy's blockade of Japan's maritime supply line set necessary preconditions for victory. Although the war against Japan ended, President Roosevelt's decision to develop an atomic weapon and President Truman's decision to employ it ushered in the atomic age.³ The advent of these awesome weapons also prompted a reconsideration of national security strategy, based on a rapidly evolving novel theory of nuclear deterrence. These developments, which took place during successive presi-



dential administrations, placed great demands on the Services to adapt quickly to meet new national policies.⁴

From the fallout of Hiroshima and Nagasaki to the global instability of the present day, the importance placed on nuclear deterrence as a pillar of national security policy has varied as a factor of fiscal reality, advanced technology, geopolitics, and national security priorities.

This article recounts how the Air Force met the demands of nuclear policy. Section I, "Evolution in

The B-29 *Enola Gay*, which dropped the first atomic bomb, "Little Boy" on Hiroshima.



Gen. Henry H. "Hap" Arnold.



Relative Stability," discusses how Airmen during the early days of the Cold War established the famed Strategic Air Command (SAC) to meet the nation's deterrent strategy, and how SAC effectively maintained its alert ready strike force for more than forty years. Section II, "Turbulent Times," describes how Airmen, in the post-Cold War era, adapted successfully to significant shifts in the international environment and national policy. The final section, "Beyond the Horizon," outlines the Air Force's plans to meet the challenges of the future as guardians of a nuclear arsenal that remains a vital component of the nation's nuclear strategy.

Evolution in Relative Stability

During the Cold War, the Soviet threat shaped American military and diplomatic decision making around a dangerous but stable bipolar alignment. Because of this threat, the United States strived to maintain "nuclear and conventional capabilities sufficient to convince any potential aggressor that the costs of aggression would exceed any potential gains that he might achieve."⁵ Although other nations would develop nuclear weapons during this period, the Soviet Union alone possessed an arsenal that rivaled America's capabilities. U.S. policy makers concluded that "the most significant threat to U.S. security interests remained the global challenge posed by the Soviet Union."⁶

From 1946 to 1989, seven distinct presidential policies were formulated in response to the strategic challenge posed by the Soviets Union: the Truman Doctrine, Eisenhower's New Look and massive retaliation; Kennedy's flexible response; Johnson's policy of assured destruction; Nixon's combination of *realpolitik* and *détente*; Carter's countervailing strategy; and Reagan's emphasis on

nuclear force buildup and negotiated weapons reduction. In these years of relative stability in U.S. strategy, the Air Force's response to national policy was characterized by precision, accountability, reliability, and innovation.⁷

Precision, Accountability, and Reliability

The Strategic Air Command (SAC) was established in March 1946, along with Tactical Air Command (TAC) and Air Defense Command (ADC). It is important to note that the predecessor to SAC was the Twentieth Air Force of World War II commanded by General Henry H. "Hap" Arnold in Washington, reporting *directly* and *accountable* to the Joint Chiefs of Staff (JCS). This was the global strategic air force, the model and predecessor to SAC that operated the B-29s against Japan and solidified the postwar Air Force's claim to the strategic atomic mission. With creation of the Unified Command Plan of December 1946, approved by the President, SAC became a specified command and its mission became one of the highest priorities in national defense: "There is established a Strategic Air Command composed of strategic air forces not otherwise assigned. These forces are normally based in the United States. The commander of the Strategic Air Command is responsible to the Joint Chiefs of Staff..."⁸

SAC formed the bedrock of U.S. Cold War nuclear deterrence policy. Army Air Forces (AAF) regulations tasked SAC to "provide and operate that portion of the AAF which is maintained in the United States, and in such other areas as may be designated from time to time, for the employment of air attack in any location on the globe . . . either independently or in cooperation with other components of the armed forces."⁹ General Carl A. Spaatz, Commanding General, AAF, defined SAC's mission:

Conduct long-range offensive operations in any part of the world, either independently or in cooperation with land and naval forces

Conduct maximum range reconnaissance over land or sea, either independently of or in cooperation with land and naval forces

Provide combat units capable of intense and sustained combat operations employing the latest and most advanced weapons

Train units and personnel for the maintenance of the strategic forces in all parts of the world

*Perform special missions as the commanding general, Army Air Forces may direct.*¹⁰

In 1948, General Hoyt S. Vandenberg asked world-renowned aviator Charles A. Lindbergh to evaluate SAC's readiness. Lindbergh's evaluation revealed several serious inadequacies: lack of facilities and methods; poor living conditions; flight crews incompetent in core flying areas due to cross-



training; and under-manning.¹¹ As Lindbergh noted:

*...accident rates are high, landings are too rough and fast, crew duties are not smoothly coordinated, equipment is not neatly stowed in flight, engine and accessory troubles are excessive, and there are not enough training missions which simulate the combat missions which would be required in event of war.*¹²

*Numerous assignments to temporary duty, an intensive cross-training program, and extra-curricular flying activities have seriously interfered with training in the primary mission of the atomic squadrons. Resulting absences and frequent changes in home locations have had a bad effect on family relationships and over-all morale.*¹³

Due in part to the findings of this report and in part to other concerns, General Vandenberg decided that SAC needed new leadership. Consequently, on September 21, 1948, Headquarters U.S. Air Force announced General Curtis E. LeMay as Commander of SAC and reassigned General George C. Kenney as Commander of Air University, Maxwell AFB, Alabama. As SAC historian Walton S. Moody observed, "LeMay had the right kind of experience, with a record of taking over faltering organizations and getting them into shape."¹⁴

General LeMay's leadership was pivotal in the development of this discipline. When he took command in 1948, he told SAC members that they were no longer preparing for war, but that they were at war.¹⁵ "We had to operate every day as if we were at war," he later recalled, "so if the whistle actually blew we would be doing the same things that we were doing yesterday with the same people and the same methods."¹⁶ General LeMay insti-

tuted regulations, policies, and procedures that stressed the importance of the discipline required for war. LeMay firmly believed a highly specialized strategic force was paramount for credible nuclear deterrence:

*A deterrent force is one that is large enough and efficient enough that no matter what the enemy does, either offensively or defensively, he will still receive a quantity of bombs or explosive force that is more than he is willing to accept. . . . A deterrent force is an effective nuclear offensive force which is secure from destruction by the enemy regardless of what offensive and defensive action he takes against it.*¹⁷

In order to prepare SAC for its new mission, LeMay borrowed from his experiences in Europe and the Pacific during World War II, instituting a more rigorous and realistic training program:

*We believe that, by working hard and maintaining our efficiency at the highest possible standards, that is the best thing we can do to assure [that] wars large or small will not happen.... I think that most wars are started when one nation thinks it could beat the other one. If they didn't think they were going to win, they certainly would never start it.*¹⁸

After learning of impractical training routines on which bomber crews trained, LeMay ordered more realistic training and enforced standards. For example, bombing crews routinely conducted training missions at 12,000-15,000 feet, an altitude far below that required for combat operations. At these lower altitudes, crews were not required to use the uncomfortable supplemental oxygen system necessary at combat altitudes and radar equipment functioned more effectively.¹⁹ Crews also regularly conducted radar bomb runs against targets with large radar reflectors in the middle of the ocean which made them easily identifiable. LeMay ordered that bomber crews fly at higher altitudes, wear the complete combat ensemble, and attack targets with small radar reflectors. These realistic training standards eventually increased the efficiency and effectiveness of bomber crews. Major General John B. Montgomery, former SAC Director of Operations, affirmed that the efficient approaches implemented by General LeMay "brought 3,000 crews up to combat strength and effectiveness as SAC executed three sequential development plans" from 1948 to 1949.²⁰

LeMay also reorganized maintenance functions for improved efficiency. Before LeMay, squadrons accomplished most maintenance functions, so maintenance personnel were part of the operational squadron. The SAC commander moved all maintenance specialists from the squadron level to the group level, focusing them on the fleet as a whole.²¹ Consequently, the increase in sortie generation rate meant that more aircraft were available for flying. Although crew members complained about these changes—squadron commanders were accustomed to controlling all maintenance func-

A SAC bomber crew scrambles for its aircraft.



tions in the operational squadrons—LeMay implemented his changes on the basis of his desire for “effectiveness not niceties.”²²

Accountability was to become the benchmark of SAC culture to ensure that the Air Force met the nation’s demands. General LeMay described his approach this way, “We checked all of these things, all the time. We had a team go out. They would take off from Offutt, HQ SAC, clear for one base but land at another, and hand the commander a letter: Execute your war plan.”²³ Deviating from the checklist meant inspection failure. When wings failed inspections, their commanders were often relieved of command.²⁴

Inspections, including no-notice inspections to check constant mission readiness, ensured the nation’s nuclear enterprise met the established rigorous standards. General David A. Burchinal, one-time SAC member and later Director of the Joint Staff, remarked:

Then we got into “No-notice.” In other words, you would go into a period where orders might come to your wing without warning. All of a sudden, the word would come through; you went to the airplane, and you took off twelve airplanes out of the wing.²⁵

Operational readiness inspection teams often arrived unannounced at a base and ordered the base commander to execute their war plans. Commanders who performed well during the inspections usually gained status, those who failed found new jobs.²⁶

Standardization was the hallmark of SAC’s ability to ensure the viability of the nuclear deterrent mission. Standardization meant that everyone in the command followed written procedures

explicitly, performed their jobs quickly with precision, and worked as a team toward mission accomplishment. In November 1948, LeMay ordered his numbered air force commanders to make standardization programs a priority across the command. Each crew position received technical manuals and checklists that outlined detailed procedures required to accomplish each specific task.²⁷

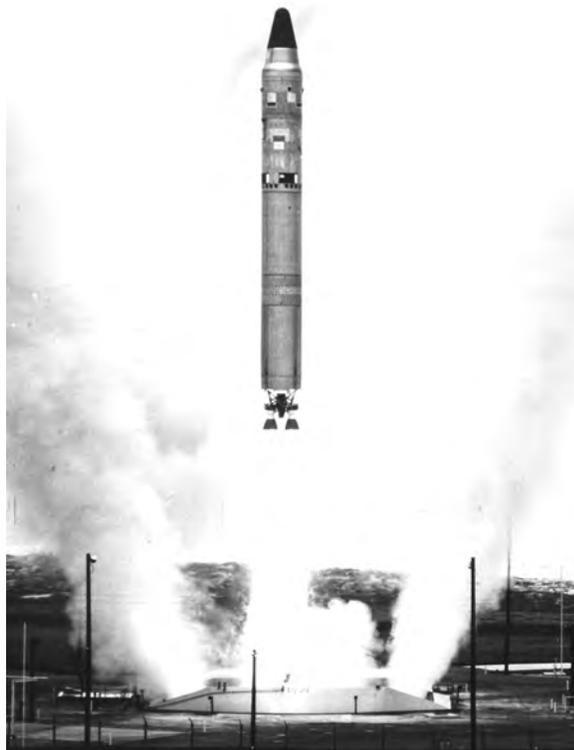
This focus on compliance with standardized procedures produced immediate results, especially with respect to bombing accuracy, which increased dramatically. At the beginning of 1949, crews averaged a miss distance of 3,679 feet; by the end of the year the miss distance for medium bombers (B-29s/50s) was 2,928 feet—despite flying longer missions at higher altitudes.²⁸ SAC accident rates also declined dramatically. At the onset of LeMay’s tenure at SAC, the command averaged more than 60 accidents per 100,000 flying hours; LeMay believed that the problem was a lack of checklist discipline.²⁹ He demanded that crews follow checklist standard operating procedures (SOPs) or he would hold them and their commanders accountable. In addition, he demanded wing commanders fly to Offutt AFB to personally brief him on any accident. Within two years of implementing these changes, SAC had the lowest accident rate in the Air Force.³⁰ LeMay justified his uncompromising leadership approach in large part by citing the great risks that handling nuclear weapons entailed. A “Zero Defects” standard seemed to be only acceptable one.

In August 1949, the Soviet Union joined the atomic age with a successful atomic bomb test. Then came the Korean War and disturbing intelligence reporting of Soviet advancement in long-range ballistic missiles research. In January 1950,



(Above) A missile combat crew in a launch control center. In this case, the two-man crew indicates it is for the solid-fuel Minuteman ICBM.

(Right) A liquid-fueled Titan II ICBM launches.



concomitant with his decision to go ahead with a crash program to develop the hydrogen bomb, President Truman directed a “reconsideration of national security strategy.” The resulting document, NSC-68, emphasized that the U.S. would have to maintain its deterrent capability to conduct strategic air operations against the Soviet Union and underlined the importance of building up SAC.

The Air Force’s strategic deterrent program meshed with the Eisenhower administration’s New Look policy. The so-called “limited war” in Korea paved the way for the New Look. The Air Force convened its leadership at Bar Harbor, Maine, in the

summer of 1952 to promulgate a major “New Phase” outlining the resources required to maintain a powerful, permanent strategic deterrent force. On January 12, 1954, Secretary of State John Foster Dulles struck the keynote for the New Look:

*Local defense must be reinforced by the further deterrent of massive retaliatory power...We need allies and collective security. Our purpose is to make these relations more effective and less costly. This can be done by placing more reliance on deterrent power and less dependence on local defensive power.*³¹

With the evolution of the New Look, SAC became the military arm of U.S. foreign policy. General LeMay emphasized that “offensive air power must now be aimed at preventing the launching of weapons of mass destruction against the United States or its Allies. This transcends all other considerations...”³² In 1957, LeMay recommended that SAC and TAC be combined into an “Air Offensive Command” under a single commander. The next step, according to LeMay, would be “unified control of all air offensive forces, regardless of service, under a single air commander.”³³

In the late 1950s, the Air Force supported integrated strategic planning and greater accountability in the nuclear chain of command. The Eisenhower administration’s 1958 Reorganization Act provided the Secretary of Defense increased unity in strategic planning and operational direction. General Thomas D. White, USAF Chief of Staff, supported the administration, observing before Congress that it was crucial “that our combat forces be organized into truly unified commands and that our strategic and tactical planning be completely unified.”³⁴

In August 1960, Secretary of Defense Thomas S. Gates directed establishment of the Joint Strategic Target Planning Staff (JSTPS), consisting of personnel from all services. The JSTPS would prepare and maintain a National Strategic Target List and a Single Integrated Operational Plan (SIOP) to commit weapons to specific targets. The JSTPS was located at SAC Headquarters with the Commander-in-Chief, SAC, as Director of the planning staff. This was a landmark decision in strategic nuclear planning and accountability.

Innovation

Since before the end of World War II, the United States military services had also conducted research in missile technology, these efforts were mired in “stop-and-go development, unrealistic requirements, divided authority, low priorities, and indecision over whether the emphasis should be on ballistic or winged missiles.”³⁵

The consensus of scientific opinion at this time predicted that a ballistic missile capable of carrying a nuclear warhead would not be feasible until the mid-1960s; nuclear payloads were simply too large and too heavy. However, technological advances in

(Right) Gen. Bernard A. Schriever.



nuclear weapons, specifically the development of a fusion nuclear warhead, changed that reality.³⁶ Staying on the cusp of innovation and abreast of emerging technologies, in March 1953, Brig. Gen. Bernard A. Schriever learned about the successful test of a hydrogen nuclear device. Hydrogen bombs would be lighter but more powerful than atomic bombs, so when coupled with an intercontinental ballistic missile (ICBM) would require less thrust.³⁷ Armed with this information, General Schriever urged the Air Force Scientific Advisory Board to formalize their findings and issue a report that confirmed the feasibility of a light-weight, high-yield warhead. This technological breakthrough coupled with General Schriever's foresight had a tremendous impact on national policy.

Such advances in technology highlight the interdependent relationship between technology and national security policy. The advent of smaller sized and higher yield nuclear warheads provided decision makers new alternatives. The potential capabilities of the hydrogen bomb stoked the imaginations of Air Force officials, notably Trevor Gardner, special assistant for research and development. Convinced that the simultaneous development of the hydrogen bomb and ballistic missiles was critical to meeting national security objectives, Gardner formed an evaluation committee, informally known as the Teapot Committee.³⁸ Dr. John von Neumann chaired the committee, which included several other renowned scientists, engineers, and industrialists. General Schriever's office provided staff support.

In its February 1954 report, the Teapot Committee confirmed the feasibility of fielding an ICBM before the mid-1960s, provided it was accom-

panied by a radical reorganization of the acquisition process; it recommended the creation of a new agency that would be "relieved of excessive detailed regulation."³⁹ The growth in Soviet conventional strength, missile technology, and nuclear technology gave urgency to implementing these changes.

In accordance with the Soviet threat, the committee's recommendations, and the administration's strategic goals, the Air Force reorganized its acquisition process. Prior to ballistic missile development, the Service used a single prime contractor to develop new weapon systems.⁴⁰ This approach worked reasonably well for simple systems, but was woefully inadequate and cumbersome for more complex systems—changes in design, performance specifications, and components often resulted in cost overruns and program delays.⁴¹

Mr. Gardner convinced Secretary Talbott and Chief of Staff General Nathan Twining that ballistic missile development was too important to follow the traditional acquisition process. In March 1954, Secretary Talbott and General Twining directed the Air Research and Development Command (ARDC) to establish a military-civilian group to "redirect, expand, and accelerate the Atlas [ICBM] program."⁴² Schriever's Western Development Division (WDD) managed the ICBM program. He reported directly to the commander of ARDC, bypassing the bureaucratic hurdles in the decision-making process and giving him the necessary responsibility, autonomy, and flexibility to develop an ICBM in short order.⁴³

General Schriever introduced several measures that ensured collaboration of effort, sharing of ideas, and efficiency. He ordered the separate teams developing Atlas and Titan to maintain as much interchangeability between the subsystems as possible. Further, he developed a computer capacity to "automate management information on a nearly instantaneous basis, permitting him and his managers to track progress in the various programs."⁴⁴ This allowed General Schriever to concentrate on improving performance.

Another important area where General Schriever made improvements was in ballistic missile testing. He abandoned the original plan of building test vehicles to speed up the testing process and instead used actual Atlas A missiles for test; as testing progressed, the test community used more complex Atlas variants. This incremental approach to testing not only accelerated the developmental and testing processes, but also allowed for recognition of emerging problems at relevant points in the design process.

Staying attuned to developments that might further improve capabilities, WDD explored the feasibility of using solid rather than liquid propellant for ballistic missiles. First known as Weapon System Q, the WDD used solid propellant to develop the three-stage Minuteman in a remarkable three years. By 1962, at the time of the Cuban missile crisis, the Air Force provided the nation ten Minuteman missiles in underground silos ready for combat. Inception to full operational capability took



(Above) A Peacekeeper ICBM test launch.

(Right) The B-52s also dropped iron bombs, in great numbers, when called upon.



only four years and eight months.⁴⁵ The efficiency and innovative prowess demonstrated by the Airmen who delivered these crucial capabilities ahead of schedule to meet the policy demands of the Cold War are perhaps best captured by General Schriever's own words, "The world has an ample supply of people who can always come up with a dozen good reasons why a new idea will not work and should not be tried, but the people who produce progress are a breed apart. They have the imagination, the courage, and the persistence to find solutions."⁴⁶

During the Cold War, Airmen successfully adapted to the varying demands of every U.S. president. SAC stood strong and very capable of meeting any presidential nuclear policy directive. In a similar manner, the innovations in acquisition processes implemented by General Schriever ensured that any modifications required by policy changes occurred rapidly, thus providing policymakers flexibility, resiliency, and a credible nuclear force. As the Cold War drew to a close, significant changes in the global security environment and dramatically different presidential policies prompted Air Force senior leaders to rethink the Air Force's nuclear deterrent posture.

Prior to the development and full operational capability of U.S. Navy submarine-launched ballistic missiles, SAC stood alone as the nuclear deterrent force. After the introduction of Polaris submarines, SAC was responsible for two thirds of the nuclear triad—land-based ICBMs and strategic bombers. The advent of the Triad and the acquisi-

Members of a SAC B-52 combat crew race to their aircraft, one of many on ground alert, available on moment's notice to carry the crew and the attached Hound Dog missiles on a nuclear mission.



tion of tactical nuclear weapons by TAC, ADC, as well as the Air Force's overseas major commands led to the creation of the SIOP.

Turbulent Times

SAC's culture of precision and accountability as well as the excellence in acquisition programs exemplified by General Schriever stood the Air Force in good stead in meeting national objectives during the Cold War. However, the international environment—and the strategic assumptions beneath nearly five decades of national security policy and Air Force operations—changed dramatically with the disintegration of the Soviet Union. The bipolar world ended in the early 1990s, with the United States emerging as the world's preeminent superpower. In this unipolar order of nation states, non-state actors and extremist groups began to exercise more influence. Within this new world order, President George H.W. Bush continued reductions of U.S. nuclear forces, but still firmly advocated nuclear deterrence policy. When President William J. Clinton took office, his administration conducted the first Nuclear Posture Review (NPR) in 1993. The NPR concluded that nuclear weapons remained a vital part of deterrence and that the U.S. needed to maintain the Triad as a critical component of nuclear deterrence. It also concluded that the START-II limitations

“sustained U.S. nuclear deterrence.”⁴⁷ In 1997, President Clinton approved a revised U.S. nuclear policy, stating the Cold War was over and that nuclear weapons would play a smaller but substantial role in U.S. national strategy.

Following President Clinton, President George W. Bush faced an entirely different set of global challenges. The rise of non-state actors and the tragic events of 9/11 caused the national security establishment to reassess nuclear deterrence. Even before these events, sensing a need for change, President Bush ordered a second NPR. The 2001 NPR concluded that a strategic posture based solely on offensive nuclear forces for deterrence was unsuitable for today's global environment. This NPR established several new paradigms. First, it introduced a New Triad that completely broke away from traditional thinking. The 2001 NPR declared the traditional nuclear Triad obsolete and proposed a New Triad composed of offensive weapon systems, defensive weapon systems, and a responsive infrastructure. Second, it “mainstreamed” nuclear weapons by making them one of many offensive strategic capabilities, thereby deemphasizing their importance and the rationale for modernizing nuclear forces.

Secretary of Defense Donald Rumsfeld explicitly addressed this nuclear deterrence paradigm shift in January 2001, when he affirmed:

The venerable B-52 has been a mainstay in the fleet since the 1950s.



*The credibility, safety, reliability, and effectiveness of the nation's nuclear deterrent must remain unquestioned. But it must be adapted to 21st Century deterrence needs. Credible deterrence no longer can be based solely on the prospect of punishment through massive retaliation. Instead, it must be based on a combination of offensive nuclear and non-nuclear defensive capabilities.*⁴⁸

In accordance with the 2001 NPR, the 2006 National Security Strategy (NSS) declared “the new strategic environment requires new approaches to deterrence and defense.”⁴⁹ It redefined national strategy, stating that deterrence “no longer rests primarily on the grim premise of inflicting devastating consequences on potential foes.”⁵⁰ The NSS required both offensive and defensive weapons suitable for the new global environment in the form of a “New Triad,” which was to consist of, “offensive strike systems (both nuclear and improved conventional capabilities); active and passive defenses, including missile defenses; and a responsive infrastructure, all bound together by enhanced command and control, planning, and intelligence systems.”⁵¹

While national policy no longer placed nuclear weapons as the centerpiece of deterrence strategy, they still remained relevant. In light of these changes, the Air Force adapted accordingly, embarking on a new approach to ensure mission reliability, precision, accountability, and innovation.

Air Force Reorganization

Given a new global environment and new policy approaches, the Air Force embarked on a differ-

ent path toward deterrence that sought to balance nuclear and non-nuclear swords and shields. In particular, the Air Force responded to policy changes with major organizational changes that reflected competing tensions. On one hand, there was an increased demand for conventional air and space capabilities; fiscal realities and treaties also required reductions in the nation's nuclear arsenal. On the other hand, the Air Force retained responsibility for much of the nuclear deterrence mission and therefore remained accountable for providing a viable nuclear force.

To a substantial degree, the Air Force's strategic struggle with its nuclear enterprise during the post-Cold War period was a by-product of national policy. As former Secretary of Defense Dr. James Schlesinger observed in his 2008 report on the Air Force nuclear enterprise, “Changes made by the Air Force after the Cold War were in response to the defense downsizing of the 1990s as well as national leadership priorities.”⁵²

With less national emphasis on nuclear weapons during this period, the Air Force lost sight of the importance of maintaining a viable air and space power-based nuclear deterrent capability. According to the Air Force Blue Ribbon Review of Nuclear Weapons Policies and Procedures report, as the size of the nuclear arsenal was reduced, the Air Force shifted emphasis to conventional missions, which were—and remain—in high demand.⁵³ Dr. Grant Hammond, Dean, NATO Defense College, eloquently summarized the Air Force's attitudinal disposition towards nuclear weapons:

The Air Force went from a theology of nukes in the

An ICBM test launch from Vandenberg AFB, California, one of a series designed to ensure missile safety and reliability.



*Cold War, where we thought very consciously and persistently about nukes, to an agnosticism of nukes, where we knew they were there, we knew they were important, but we really did not spend much time thinking about their use or our stewardship of them.*⁵⁴

In 1992, these shifting national priorities and an anticipated peace dividend following the end of a long and costly stand-off with the Soviet Union prompted one of the largest organizational changes in Air Force history. Having remained relatively constant since 1947, the major command structure, which before 1992 consisted of thirteen major commands—seven operational and six support—was reduced to six operational commands and two support commands. With respect to the nuclear enterprise, SAC and TAC combined to become Air Combat Command (ACC). Under the new construct, ACC was responsible for all Air Force “fighters, bombers, ICBMs, reconnaissance aircraft, command and control aircraft, some tactical airlift, and some tankers.”⁵⁵ More importantly, ACC and Air Force Space Command (AFSPC) were now both responsible for different parts of the nuclear mission and served as force providers for United States Strategic Command. This fragmentation of nuclear forces, which split responsibility between ACC

(bombers) and AFSPC (ICBMs), resulted in the loss of a single champion for all USAF nuclear issues.

The primary goal of the reorganization was “to increase combat capability through air power integration, develop a clear and simple organizational structure, and unify command”⁵⁶ while enhancing peacetime efficiencies, increasing combat effectiveness, and maintaining nuclear competence.⁵⁷ Given shrinking defense budgets coupled with the reduction in nuclear weapons, the reorganization clearly met only part of its mandate by allowing the Air Force to better meet conventional requirements.

Throughout the past two decades, the reorganization allowed the Air Force to expertly conduct numerous conventional conflicts while drawing on a competent and capable nuclear deterrent force built during the Cold War. Also, improvements in the accuracy and effectiveness of precision guided munitions and of conventional explosives reduced interest in tactical nuclear weapons. Also, improvements in The Air Force prosecuted Operations NORTHERN WATCH and SOUTHERN WATCH in Iraq; Operations ALLIED FORCE and DELIBERATE FORCE in the Balkans; Operation ENDURING FREEDOM (OEF); Operation IRAQI FREEDOM (OIF); Operation NOBLE EAGLE (ONE), and many other small scale conting-

A B-52 with a full complement of Air Launched Cruise Missiles under its wings as viewed from its tanker aircraft.



cies—18 years of continuous conventional employment of which the nation and Airmen should be proud. Since 9/11, the Air Force has flown almost 400,000 sorties in OIF, nearly 221,000 sorties in OEF, and roughly 54,000 in ONE; additionally, the Air Force has airlifted nearly 2,500,000 short tons of cargo and expended 2,000,000 munitions. These intensive conventional and unconventional operations succeeded in part due to the leadership, skill, and innovation of Airmen that blossomed under the commands formed in 1992. Further, throughout these conflicts, the constant readiness of Air Force bomber and missile forces provided the nation a backstop of strategic deterrence. To some degree, the successful adaptation of the Air Force in accordance with national policy in the immediate post-Cold War period enabled the nation to fight repeatedly across the globe without sufficient attention to nuclear deterrence.⁵⁸

However, the bill for this emphasis on conventional operations inside and outside the Air Force eventually came due. The Defense Science Board Report on Nuclear Weapons Surety affirmed the negative impact of the Services focusing so intensively on conventional conflicts. The report concluded that “nuclear missions were devalued and there existed a long term trend minimizing the perceived importance of the nuclear deterrent to national security.”⁵⁹ Further, the report declared that “dispersal of responsibility for nuclear matters throughout the enterprise: OSD, Joint Staff, Strategic Command, Air Force” contributed to the decline of the importance of the nuclear enterprise.⁶⁰

Over several years and many military engagements, the Air Force’s nuclear sustainment system became fragmented and the pool of nuclear-experi-

enced Airmen atrophied as SAC veterans retired and less time was allocated to maintaining nuclear operational proficiency. Air Force leadership failed to advocate, oversee, and properly ensure the maintenance of nuclear-related skills. Deficiencies in inspection processes also contributed to the erosion of the culture of accountability and rigorous self-assessment formerly associated with the Service’s high standards of excellence in nuclear mission areas. Military down-sizing since the end of the Cold War reduced the size of nuclear forces and adversely impacted the modernization or recapitalization of some systems in the Air Force nuclear enterprise. Air Force concepts of operations evolved to emphasize non-nuclear missions and capabilities. Air Force contributions to expeditionary joint and coalition operations and a renewed emphasis on irregular warfare methods began to overshadow the Air Force’s traditional competency in nuclear deterrence.⁶¹

Beyond the Horizon

Although the benefits of the Air Force’s post-Cold War reorganization were substantial, its ultimate cost to the nuclear enterprise was high. True to the spirit of precision, accountability, and innovation that are the Air Force’s legacy in nuclear and non-nuclear matters, recent failures in the nuclear enterprise require adjustments to ensure that the Air Force continues to meet the full spectrum of the nation’s security requirements. Harkening back to its foundational principles, the Air Force recently instituted wide-ranging changes to ensure that its commitment to the nuclear enterprise continues to meet the policy objectives of the Commander in Chief and keep our nuclear weapons safe, secure,

and reliable.

Credible strategic deterrence requires an unwavering commitment to nuclear deterrence as its cornerstone. It is basic to national security and to our allies. The hallmarks of our performance standards when it comes to the nuclear deterrence mission are precision and reliability. A culture of compliance, clear organizational structures, and active governance processes are the principal pillars to achieve sustained excellence in this most vital mission area. We are building a composite structure of sustainment, operational, and Air Force headquarters organizations that are appropriately resourced with focused processes to ensure safe, secure, and reliable operations. We must enable current and future capability, advocacy, and a culture of compliance throughout the Air Force while implementing processes that provide appropriate accountability and oversight to our nuclear mission.

To effectively reinvigorate the nuclear enterprise, the Air Force will need to restore a culture of compliance with exacting adherence to standards, focus on sustainment, rebuild our nuclear expertise, invest in our nuclear capabilities, organize to enable clear lines of authority, and secure confidence in our stewardship role through open communication. These tasks are not new. Generals LeMay, Schriever, and the generations of Airmen who supported or followed them showed us the way; we just need to get back on that one familiar path.

Culture of Compliance

We are rebuilding a nuclear culture of compliance that reflects robust inspection processes faithful to our proud heritage. All assessments and inspections will apply common standards to effectively uncover, analyze, and address systemic weaknesses within the nuclear enterprise. This will require the combined efforts of leaders and multiple organizations committed to these objectives. Leaders at all levels are making nuclear mission oversight and self-assessment a top priority. Leadership will take ownership and responsibility for assessments and enforcing accountability.

Nuclear Expertise

The nuclear enterprise must have properly trained, seasoned professionals focused on the nuclear deterrence mission. The Air Force is examining education and training across the enterprise, improving identification and tracking of nuclear expertise, and establishing a force development construct to ensure that senior leadership are involved in the development of future nuclear leaders. The Air Force will rebuild its expertise through Air Force-wide training, education, and career force development initiatives to create an institutional understanding of its nuclear responsibilities.

Investment

The Air Force will provide needed investment and resources for this vital mission area in support of a clear, long-term commitment to sustain, modernize, and when directed recapitalize its nuclear capability. Based upon national guidance as well as combatant command and major command requirements, the Air Force will deliver reliable and modern operational capabilities that meet our nation's nuclear requirements.

Organization

The creation of Air Force Global Strike Command (AFGSC), the Strategic Deterrence and Nuclear Integration Directorate (AF/A10), and the strengthening of the Air Force Nuclear Weapons Center (AFNWC) will ensure that the Air Force has the proper organizational structure to manage, sustain, develop, and represent the Air Force nuclear enterprise. The AFGSC consolidates all nuclear-capable bombers and ICBMs under one command, placing a single commander in charge of all Air Force nuclear operations, including training and equipping for all B-2, B-52, and ICBM weapons systems. As Air Force Secretary Michael Donley has stated, this approach "restores the necessary focus on the nuclear mission [and] provides a clear chain of command for all Air Force nuclear forces."⁶² Learning from our legacy of compliance and accountability, this new command will produce improved inspections, a greater emphasis on developing nuclear expertise, a synergistic system to track nuclear materials, and a keenly focused culture.

The new A10 Air Staff directorate reports directly to the Chief of Staff of the Air Force, and is responsible for policy oversight and integration of all nuclear enterprise activity and issues. By elevating nuclear matters to a direct reporting relationship to the Chief of Staff and centralizing all nuclear policy responsibilities into one organization, the A10 directorate will increase institutional focus and provide a single point of contact at the headquarters for the management and integration of nuclear issues.

Sustainment

The Air Force is also consolidating all nuclear sustainment matters under an expanded AFNWC at Kirtland AFB. This action will address previously ambiguous chains of command by transferring nuclear-related program management responsibilities from the Space and Missile Systems Center to the AFNWC. In addition, the center will extend positive inventory control over all nuclear-related materials entrusted to Air Force custody.

This approach restores the necessary focus on the nuclear mission, provides a clear chain of command for all Air Force nuclear forces, and allows for one-to-one alignment between operations in AFGSC and sustainment with the AFNWC. In essence, the new command has one source for

nuclear sustainment, and the AFNWC has one operational customer.

Conclusion

Airmen and students of history must be mindful of the enduring importance of deterrence in national security policy and the paths Airmen have followed to provide pivotal capabilities. Nuclear deterrence isn't a fading construct in national security; Airmen must be mindful of all we provide in this critical area. When America's armed forces are called to dissuade, deter, or if necessary, defeat adversaries that threaten our nation, we must be ready.

Nuclear forces continue to represent the ultimate deterrence capability that supports U.S. national security. Because of their immense destructive power, nuclear weapons deter in a way that simply cannot be duplicated by other weapons. The Air Force provides America with a wide variety of capabilities that contribute to nuclear deterrence.

Since its birth on September 18, 1947, the Air Force has been entrusted with the nation's nuclear deterrence mission. National policy has changed from administration to administration, and over the past sixty years the Air Force has for the most part successfully adapted to meet these changes with innovation, accountability, precision, and reliability. Today, the Air Force confidently moves forward to sustain that legacy, ensuring our performance in the future is faithful to a proud heritage

fashioned by Generals Curtis LeMay, Bernard Schriever, and many other Airmen. Credible nuclear deterrence is essential to the security of our nation, our allies, and our friends. Congress charged the Air Force and the larger defense nuclear enterprise to fix the culture, instill accountability, unity of command, and standards. The Air Force will restore its credibility by improving unity of command and effort, developing the technical skills of Air Force personnel, reinforcing nuclear mission responsibilities, promoting a culture of compliance and precision, and improving enterprise-wide oversight. These actions will ensure that we have the right culture, the right people, the right investment, and the right organizational structure in place to ensure that the Air Force provides widely recognized and respected capabilities with the intended strategic effect: enduring nuclear deterrence in the 21st Century.

The American people depend on the Air Force to deliver precise and reliable nuclear deterrence capabilities as it has for decades. Airmen accept this mission with pride, professionalism, and a solemn commitment to the highest standards of excellence. In restoring this critical mission, we will remain true to our Airmen's Creed—*we will never falter and we will not fail!* ■

NOTES

1. Statement by the President Harry S. Truman, Aug 6, 1945, (Springfield, Mo.: Truman Library Online, 1946), http://www.trumanlibrary.org/whistlestop/study_collections/bomb/large/documents/pdfs/59.pdf#zoom=100 (accessed 25 Oct 2008).
2. Richard B. Frank, *Downfall* (New York: Random House, 1999), pp. 290-91. Henry Kissinger, *Diplomacy* (New York: Simon and Schuster, 1994), pp. 398, 433-37, 446, 494, 506. Japan surrendered on Aug. 15 and signed the surrender document on Sep. 2, 1945, aboard the USS *Missouri*.
3. A nuclear weapon is an explosive device that derives its destructive force from nuclear reactions, either fission or a combination of fission and fusion. Nuclear weapons that produce their explosive energy through nuclear fission are called fission bombs, or atomic bombs. Nuclear weapons that produce nuclear energy from nuclear fusion are thermonuclear bombs.
4. For more information on nuclear deterrence theory, see Bernard Brodie's *The Absolute Weapon: Atomic Power and World Order*, Harcourt, 1946; *Strategy in the Missile Age*, Princeton University Press, 1959; *From Cross-Bow to H-Bomb*, Dell, 1962; Indiana University Press (rev. ed.), 1973; *Escalation and the Nuclear Option*, Princeton University Press, 1966; *The Future of Deterrence in U.S. Strategy*, Security Studies Project, University of California, 1968. Also see Thomas C. Schelling's *Arms and Influence*, Yale University, 1966. Other works by Colin Gray and Keith Payne provide tremendous insight into nuclear deterrence.
5. U.S. Congress, *U.S. Nuclear Weapons: Changes in Policy and Force Structure* (Washington, D.C.: Congressional Re-

search Services Report for Congress, Aug 10, 2006), pp. 3-5.

6. *Ibid.*

7. The Truman Doctrine was a proclamation by President Truman—espoused in speeches, national security documents, and legislation—that the United States would seek to contain communism, thwart Soviet aggression in Europe, stop the spread of communism throughout the world, curtail Soviet influence in international politics, and lend economic and military assistance to Greece and Turkey. The *New Look* shifted an emphasis from conventional military capabilities to air-atomic based capabilities. Land and naval force expenditures and sizes decreased, while air force and missile forces expenditures and sizes increased. Massive retaliation served one purpose: deterrence of nuclear war with the Soviet Union. President Eisenhower stated, "to depend primarily upon a great capacity to retaliate, instantly, by means and at places of our choosing." Flexible response was the Kennedy Administration's strategy to counter multiple threats, fight different types of wars, and counter Soviet aggression in multiple levels of war. Although flexible response simultaneously included nuclear weapons, it deemphasized their importance; flexible response focused on improving nonconventional capabilities. Assured destruction was a strategic concept in which two opposing sides using nuclear weapons would destroy each other. President Nixon developed a foreign policy posture based on negotiation and strength, *realpolitik*, and *détente*, which literally means an easing of tensions. Secretary of Defense Brown introduced the term countervailing—a strategy that denies the other side any possibility that it could win—but it doesn't say that our side would win.

8. JCS 1259/27, JCS Unified Command Plan, Dec 11, 1946, RG 218, 323, 361, 1946-1947 (2-26-45), Nat'l Archives II. When the USAF was established on September 18, 1947, as part of the National Security Act of 1947, the SAC mission was in effect folded into the responsibilities of the USAF.
9. Army Air Forces Headquarters, "AAF Regulation No. 20-20, Organization: Strategic Air Command," (Oct. 10, 1946), p.1 in Melvin G. Deaile, III, *The SAC Mentality: The Development of Organizational Culture within Strategic Air Command, 1948-1951*. Adams Center Virginia Military Institute, Mar. 29, 2005. Lt Col Deaile wrote this paper while a Ph.D. student at the University of North Carolina—Chapel Hill.
10. Walton S. Moody, *Building a Strategic Air Force* (Air Force History and Museum Program; 1995, Washington, D.C.), pp. 65-66.
11. *Ibid.*, p. 228.
12. Report, C. A. Lindbergh to Gen. H. S. Vandenberg, CSAF, Sep. 14, 1948, atch to memo, Col F. M. Hoisington, Chief Personnel & Administration Division, to Maj. Gen. D. M. Schlatter, Asst Dep Chief of Staff, subj: The Lindbergh Report, Oct. 19, 1948, RG 341, DCS/Ops, Asst for AE, S 1948, 319.1 Rots AEC, T & T Etc, Box 16, MMB, NA in Moody, p. 226.
13. *Ibid.*
14. Moody, p. 229.
15. Deaile, p. 8. Adams Center Virginia Military Institute, Mar. 29, 2005. Lt Col Deaile wrote this paper while a Ph.D. student at the University of North Carolina—Chapel Hill, N.C.
16. *Ibid.*, p. 3.
17. Robert F. Futrell, *Ideas, Concepts, Doctrine: Basic thinking in the United States Air Force 1961 – 1984*, (Washington, D.C.: Air Force History and Museums Program, United States Air Force, 1997), p. 464.
18. *Ibid.*, p. 450.
19. *Ibid.*, pp. 34-35.
20. Maj. Gen. John B. Montgomery, interviewed by Captain Mark C. Cleary, Apr. 30 – May 1, 1984. Harry Borowski, *A Hollow Threat: Strategic Air Power and Containment before Korea*, pp. 166-70 in Deaile.
21. *Ibid.*, p. 31.
22. *Ibid.*
23. An Interview with Generals Curtis E. LeMay, Leon W. Johnson, David A. Burchinal, and Jack J. Catton, *Strategic Air Warfare*, Edited by Richard H. Kohn and Joseph P. Harahan (Office of Air Force History, United States Air Force, Washington, D.C., 1988).
24. Deaile, pp.40 - 41.
25. Lemay, Johnson, Burchinal, and Catton Interview.
26. Deaile, p. 41.
27. *Ibid.*, p. 36.
28. Office of SAC History, "History of Strategic Air Command, 1949," (Offutt Air Force Base, Neb., K416.01, AFHRA: 1950), p. 141 in, Bernard C. Nalty, *Winged Shield, Winged Sword Volume II A History of the United States Air Force* (Washington, D.C: Air Force History and Museums Program, 1997), p. 38.
29. Deaile, p. 40.
30. *Ibid.*, p. 41.
31. Quoted in Moody, p 460.
32. Address by LeMay to USAF Commanders Conference, Jan 28, 1957, in Robert F. Futrell, *Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force, 1907-1964*, Maxwell AFB, Ala: AU Press, 1974, p. 221.
33. *Ibid.*
34. Hearings before the House Committee on Armed Services, 85th Congress, 2d Session, *Reorganization of Dept. of Defense*, No. 83, pp. 6427, 6344-91.
35. Jacob Neufeld, *Bernard A. Schriever, Challenging the Unknown* (Washington, D.C.: Office of Air Force History, 2005), p. 7.
36. The Soviet Union successfully detonated an atomic weapon in August, 1949. This event motivated the American defense establishment to develop a fusion weapon. See Bernard C. Nalty, *Winged Shield, Winged Sword, Volume II, A History of the United States Air Force* (Washington, D.C: Air Force History and Museums Program, 1997), pp. 54-55.
37. *Ibid.*, p. 9.
38. *Ibid.*
39. *Ibid.*
40. *Ibid.*, p. 10.
41. *Ibid.*
42. *Ibid.* Atlas was a liquid fueled intercontinental ballistic missile. The first operational Atlas missile (D model) was assigned to Strategic Air Command in 1959 and remained on alert until it was replaced by the Minuteman in 1964.
43. Nalty, pp. 53-96 . The Titan missile, operational from 1962-1987, was developed in concert with the Atlas and the two comprised the backbone of U.S. nuclear deterrence during the early to mid-1960's.
44. Neufeld, p. 14.
45. *Ibid.*, p. 20.
46. *Ibid.*, p. 26.
47. David M. Kunsman and Douglas B. Lawson, *A Primer on U.S. Strategic Nuclear Policy*, Sandia National Laboratories, SAND2001-0053 (Albuquerque, N.M., Jan 2001), pp. 65-69.
48. Hon. Donald M. Rumsfeld, "Testimony," Senate, *Confirmation Hearing*, 107th Cong., 1st sess., 2001, 3. on 11 Jan 2001. <http://armed-services.senate.gov/statemnt/2001/010111dr.pdf> (accessed 15 Nov 2008).
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54. Dr. Grant Hammond is Dean, NATO Defense College.
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The Celebrity of C



Charles Lindbergh



Stanley Shapiro

(Overleaf) Charles Lindbergh enjoys a hero's welcome and ticker tape parade in New York.

LINDBERGH GREW UP ON A FARM... NEAR LITTLE FALLS, MINNESOTA ...IT WAS AN IDYLIC CHILDHOOD

IN 1905, WHEN CHARLES WAS ONLY THREE, THE LINDBERGH HOMESTEAD BURNED TO THE GROUND. THREE YEARS LATER HIS PARENTS SEPARATED

From 1957 until his death in 1974, Charles Lindbergh led a secret life crammed with three extramarital affairs and seven unacknowledged children. What that revelation may mean for him as a figure in our popular imagination is not yet clear, but it certainly undermines his standing as a heroic character of “indubitable purity.” Whatever his flaws or tragedies, Lindbergh has always been depicted as open, honest, and incorruptible. In fact, he was a complex and manipulative man. He could be touching and tender in a masculine way; he could also be self-righteous and self-absorbed. And he believed deeply in his superiority. But he managed a public image and an enduring celebrity that obscured those characteristics. It is not too much to say that Lindbergh spent his life consciously creating a personal narrative, turning his life into a continuous autobiographical effort. By and large, he succeeded because his persona was grounded in a set of truthful, if not always accurate elements; it was—for him as well as the public—a credible rather than a realistic representation.¹ The recent exposure of his hidden side, however, prompts us to look again at Lindbergh as both a hero and a collaborator in his own celebrity.

Lindbergh grew up on a farm on the banks of the upper Mississippi near Little Falls, Minnesota. By all accounts it was an idyllic childhood. “I spent hours lying on my back in high timothy and redtop,” Lindbergh reminisced almost half a century later, “hidden from passersby, watching white cumulus clouds drift overhead, staring into the sky.”² This was the natural habitat of a hero, bucolic but not uneventful. In 1905, when Charles was only three, the Lindbergh homestead burned to the ground. Three years later his parents separated; Charles never again lived with his father. Although both events were fixed in Lindbergh’s memory, the only one he could ever face was the fire. Perhaps it served as a surrogate for the more frightful collapse of family harmony and security. In any case, Lindbergh adopted a policy of deliberate reticence in his writings about the marital discord, ironically echoed by his biographers, who make little more than rhetorical use of it.³ “Lindholm,” as his mother fancied it, was rebuilt, but the boy spent most of his youth elsewhere, either in Washington, D.C., where he met the Presidents and visited Congress—his father served in the House from 1907 to 1917, or in the maternal home of his Detroit grandparents. Charles may have been happier in, or reminiscing about the pastoral landscape of Minnesota; the fact is that nearly three-quarters of his childhood occurred in major cities.

As for Lindbergh’s family, he recalled his parents “continued to care for each other although they were seldom together.”⁴ Again his selective memory

was at work. The marriage was anything but affectionate. His father was a stern man, imbued with a righteous populism. He taught Charles to be honest, thrifty, self-sufficient, and loyal; above all he stressed integrity regardless of circumstances and the virtues of stoic fortitude. Evangeline Lindbergh was, like her husband, intensely private. But she was not so self-contained. Emotions sometimes escaped her control. She lavished attention on Charles, leaving little room in his adolescent life for anyone else. When Charles went off to the University of Wisconsin, Evangeline followed. The parental expectations placed upon young Lindbergh were severe. Most important was strict control of his emotions. Anger was forbidden. So the guilty feelings of the only son in a splintered family were channeled into persistent demonstrations of virtue. Anger and guilt turned inward; their dialectical power may explain his puzzling adult behavior. Every observer has noted the paradoxes: Lindbergh’s desire for recognition and demand for privacy; his preservation of integrity even at the cost of being misunderstood; his unassuming public style and inner sense of superiority. Biographers finesse these inconsistencies by stringing together adjectives, but there was a deeper motive at work.

Some psychologists profile personality types along two axes, the individual’s energy or activity and their corresponding sense of reward.⁵ Clearly, Lindbergh was highly active. Still fulfillment and contentment were notably lacking, and he required frequent proofs of excellence. Unbridled enjoyment was a rarity.⁶ It was rather a matter of solemn calling and dutiful service. No reader of Lindbergh can ignore the self-denials and protestations of virtue that run through his books. Complaints about being misjudged, about exploitation and betrayal, especially by the press, litter his books. There are also episodes he avoids because they implicate his own guilt: among them, the kidnapping of his son; the medal he received from the Nazis in 1938; charges of anti-Semitism; and his illicit families in Germany and Switzerland. All of this adds up to a negative outlook on the world. Lindbergh repeatedly expends intense effort but gets little personal satisfaction. His restless activity is provoked, and hampered, by a perfectionist conscience. He wants attention but rejects intimacy; others demand too much of him. Thus he withdraws from conflict into declarations of principled virtue, or rejects disagreeable realities. Invariably, arrangements must be put in his hands. He cannot relinquish control; that would compromise his ability to command his life; for nothing less than self-esteem and power are at stake in a dangerous world.

This psychological portrait transforms the celebrated hero into a genuinely tragic figure com-

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Charles Lindbergh poses with a group of Ryan Air Lines personnel as the *Spirit of St. Louis* is fueled prior to the flight from San Diego, California to St. Louis, Missouri. (Photo courtesy of Air Force Magazine.)



THE LITMUS TEST IS THE FAMOUS FLIGHT OF THE "LONE EAGLE." THAT EXPLOIT, AFTER ALL, IS THE DEFINING EVENT IN LINDBERGH'S LIFE

pelled first and foremost to conquer his own self. The active-negative model provides the foundation for a revised appraisal of the aviator more consistent with his full range of behavior; it encourages us to explore how Lindbergh organized his life around a set of myths, symbols, and meanings to which he became loyal; and affords some insight into his strict form of conduct. At the least, the active-negative model allows us to correct the distortions of the Lindbergh image.⁷

The litmus test is the famous flight of the "Lone Eagle." That exploit, after all, is the defining event in Lindbergh's life; it was glorious, dramatic, untarnished by base motives—a perfect act of heroism. His biographers are unanimous in their praise. Except for colorful details, they tell the same story.

Young Lindbergh was: an exceptionally skilled aviator, with plenty of courage and a love of adventure....who grew up on a farm....In 1924, he enlisted in the Army Air Service....The following year he became a Captain in the Missouri National Guard and chief pilot for the Robertson Aircraft Corporation, flying the mail between St. Louis and Chicago. While flying the mail...he became fascinated by the idea of competing for the \$25,000 prize offered by Raymond Orteig for the first nonstop flight across the Atlantic between New York and Paris. He successfully interested several St. Louis businessmen in his project.... On the morning of May 20, 1927, Charles A. Lindbergh took off from the rain-soaked Roosevelt Field, on Long Island, in his heavily loaded plane. Thirty-three hours and thirty minutes later, after flying through fog, rain, storms, and ice, and after desperately fighting against sleep...he landed at Le Bourget Aerodrome, near Paris. His flight won the Orteig Prize. And it brought him fame and acclaim far beyond his wildest expectations—and beyond his personal preferences. Life would never be the same again for that

middle-western farm boy and air mail pilot....Few people in human history have won such acclaim and honors as were showered upon that tall, slender, twenty-five-year-old aviator in 1927 and after. Through it all, Lindbergh kept his poise, his modesty, and his sense of proportion.⁸

This capsule narrative incorporates the essential ingredients in all of them. A young man of high spirits and talents, emerging from obscurity, finds the perfect embodiment of his technical proficiency and adventurous nature in the transatlantic competition. Against all odds, the pilot dares greatly and reaps unwonted fame, though he does not expect or welcome it. Lindbergh is portrayed as a rather glamorous innocent; the transatlantic race materializes in his head one night; he has almost no idea of what he is getting into. This is a credible story anchored in reality, reiterated so often no opposing version can prevail against it. Nevertheless, a co-existing version is available to us without altering the substance of what is already in print, changing only the weights and proportions of the tale, in particular, the description of the "boy" hero.

In 1927, Lindbergh was often referred to as a "boy" (he was twenty-five). Though the majority of young men were well started on their life's work, or some work, by Lindbergh's age, the "boy" characterization was apt, if a bit indulgent. Lindbergh, blond, blue-eyed, and very photogenic, looked younger than his age and radiated the traits associated with boyhood: unlimited energy, heedless courage, candor, curiosity, and fun-loving combativeness—all wrapped in an unthreatening sexuality. Comments about his chaste life style, including his own remarks (no dates or "girls," no drinking, dancing, or smoking), fueled the image. "Boy" was not superficial or erroneous. In fact, the young Lindbergh yearned in a positively juvenile way for romantic thrills and attention.⁹

Choosing to be an aviator perfectly matched

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that adolescent yearning. No occupation in the post-World War I decade offered more excitement or drama. Airplanes were still primitive in the '20s, flimsy constructions that rarely exceeded 100 mph. Nonetheless the interwar period witnessed the apotheosis of flight. To its advocates, flight was nothing less than freedom and exhilaration and power. Aviation was supposed to pave the way to international harmony and prosperity as national borders were both erased and knit together by this revolutionary transport. Lindbergh was captivated by this "winged gospel."¹⁰ Lindbergh was also fascinated by the technological progress aviation represented.

Still air disasters were everyday occurrences when Lindbergh began training in 1922. Average life span in the air was just 900 hours. Lindbergh relished the danger, but he thought meticulous preparation and emotional restraint would keep him safe. Above all, he loved the euphoria of detached observation and the self-transcendence of flying. Those superhuman aspects of flying encouraged him to be a daredevil, quite literally. Daredevils was the term applied to the band of pilots who "barnstormed" the country after the war, much like a circus, trying to eke out a living doing aerial stunts. Parachute drops were the most spectacular. Lindbergh made his first jump, for the sheer "experience," in June, 1922. He magnified the excitement by making it a "double drop," tying two parachutes together, the second opening after the canopy of the first had been cut away. In that jump, his second chute did not open for a perilously long time. Spectators gasped but Lindbergh was delighted. After this brush with mortality, Lindbergh slept quite peacefully and rose refreshed in the morning. He believed the experience eliminated an unnerving, recurrent dream in which he felt himself plummeting through space. Which is to say, the conquest of danger released in him a sense of power and control; pure sensation blotted out the more difficult issues of emotional restraint. That same comfort and gratification returned whenever Lindbergh successfully met a challenge. In those moments, he said, "life rose to a higher level, to a sort of exhilarated calmness."¹¹

Like other "gypsy pilots" of the day, Lindbergh lived from hand-to-mouth on a combination of stunting at fairs and carnivals, instructing, and occasional commercial jobs. The brand new Army Air Service promised a more stable situation. Lindbergh graduated first in his class, a second lieutenant in the Air Service Reserve Corps, but there were few openings in the regular army in the spring of 1925. So for six months he restlessly turned once again to barnstorming. Then, in October 1925, he won the job of Chief Pilot for Robertson Aircraft, flying the first contractual airmail route between St. Louis and Chicago. It was the only regular job Lindbergh ever had; he held it for over a year. Here was an opportunity to promote the commercial use of aviation and nourish his "spirit of conquest" at the same time. The thin edge of danger appealed to him, and airmail piloting was about the most glamorously dangerous occupation

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one could imagine in the 1920s.¹² Lindbergh's ambition to excel within a context of advancing aviation was thus nicely served. What Army flight school and airmail piloting, the two "serious" experiences of his early adulthood, now added to Lindbergh's psychology was the value of painstaking and precise preparation. It became his lifelong obsession, a defining style of behavior. Actions, projected in perfectionist detail, spoke louder and in place of words. Over and over in his writings, Lindbergh returned to the same phrases: "extensive research and careful study," "careful examination"; "definite plans must be laid." "The important thing is to...lay a plan and then follow it step by step no matter how small or large each one by itself may seem."¹³ Henceforth checklists became essential and habitual for him.

All these characteristics are integral to the transatlantic flight, his exacting attention to the airplane's construction and his chosen route, his self-reliance, and of course his solitary courage. There is no need here to recount the dramatic flight from New York to Paris in May 1927. It is enshrined in American history, as indestructible as Paul Revere's ride or George Washington crossing the Delaware. Countless scholars, journalists, memoirists, critics, songwriters, poets, textbook authors—writers of every stripe and purpose—have told the story and plumbed its meaning. Yet virtually all of them, to some degree, accept Lindbergh's own narrative as definitive. Lindbergh was such a tireless self-chronicler that he did not leave his biographers much room for alternative versions. Nor did the accolades of reporters and admirers offer much historical perspective. In short, it is not easy to strip away the interpretive overlays to see the deed in a wholly new light. But perhaps, given the assessment of Lindbergh suggested here, we can take a fresh look at the event in order to gauge the extent of image making later on.

Fundamental to recapturing the reality of the flight is the presumption that it was a milestone in the progress of aviation. The Atlantic crossing supposedly demonstrated the capabilities and reliability of aeronautical science and technology, opening a new chapter in human achievement. But the fact is the Atlantic had been flown well before 1927. According to historian Joseph Corn, no less than "dozens of men" had made the trip before Lindbergh, in a variety of aircraft.¹⁴ John Alcock and Arthur Whitten Brown, two British officers, accomplished the feat as early as June 1919 when they flew about half Lindbergh's distance from Newfoundland to Ireland, ending up ignominiously mired in an Irish peat bog. Nonetheless they won the London *Daily Mail's* prize of 10,000 pounds and were knighted.¹⁵ Alcock and Brown encountered "a wonderland of seeming unreality" as welcoming throngs pursued them from Dublin to London. Similarly, in 1909, when Louis Bleriot conquered the English Channel in a "toy-like machine" rated at 25 hp, he won 1,000 pounds and was greeted at home by 100,000 Parisians. From the start, big cash prizes, usually offered by newspapers, and

Before his celebrity, Lindbergh was involved with early air mail service, as shown here in 1926.



LINDBERGH'S OWN JUSTIFICATION FOR THE TRANSATLANTIC FLIGHT...WAS THAT IT CONTRIBUTED TO AIR CONSCIOUSNESS AND DEMONSTRATED THE COMMERCIAL FEASIBILITY OF LONG-DISTANCE FLIGHT

adoring crowds were part of the adventure in the air. In every case, these headline-making events were frankly intended to provide publicity and increase "airmindedness." They were pseudo-events: contrived races, stunts, competitions; part and parcel of the "ballyhoo" of the day. They were not technological breakthroughs. Neither was Lindbergh's flight.¹⁶

Lindbergh's own justification for the transatlantic flight, adopted by most students of the event, was that it contributed to air consciousness and demonstrated the commercial feasibility of long-distance flight. But air consciousness needed very little promotion. By 1927 aviation was already established as "a kind of secular religion."¹⁷ Hollywood exploited the public enchantment in such films as *Sky Skidder*, *Won on the Clouds*, *Air Circus*, and most famously, *Hell's Angels*; Byrd, Rickenbacker, Billy Mitchell, and Billy Bishop were household names. Distance and speed records were posted on an almost daily basis in the twenties, and widely covered in the press. The Orteig Prize of \$25,000 for a New York to Paris crossing, which provided the occasion for the great race in 1927, had been on offer since 1919. When it appeared the moment had arrived, New York newspapers cashed in on the popular enthusiasm. Nine months before Lindbergh flew, the papers were awash in headlines about the competition. Lindbergh was the beneficiary of this public fascination with aviation rather than the other way around. He entered the race because of the surrounding hoopla and personal benefits. He wanted to draw attention to himself: "It would increase my personal influence and earning capacity," he confessed in typically decorous language.¹⁸

He could not have chosen better. The Orteig Prize topped all other competitions in terms of drama, reward—at least a quarter of a million dollars in today's value—and publicity. The excitement was sharpened by a string of unforeseen disasters. Among the frontrunners, Rene Fonck's first

attempt from New York, on September 20, 1926, ended in a crash before he even got off the ground. Then, in quick succession between April 20 and May 10, 1927, Richard E. Byrd and Floyd Bennett were seriously injured in a landing mishap; Clarence Chamberlin crashed his Bellanca; and Noel Davis and Stanton Wooster died on their final test flight. Charles Nungesser and Francois Coli flew from Paris and were lost over the Atlantic. In all, three fatal crashes resulted in the deaths of six men by the time Lindbergh took to the air. In addition, there were widely reported spats and lawsuits among the rivals. The newspapers had a field day.

Lindbergh's competitive hopes were fueled by this turn of events. Airmail delivery, however perilous, had become more or less routine for him after nearly a year. He was looking for new conquests.¹⁹ By the end of September, after Fonck's crash, Lindbergh decided to join the Orteig competition. By the end of February 1927, he had secured financial backing from a group of civic-minded St. Louis businessmen and found a company to build a sleek, fast monoplane whose construction he could supervise from beginning to end. After two months of intense preparation, Lindbergh, the dark horse in the race, was ready. On May 10, 1927, he flew from his San Diego base to St. Louis in record time; then to New York, again breaking the record for that distance. When he arrived in New York on May 12, he came as the holder of a new transcontinental record. Dark horse he may have been, but clearly he had speed.

Much has been written about Lindbergh's obscurity before the flight. To be sure, some of the Lindbergh romance resides in his underdog status. He certainly did not have the credentials of his competitors, or their elaborate, expensive organizations. That outsider status inspired much of the newspaper coverage. And there was a lot. Some of the publicity, it should be noted, was of his own making. Lindbergh did not arrive in the city alone or innocent of the circus atmosphere surrounding

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the race. He had an entourage of seven aides and experts. Wright Aeronautical Corporation assigned a public relations man to handle his press relations. He hired a clipping service. He signed contracts with Mobiloil, Vacuum Oil, AC Sparkplugs, and Wright at an average of \$6,000 for each commercial endorsement.²⁰ For \$5,000, he agreed to give the *New York Times* exclusive rights to his story, with potential syndication fees that eventually were “in excess” of \$60,000.²¹ He visited Colonel Theodore Roosevelt, Jr., at Oyster Bay; met with manufacturers Tony Fokker and Chance Vought; with the president of the Wright company; with his competitors; and Harry Guggenheim, head of an advocacy group for commercial aviation. Needless to say, the daily “photo-ops” and the pestering interviews by reporters kept him in the public gaze. These were not the activities of a Midwestern naif. (He had already endured, in his words, “considerable publicity” as an Army and airmail pilot, though nothing like the barrage in store). But the press repeatedly conveyed that image in their stories. His appeal, aside from his own behavior, was clearly tied to his good looks, his rural background, his spunk, and his unknown-ness. As a result of public interest in the “kid flyer,” hundreds of spectators braved the rainy early morning of May 20, 1927, when Lindbergh managed to get the gas-laden *Spirit of St. Louis* off a muddy runway at Roosevelt Field.²²

Lindbergh had stoked the public’s enthusiasm for his one-man-one-motor attempt with as much dignity as he could muster. He had no notion his arrival in Paris would prompt the wildest sort of acclaim: a frantic crowd of over 100,000 at Le Bourget; a parade in Paris that drew half a million—described as “one of history’s great mob scenes”; even a national holiday. Equally ecstatic welcomes took place in Brussels and London. Back in the U.S., the *Times* devoted its first five pages to the flight. Two freight cars of newspaper clippings piled up. Two million letters and 75,000 telegrams awaited his return. New York City would host the biggest ticker-tape parade in its history. Lindbergh had sought recognition; what he got—and what he was not prepared to accept—was the wholesale invasion of his life. In fact, Lindbergh did not appreciate just how central *he* was in the furor. There was a full measure of satisfaction for him in the achievement, the longest nonstop distance flown by one man, and in record time. He could frame his personal role, as he did flying airmail, within the context of dedication to aviation. But he drew a firm boundary at his private life. He wanted to be, as he was in the air, “above it all.”²³ Still the public was enthralled by the man, for the conquest of the ocean undeniably represented, if it represented anything, the triumph of a singularly audacious individual. “The act was everything,” writes Modris Eksteins, “a perfectly free act, devoid of meaning other than its own inherent energy and accomplishment....He flew for no one, not even for mankind. He flew for himself.”²⁴ Indeed, Lindbergh had made the flight as self-dramatizing as possi-

ble.²⁵ The public, however, celebrated all his selfless qualities: his courage, self-discipline, modesty, forthrightness, innocence, and his pioneering and humble origins. He was a virile “Viking,” a Lochinvar, a Lone Eagle, an authentic hero. The public reception took on extraordinary dimensions; that may well be the most fascinating aspect of the story.²⁶ My concern is with the reality of the man in relation to his image and his complicity in that image, which points us in a somewhat different direction.

The image has a basis in fact. Nowhere is that more evident than in his weeklong stay in Paris. By simply being who he was, Lindbergh inadvertently contributed to the heroic myth. He was the paragon celebrated by millions of new admirers: tactful and gallant, handsome but reserved, an exemplar of American youth and energy. He could not make a wrong move. Ambassador Herrick, who made Lindbergh into government property, arranged his schedule. “I was a prisoner of the ceremonial life,” Lindbergh complained.²⁷ But the man was not hamstrung by protocol. In each instance, he was proper and polite to his hosts, invariably expressing his gratitude to the people of France for their generosity and warmth and paying homage to the French aviators who went before him.

What sealed the Franco-American good will were two informal visits. One was to the mother of Charles Nungesser, Lindbergh’s immediate predecessor in the Orteig competition, who was now presumed dead. Lindbergh quite uncharacteristically held Mme. Nungesser’s hand and told her not to give up hope while 10,000 spectators eagerly awaited his emergence from her apartment. He also paid a respectful visit to the French pioneer Louis Bleriot, whom he called “my master.” Then, at the American Club, he diplomatically revised the naming of “The Spirit of St. Louis”: It “is intended,” he said, “to convey a certain meaning to the people of France, and I hope it has.” His final gesture was flawless. As he flew off to Belgium, he circled the Eiffel Tower twice, crossed the Arc de Triomphe, and at the Place de Concorde dropped a weighted tricolor with a note that read: “Goodbye! Dear Paris. Ten thousand thanks for your kindness to me.” The man seemed effortlessly charming and chivalric. Two omens, however, clouded that glorious departure. One was his private realization that he had “entered a new environment of life.... another planet.”²⁸ He did not yet know it was permanent. The other involved his ambiguous relationship with the press. Lindbergh fulfilled his agreement to give the *New York Times* an exclusive interview and allow Carlyle MacDonald to write a first-person account of the flight. But he was not happy with the reporter’s treatment. “[I]t made me into quite a different fellow than I was or *wanted to be*....”²⁹ Fame was already spiraling toward celebrity; he was now trapped in a process of self-disclosure.

If there is a moment in Lindbergh’s life dividing the successful and famous young hero from the celebrity, it must be his return to America after the

Charles Lindbergh in Cincinnati, Ohio, during the 48-state, 92-stop "Guggenheim Tour" of 1927, sponsored by the Daniel Guggenheim Fund to honor and promote the trans-Atlantic flyer.



PHOTOGRAPHY WAS THE CRUCIBLE OF CELEBRITY, PARTICULARLY POTENT IN THE 1920s AND 30s

flight. His desire for recognition, which had led him to participate in a made-up race, was sated after the flight but not stilled. His style—aggressive with a lid on—was evident before as well as after the defining achievement. One cannot easily separate the noble flier from the hounded personality. Celebrity, however, put him on “another planet” and fixed his image, an image he helped to create. Even before the USS *Memphis* discharged him at the nation’s capital, the image making was underway. His public appearances were stage-managed. Lindbergh’s mother, for example, was the first person to greet him, in his cabin, before any of the festivities, and then appeared on deck with him. When he appeared, it was not in the colonel’s uniform he wanted to wear but in a plain blue suit appropriate for a democratic idol, chosen for him by his public relations expert.

Photography ruled the day, as it would in all the tumultuous welcomes of Lindbergh. Photography was the crucible of celebrity, particularly potent in the 1920s and 30s when the new speed and ease of communications could quickly turn a public figure into a symbol. Pictorial tabloids like the *New York Daily News* (originally the *Illustrated Daily News*) and the *Mirror* discovered prodigious audiences for their mixture of gossip and “human interest” features liberally laced with “snaps.”³⁰ Hollywood seized the entertainment business in those decades precisely because of its capacity for instant gratification. Its favored technique of “the closeup,” which isolated the “star” from the story, whetted the appetite for manufactured celebrities like Rudolph Valentino, Mary Pickford, and Douglas Fairbanks. Lindbergh was the genuine article, not only because he was good looking but also because he was so engaging as himself. Students of celebrity point out that the authentic celebrity has no specific context, no confining role; he or she projects a personality in touch with their “nature.” Their life is the public’s true subject.³¹ In

all those ways, Lindbergh was a pioneer celebrity. His life, not the flight, was the consuming interest of the media. That life possessed the timeless and priceless element of virtue. Lindbergh’s deed “implied a singular prowess—a moral quality if nothing else.” Moreover, his fame was thrust upon him. He was a hero with whom the public could feel a wholesome identity or intimacy, the son every parent wants, the suitor every girl yearns for.³² No wonder, then, that he “was forever and always at the center of the twenties montage.”³³

There is no doubt that Lindbergh was deeply involved in making his own image. He could barely avoid it when every gesture, every word he uttered, was breathlessly reported and scrutinized for significance. The media tirelessly publicized the image, but Lindbergh was the motive force. His actions and demeanor bespoke a hero. At the core, always, was the deed. An avalanche of words described the daring attempt, stark in its drama and far removed from the sober world of “adults.” As for Lindbergh, the doing of it defined the man: valourous, adventurous, self-possessed, tenacious, superbly prepared. The simple moral clarity of his act was undeniable; it could not be sullied.

Then there was Lindbergh’s reaction to public acclaim. Whether in London, or Washington, D.C., or New York, he comported himself like a shy and deferential Galahad, praising all the contributors to his success. He talked only of his selfless commitment to aviation’s future. It was widely reported that he had turned down five million dollars in commercial proposals and directed all personal gifts to charities. In numerous interviews he volunteered that he was uncomplicated and old-fashioned. His speeches were brief and unadorned. When President Coolidge pinned the first Distinguished Flying Cross on him, Lindbergh responded to the crowd of 250,000 gathered in front of the Washington Monument and a radio audience of more than thirty million with a total of 106

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words. Everyone was "stunned by the brevity and the humility of the remarks."³⁴ Lindbergh gauged none of this for effect; all of it sprang from sincere principles. He was the shining and imperturbable center of adulation. The media could not get enough of it. It all seemed of a piece, though occasionally the press went further than Lindbergh's action warranted, describing him as "a farmboy" and "a mechanical genius" bewildered by his apotheosis.

The image was firmly rooted in fact, but it was not always accurate. His childhood had not been a pure idyll, for instance, nor did he object to commercial values. More important, the press did not understand—nor could it at the time—the origins and underlying nature of his behavior. On the face of it, he was a noble and self-effacing hero. But those qualities concealed a compulsive and somewhat alienated personality who had flown to be "above it all," who had braved the elements to achieve power and control through self-assertion. The idealism of his effort masked a need to be right and righteous, denying any personal investment or imperfection. The shy, retiring manner was an outward manifestation of his deep self-absorption. In fact, human relationships often eluded him. Those tangled sources of behavior would become clearer over time. The kidnapping of his son, the devolution of his marriage, his refusal to return a Nazi decoration, the delivery of an inflammatory speech at the height of the interventionist debate in 1941: these episodes demonstrate a remarkably similar pattern, that is, a remote and affectless response to criticism and disagreement, a growing insistence upon the rectitude of his actions, together with a grim resoluteness and rigid perseverance.

Observations of this kind may be arguable

intrusions upon Lindbergh's psyche. Unarguable are some of his actions after returning to the U.S., which at least blur the conventional image. Foremost is the writing of "WE". Immediately after the ceremonial homecomings at Washington, New York, and St. Louis, Lindbergh set to work on a 30,000 word autobiographical recounting of the Atlantic crossing to "correct" misrepresentations in the press and in a ghostwritten manuscript by Carlyle MacDonald. He finished it a month later, in July 1927. The style is overwhelmingly flat and matter-of-fact, probably because it was written in haste. Nonetheless, "WE" became a best seller of the 1927-28 season, selling 650,000 copies and netting Lindbergh over \$200,000. Readers did not buy it for its literary quality, they bought it to grasp the man and vicariously experience what he had experienced. Unfortunately, they learned little beyond a chronology of events and an introduction to the world of flight. Only 15 percent of the text, some thirty brief pages, was devoted to the transoceanic flight; personal feelings and relationships were left out. The book was anything but a confiding memoir. But people were grateful merely to have Lindbergh's own words in their hands. From the perspective of image making, the importance of "WE" lies in its existence. Reclusive heroes, unconcerned about their audience, do not rush into print. To broadcast a truthful version of events, which also meant a truthful version of himself, was of paramount concern to Lindbergh. Still the image he conveyed was the image portrayed in the press. In no essential did they differ, whatever facts Lindbergh chose to correct. There was no hint of self-aggrandizement in the book or, it should be added, any admission of personal flaws or diminution of the deed.

THE IMAGE WAS FIRMLY ROOTED IN FACT, BUT IT WAS NOT ALWAYS ACCURATE

“WE” WAS WRITTEN IN THE LUXURIOUS SURROUNDINGS OF “FALAISE,” HARRY GUGGENHEIM’S ESTATE ON LONG ISLAND

HARRY BECAME ONE OF LINDBERGH’S CLOSEST FRIENDS AND THE CONDUIT TO AN ELITE SOCIETY OF MILLIONAIRES, BUSINESSMEN, POLITICIANS, AND PHILANTHROPISTS

Print, it turned out, was a perfect medium for Lindbergh because it left him in charge of what the audience could know and kept his public at arm’s length. (He never did any radio or television interviews.) Over a forty-odd year span and six autobiographical books, Lindbergh crafted an increasingly attractive writing style, spare, direct, yet fluent and graceful. In 1954 he won a Pulitzer Prize for the “high literary merit” of *The Spirit of St. Louis*, which was also serialized in the *Saturday Evening Post* and made into a motion picture. *The Spirit of St. Louis* occupies a very different world from “WE” despite the fact that both reminiscences go over the same ground, with a twenty-five year interval between. Whereas “WE” is a factual report, *Spirit* is a dramatic first-person-present-tense narrative, with flashback sequences and occasionally poetic passages. It is 500 pages long, about 260,000 words, written with excruciating care, and for calculated effect.³⁵ In it, the flight is fully accepted as a courageous act. The hero is a solitary champion of man’s best dreams, a beleaguered figure in a vast and threatening emptiness. The book stresses his personal doubts, anxieties, difficulties, and hopes; it is as open and intimate about his feelings as Lindbergh would ever be. Even so, Lindbergh disclaimed any personal pride or vanity in this second account of the flight. “WE”, he said, was the work of a “young and easily embarrassed” pilot who did not want to damage aviation’s prospects. “I did not want to lay bare, through my own experience, its existing weaknesses. For reasons such as these, I left out of my story much of greatest interest...”³⁶

The apologia rings hollow, given that after his takeoff from Roosevelt Field (a harrowing moment milked by the press), the flight was an unqualified triumph. There had been few moments of danger to impress aviation’s frailty upon the public. His justification of *Spirit* was disingenuous; at the same time it made “WE” into a selfless gesture. A less self-serving explanation is that a quarter of a century of exposure and innumerable honors had made a celebrity of Lindbergh, who was now willing to put himself at the center of the story. *The Spirit of St. Louis* was also a way to rehabilitate his reputation after a bruising battle over intervention in World War II. The hero in *Spirit* is a worthy hero. “In nothing that he writes,” Leo Braudy observes, “is there the barest indication of any awareness that his fame was other than deserved and that attacks on his later actions and politics were motivated by anything but envy of his natural gifts.”³⁷

The autobiographical installments were a lifetime’s work, written intermittently. “WE” in 1927 was followed by a hiatus in which Anne Morrow Lindbergh acted as his surrogate chronicler of the 1930s. Then came *Of Flight and Life* (1948); *The Wartime Journals of Charles Lindbergh* (published in 1970, actually written between 1938 and 1945); *The Spirit of St. Louis* (1953); *Boyhood on the Upper Mississippi* (1972); and *Autobiography of Values* (posthumously issued in 1978).³⁸ As the self-regarding titles indicate, those thousands of pages constitute a testimonial for himself in which

Lindbergh adopted the pose of a great man. Whether he was or not is beside the point. Lindbergh continuously offered the public his thoughts, wisdom, and experiences; he maintained a very visible presence. Autobiography is by nature an act of reconstructing oneself in the context of later events, attitudes, and audiences; it is like reading your life backward, Jean Paul Sartre said. That insight is essential to understanding the Lindbergh mythos. Each “chapter” of his autobiography yields a somewhat different earlier self: they are acts of self-creation or reinvention. *Of Flight and Life* and *Autobiography of Values*, the late books, are redolent of the finished man. On the other hand, *The Spirit of St. Louis* displays the fully formed hero in public eclipse, moving from fealty to aviation to intimate self-revelation. “WE” is comparatively empty; Lindbergh did not yet know what to make of the flight or who he was. In short, Lindbergh’s character was something he continuously molded in and through his personal narratives. In any case, such an imposing corpus of autobiographical work must put to rest the notion that Lindbergh was a reluctant celebrity, unless one simply means the inconvenience of prying reporters and photographers of which he complained constantly. And the earliest book, “WE”, points to other means by which Lindbergh embraced and exploited his exalted status.

“WE” was written in the luxurious surroundings of “Falaise,” Harry Guggenheim’s estate on Long Island. The Guggenheims, one of the richest families in America, were interested in commercial aviation, so much so that Harry’s father, Daniel, bankrolled a Fund for the Promotion of Aeronautics in 1926 and put his son in charge. Harry became one of Lindbergh’s closest friends and the conduit to an elite society of millionaires, businessmen, politicians, and philanthropists. Not surprisingly, thereafter Lindbergh moved in the rarified circles of illustrious men of affairs. He never disavowed his earlier friends, but it was soon clear that Lindbergh had been permanently lifted to a higher plane of existence, too elevated for ordinary folk—another attribute of celebrity. He associated with such prominent figures as Dwight Morrow, his future father-in-law and a director of J. P. Morgan (as was Thomas Lamont); Orville Wright; Juan Trippe, founder of Pan American Airways; the politicians Herbert Hoover and Frank B. Kellogg; John D. Rockefeller, Jr.; Theodore Roosevelt, Jr.; and publisher George Putnam, to name a few. Such friends would have horrified Charles’ father, though Charles “thought his father would have liked them too, had he known them.”³⁹ They certainly liked his son, for they quickly formed a protective ring around him. They were especially intent on keeping Lindbergh’s image free of the taint of hucksterism in order to safeguard the aviation industry’s “financial stability.”⁴⁰ Morrow and his Wall Street colleagues also took charge of paying back the St. Louis sponsors of the flight and of Lindbergh’s finances in general, which involved a considerable amount of money.

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While it is true that Lindbergh did not financially exploit his fame to the hilt, it is also true that he was happy to benefit from suitably dignified offers. According to Harry Bruno, one of his publicists at the time:

Charles Lindbergh was never averse to cashing in on his flight. . . . He kept a tight hold on everything we were doing for him, and made sure that the only recommendations he made were for articles or projects directly associated with his flight or his interests. But for those we were to ask as much as the market would bear.⁴¹

Among the offers he accepted was \$10,000 a year for chairing the Technical Committee of Transcontinental Air Transport (later TWA, "The Lindbergh Line") and a quarter-of-a-million-dollar bonus with which he could purchase 25,000 shares of stock at half their market value. Pan Am arranged a similar deal with him for a like sum. The Pennsylvania Railroad and the Daniel Guggenheim Fund paid Lindbergh \$10,000 and \$5,000 a year respectively for "advice." "[W]ithin eighteen months of his famous flight, he had earned more than \$1,000,000."⁴² Lindbergh never again lacked for money or needed a job.

All the constituents of modern celebrity were present by the end of 1927. As the model for future celebrities, Lindbergh had authored a best-selling account of his epic deed, submitted to countless interviews and an army of photographers, attached his name and presence to worthwhile causes—from which he profited handsomely, and entered the upper reaches of limousine society. There was as well the celebrity tour, for which Lindbergh also broke ground. Between July and October of 1927, the "Lone Eagle" crossed the entire country by air, touching all forty-eight states in a 95-day period, flying 22,350 miles. The Guggenheim Fund underwrote the unprecedented tour, which it saw as a matchless opportunity to stimulate "popular interest in the use of air transport."⁴³ Perhaps it did. Thirty million people turned out in 82 major cities and scores more where Lindbergh could only drop a written greeting from the air, Paris style, just to be in the company of this demigod. Lindbergh basked in Olympian glory, but he was also shocked and angered to have become public property. His agitation notwithstanding, Lindbergh soon undertook two more "goodwill" and reconnaissance excursions, first to seventeen Latin American countries in 1928 and then to the Orient in 1931, with his new wife, Anne. That, however, is another story.

Any interpretation of Charles Lindbergh must in some way grapple with his monumental image and persistent celebrity. He lived in their grasp for nearly half a century. That experience should tell us something about the phenomena, and something about their relationship to memory and scholarship. This essay began by noting that images depend on credibility for their power. Accuracy does not count for very much and truthfulness may suffer. Lindbergh is a good case in point. One searches

in vain through the public record for major instances of fictive reporting or bogus facts. Lindbergh's life was too public for that.⁴⁴ But there is still room for distortions, embellishments, and especially loss of context. Specifically, Lindbergh's youthful quest for adventure and thrills, for prominence and achievement, has too often been obscured by his devotion to commercial aviation, which was transitory. The lack of substance in the transatlantic race has been glossed over, as has the nature of his childhood and family. Certainly he did not spurn fame or profit. However, the cardinal distortion is the human portrayal of Lindbergh. He was no more a modest and innocent representative of American virtue than he was a simple farm boy or the conqueror of the Atlantic. He was a complicated human being capable of true heroism and altruistic service. But Lindbergh was also motivated by inner forces he thought too ignoble to acknowledge; perhaps he lacked awareness of them. Part of the argument here is that he was trapped by the public image. As the years went by, he increasingly accepted it.⁴⁵ When attacks on that image came, as they did before World War II, he angrily insisted that he had been unfairly besmirched and misunderstood. Personal images, however, are more resilient than he appreciated. In Lindbergh's case, the image was inextricably and forever tied to the deed. He is eternally the handsome young pilot, standing in front of his monoplane, smiling into the camera. Virtually nothing he did or said changed that image. To be sure, the kidnapping etched tragedy into it and the America First period revealed a darker side. Yet the image endures, irreducible and perfect. Because the heroic act is irreducible and perfect. Truth may not be simple or tidy; icons are.⁴⁶

More perplexing is the role of scholarship. Lindbergh has been the subject of much hagiography, within the academic world and beyond it. He has come under a good deal of critical scrutiny, some of it unflattering. Still Lindbergh's image emerges from the welter of scholarly debate relatively unscathed. Occasionally the scholars pass over the blemishes without remark—itsself testimony to the intimidating power of the image. More often they separate his 1936-41 period from the rest of his life, with notes of regret about the lapses. At other times they play down his faults.⁴⁷ But the conventional image persists.⁴⁸ Each scholarly effort only seems to add another layer of varnish to the image, as if any attention must accrue to Lindbergh's benefit.

To this immovable object of image must be added the irresistible force of celebrity. Celebrity is the extended shadow of fame, a reflection in the funhouse mirror of publicity. Lindbergh was its avatar. But to some degree he was also its accomplice. One of the most notable aspects of Lindbergh's career was his sour relations with the press, first manifest during the Guggenheim tour. In 1936, he and his family left the country to escape its reach. He did not return for three years. As Lindbergh became more remote and inaccessible,

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the media turned his aloofness and seeming arrogance into another facet of his celebrity. His reclusive behavior added to the Lindbergh mystique. All the same, Lindbergh needed the press; he knew that. For the rest of his life Lindbergh's energies were absorbed in a constant battle to correct, evade, and live with the media persona. But he never recognized or addressed his own collaboration with the press. There are, for example, the instances cited here in which Lindbergh clearly invited press coverage. The commercial endorsements and national tour were organized for the sake of media attention.

In a more subtle way, Lindbergh carried on a continuous negotiation with celebrity. His ostentatious shunning of publicity, the legendary solitude, his intense rectitude—those celebrated hallmarks of the public Lindbergh—required an audience to give them life. Lindbergh did not forsake that audience. He kept himself in the public eye through a variety of voluntary acts: the global expeditions, his publications, the political embroilments with the Roosevelt administration, his wartime service, and finally his enlistment in the cause of ecology and preservation. Lindbergh insisted on an important public role in all these cases. Celebrity was not too high a price to pay. Indeed, none of his commitments would have been possible without the charisma of celebrity. In that sense, Lindbergh lived off his press notices. Nonetheless, he could not acknowledge the lifetime benefits of publicity. One might compare him in this regard to another great American figure, George Washington, a similarly enigmatic hero sensitive to his standing with the public. Like Washington, Lindbergh was steadfastly “devoted to self-improvement, self-concealment, and herculean self-control...[and] identified with the virtues of manly, self-denying courage and devotion to the common good over the lure of riches, corruption, and sensuous pleasure.” Both heroes forged an identity amid the crosscutting pressures of publicity, flattery, and self-command. Each was “finally handed the role for which he had been preparing all his life: himself.”⁴⁹

Could it have been otherwise? Underlying the notion of a violated Lindbergh is the belief that no one could have breasted the tidal wave of publicity

that engulfed him. Lindbergh irretrievably belonged to the American people. That proposition is at least debatable. Neil Armstrong, the first man on the moon, and Chuck Yeager, the storied test pilot, successfully sidestepped celebrity. Perhaps a better example of someone able to resist the blandishments of celebrity is Sergeant York. Like Lindbergh, Alvin York rose from obscurity to the pinnacle of fame and national adulation as a result of indisputable heroism. In France during World War I, York, virtually alone, captured some 132 Germans and shot dozens more in a single action, “armed only with a rifle and a pistol.”⁵⁰ Like Lindbergh, he was greeted in New York in May 1919, with a “blizzard” of ticker tape; invited to Congress and the White House; and awarded the Distinguished Service Cross and the Congressional Medal of Honor. He, too, received commercial offers totaling “between a quarter and a half million dollars.” But York only accepted a farm in his home state of Tennessee. Then he intentionally melted away from public exposure.⁵¹ Alvin York was no Charles Lindbergh in terms of looks and talents, the scope of his ambitions, or subsequent achievements. He certainly lacked Lindbergh's way with words. Still York's rejection of the emoluments of celebrity in 1919-20 should chasten those who argue that Lindbergh's celebrity was inevitably prescribed by the nature of the deed or modern society. York never for a moment lost the sense of who he was or where he belonged. Lindbergh, on the other hand, came to believe he was a great man.⁵² And a victim. Quite an ironic fate for a bona fide hero.

Lindbergh was a man of paradoxes; that much can be said of any interesting man in public life. Beyond that, however, he had to negotiate the considerable distance between the realities of his life and the public's demand for a symbolic hero. The disparities would be reconciled in the fashioning of a celebrity who even Lindbergh himself was unaware he helped create. But the effort proved so strenuous he ultimately sought relief in another life altogether, a secret and unheroic life. In that way, like Sir Walter Scott's Lochinvar, Lindbergh could transcend the bonds of celebrity, as he had conquered the Atlantic, all unarmed and all alone. ■

NOTES

1. See Daniel J. Boorstin, *The Image; A Guide to Pseudo-Events In America*, (N.Y.: Vintage Books 25th Anniversary Edition, 1992), pp. 66-73. By credible, I mean a version that accords with the facts and common sense; it is believable. Boorstin argues that eventually the image supercedes reality. Furthermore, “there is no way to unmask the image...[it] becomes all the more interesting with our very effort to debunk it.” 189; 93. Cf. Neal Gabler, *Life the Movie; How Entertainment Conquered Reality*, (N.Y.: Alfred A. Knopf, 1998), pp. 4, 7, 10; and Susan Hertog, *Anne Morrow Lindbergh; Her Life*, (N.Y.: Nan A. Talese/Doubleday, 1999), p. 107.
2. Charles A. Lindbergh, *The Spirit of St. Louis*, (N.Y.:

Charles Scribner's Sons, 1953), p. 244. There are numerous such reveries in the book, but only two references to his non-Minnesota experience. “I had, on the whole, a wonderful childhood—a very happy one,” Lindbergh wrote in 1968. Lindbergh Papers, Group 325, Series X, Box 450, Sterling Memorial Library, Yale University.

3. See, for example, Walter L. Hixson, *Charles A. Lindbergh; Lone Eagle*, (N.Y.: HarperCollins College Publishers, 1996), p. 5, in which one paragraph asserts the breakup “scarred him for life”; just how is left to the reader. On the other hand, A. Scott Berg, his most authoritative biographer, provides an extended description of the family's problems but less in the way of significance. See

"No Place Like Home," in *Lindbergh*, (N.Y.: G.P. Putnam's Sons, 1998). Also, Brendan Gill, *Lindbergh Alone*, (N.Y.: Harcourt Brace Jovanovich, 1977), chapter 6.

4. Berg, *Lindbergh*, p. 39. "I do not know, and prefer not to guess at the cause of my father and mother's separation. Certainly they were unable to live happily together; but I think they continued to love each other throughout their lives." Lindbergh Papers, Group 325, Series X, Box 450. His parents did maintain a tenuous interest in each other's welfare.

5. For a fuller discussion, see James David Barber, "The Interplay of Presidential Character and Style: A Paradigm and Five Illustrations," in Fred I. Greenstein and Michael Lerner, eds., *A Source Book for the Study of Personality and Politics*, (Chicago: Markham Publishing Co., 1971), pp. 383-408; and his book, *The Presidential Character; Predicting Performance in the White House*, (Englewood Cliffs, N.J.: Prentice Hall, Inc., 1972).

6. Flying of course was an important exception. But Lindbergh insisted, "I have never been aware of a need to 'prove' myself." Lindbergh Papers, Group 325, Series X, Box 450. People close to him often commented on his lack of emotion. See Donald E. Keyhoe, *Flying with Lindbergh*, (N.Y.: G. P. Putnam's Sons, 1928), p. 74; Reeve Lindbergh, *Under a Wing; A Memoir*, (N.Y.: Simon and Schuster, 1998), p. 40.

7. Another applicable model, which seems less open to the complexity of human behavior and the interplay of character and circumstance, is based on "attachment" theory. According to this approach, his family environment produced an "avoidant" Lindbergh, uncomfortable with intimacy and unable to trust others, who bent his energies to maintaining "a defensive sense of self-reliance and independence." It suggests his string of extramarital affairs might have been a way to deter romantic attachment to a single sexual partner. Consult R. Chris Fraley and Phillip R. Shaver, "Adult Romantic Attachment: Theoretical Developments, Emerging Controversies, and Unanswered Questions," *Review of General Psychology*, 4:2 (2000), pp. 132-54. Paula R. Pietromonaco and Lisa Feldman Barrett, "The Internal Working Models: What Do We Know About the Self in Relation to Others?," refines the description of Lindbergh to a "dismissing avoidant," *Review of General Psychology*, 4:2 (2000), pp. 155-75.

8. Wayne S. Cole, *Charles A. Lindbergh and the Battle Against American Intervention in World War II*, (N.Y.: Harcourt Brace Jovanovich, 1974), pp. 17-22. Lindbergh and Cole enjoyed a mutually respectful relationship, evident throughout the book, though the author is careful to avoid outright partisanship.

9. Such disparate contemporaries as Ernest Hemingway, John Scopes, and Al Capone were never called boys. For a good description of "boy culture," at the heart of which is escape from the constraints of civilization, see E. Anthony Rotundo, *American Manhood; Transformations in Masculinity from the Revolution to the Modern Era*, (N.Y.: Basic Books, 1993), pp. 42ff. See also, Robert Wohl, *The Spectacle of Flight: Aviation and the Western Imagination, 1920-1950*, (New Haven: Yale University Press, 2005), p. 151.

10. See Peter Fritzsche, *A Nation of Flyers; German Aviation and the Popular Imagination*, (Cambridge: Harvard University Press, 1992); Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination, 1908-1918*, (New Haven: Yale University Press, 1994); Colin Cook, "The Myth of the Aviator and the Flight to Fascism," *History Today*, (December 2003), pp. 36-42; and with special reference to Lindbergh, Modris Eksteins, *Rites of Spring; The Great War and the Birth of the Modern Age*, (Boston: Houghton Mifflin Company, 1989), pp. 264-67.

11. Quoted in Berg, *Lindbergh*, p. 66; see also Kenneth S. Davis, *The Hero; Charles A. Lindbergh and the American Dream*, (N.Y.: Doubleday and Company, Inc., 1959), p. 87. In modern terms, Lindbergh was a sensation seeker with

a preference for solitary activities. I am indebted to Professor Brian Lakey for this insight.

12. Thirty-one of the first forty airmail pilots lost their lives in crashes. Richard P. Hallion, *Legacy of Flight; The Guggenheim Contribution to American Aviation*, (Seattle: University of Washington Press, 1977), pp. 11-12. Lindbergh recalled "a motor failure for about every seventy hours of flight in the St. Louis-Chicago run." Lindbergh Papers, Group 325, Series X, Box 450.

13. *The Spirit of St. Louis*, p. 15. In a memoir focused on the human side of his flight, Lindbergh included a nearly sixty-page appendix of dense statistics and minute inventories. His appetite for exact information was insatiable and gave rise to his later reputation for scrupulous reporting. This style is favored by people who like emotional order as well. Cf. James Newton, *Uncommon Friends: Life with Thomas Edison, Henry Ford, Harvey Firestone, Alexis Carrel, and Charles Lindbergh*, (N.Y.: Harcourt Brace and Co. 1987), pp. 300-1.

14. Joseph J. Corn, *The Winged Gospel; America's Romance with Aviation, 1900-1950*, (N.Y.: New York University Press, 1983), p. 25. Chapter One is an excellent overview.

15. Sir John Alcock and Sir Arthur Whitten Brown, *Our Transatlantic Flight*, (London: William Kimber and Co., 1969), pp. 104, 168. An American crew made the crossing a month earlier than Alcock and Brown in a naval seaplane.

16. Harry F. Guggenheim admitted, "The science of aeronautics was not changed one whit by the flight...." In *The Seven Skies*, (N.Y.: G. P. Putnam's Sons, 1930), p. 76; also Von Hardesty, *Lindbergh; Flight's Enigmatic Hero*, (N.Y.: Harcourt, Inc., 2002), p. 105.

17. Corn, *The Winged Gospel*, p. viii. Corn says popular enthusiasm for aviation was so unbridled religious metaphors were common currency. Also consult Robert Wohl's two volumes.

18. He added: "I found it exhilarating to see my name in print on the front pages of America's greatest newspapers, and I enjoyed reading the words of praise...." Charles A. Lindbergh, *Autobiography of Values*, (N.Y.: Harcourt Brace Jovanovich, 1978), p. 74. These sentiments are echoed in his personal papers. There is nothing embarrassing or shameful about this admission, except for Lindbergh's own obfuscations. In the later reconstruction of *The Spirit of St. Louis*, Lindbergh puts the decision in carefully muted terms of ambition; see 15.

19. In August 1926, he complained to his mother about "the monotony of flying around St. Louis." When it seemed he might get beaten to the Atlantic crossing, he contemplated a Pacific flight.

20. Leonard Mosley, *Lindbergh: A Biography*, (N.Y.: Doubleday and Co., Inc., 1976), p. 117.

21. Meyer Berger, *The Story of the New York Times, 1851-1951*, (N.Y.: Simon and Schuster, 1951), p. 305.

22. Hundreds had also welcomed him to New York. Lindbergh risked the poor conditions for takeoff because he was keenly aware of his competitors' preparations.

23. The phrase is used by Leo Braudy, one of the most perceptive writers on Lindbergh and fame, in *The Frenzy of Renown; Fame and Its History*, (N.Y.: Oxford University Press, 1986).

24. Modris Eksteins, *The Rites of Spring; The Great War and the Birth of the Modern Age*, (Boston: Houghton Mifflin Company, 1989), p. 251. Cf. *New Republic* 51 (1 June 1927), p. 29.

25. See Raymond H. Fredette's account of Lindbergh's first press conference at the American Embassy, in "The Making of a Hero: What Really Happened...After Lindbergh Landed at Le Bourget," *Air Power History*, 49 (Summer 2002), pp. 4-19.

26. See John W. Ward's influential "The Meaning of Lindbergh's Flight," *American Quarterly* 10:1 (1958), pp. 3-16. Two weeks after the flight, Clarence Chamberlin and Charles Levine flew from New York to Eisleben,

- Germany, breaking Lindbergh's time and distance records. No one much cared.
27. Berg, *Lindbergh*, p. 144.
28. *Spirit of St. Louis*, p. 501.
29. Quoted in Berg, *Lindbergh*, p. 141. Italics added. Since Ambassador Herrick orchestrated all of Lindbergh's activities, the omission of Germany and Italy from his itinerary was probably Herrick's decision. See Colonel T. Bentley Mott, *Myron T. Herrick, Friend of France; An Autobiographical Biography*, (N.Y.: Doubleday, Doran, and Company, Inc., 1930), pp. 347-52.
30. Popular magazines also exploited the avid interest in personalities and celebrities. *Collier's* and the *Saturday Evening Post* doubled the number of biographical stories in their pages every decade between 1900 and 1940. *Time* was founded as a newsmagazine devoted to personalities. Lindbergh was its first Man of the Year in 1927.
31. Gabler, *Life the Movie*, pp. 144-6.
32. F. Scott Fitzgerald, in an oft-quoted line, said it best: "A young Minnesotan who seemed to have nothing to do with his generation did a heroic thing, and for a moment people set down their glasses in country clubs and speak-easies and thought of their old best dreams." For examples of this theme in the contemporary press, see: "Lad from Main Street," *Independent* 118 (18 June 1927), pp. 622-3; "Lindbergh, the Symbol," *Outlook* 146 (22 June 1927), p. 235; but especially Joseph K. Hart's "O Pioneer!," *Survey* 58 (1 July 1928), pp. 384-5. For an extended analysis of Lindbergh's relationship to celebrity, see Charles L. Ponce de Leon, *Self-Exposure; Human-Interest Journalism and the Emergence of Celebrity in America, 1890-1940*, (Chapel Hill: University of North Carolina Press, 2002).
33. Quoted phrases in this paragraph are from Richard Schickel, *Intimate Strangers; The Culture of Celebrity*, (N.Y.: Doubleday and Co., Inc., 1985), chapters one and two.
34. Berg, *Lindbergh*, p. 154.
35. Lindbergh always sought other opinions before submitting a final manuscript, but was unyielding and "extremely touchy" about what finally appeared in print. Editors at *Reader's Digest* called him "The Lone Ego." Joyce Milton, *Loss of Eden: A Biography of Charles and Anne Morrow Lindbergh*, (N.Y.: HarperCollins, 1993), p. 437.
36. *The Spirit of St. Louis*, p. 547.
37. *Frenzy of Renown*, p. 25. In the same vein, Jean Stafford detected a spirit of "warmly nursed grievances" in *The Wartime Journals*. Quoted in Milton, *Loss of Eden*, p. 469.
38. This does not take into account Lindbergh's articles, prefaces, introductions, and the like. Perry Luckett lists four pages of such writings, *Charles A. Lindbergh; A Bio-Bibliography*, (Westport, Conn.: Greenwood Press, 1986), pp. 97-101. In 1978 a selection of unpublished notes by Lindbergh, edited by William Jovanovich and Judith Schiff and entitled *Banana River*, was published by Harcourt Brace Jovanovich.
39. Cole, *Charles A. Lindbergh and the Battle Against American Intervention in World War II*, p. 19. Gill also puts a positive spin on Lindbergh's society friends, *Lindbergh Alone*, pp. 150-1; also Wohl, *The Spectacle of Flight*, pp. 44-5.
40. Charles L. Ponce de Leon, "The Man Nobody Knows: Charles A. Lindbergh and the Culture of Celebrity," *Prospects; An Annual of American Cultural Studies*, 21 (1996), p. 353.
41. Harry A. Bruno and William S. Dutton, "Lindbergh the Famous Unknown," *Saturday Evening Post*, 206 (21 October 1933), quoted in Mosley, *Lindbergh*, p. 118. Lindbergh, it should be noted, considered Bruno "no friend of mine."
42. Berg, *Lindbergh*, p. 191.
43. The tour cost the Fund over \$68,000, of which \$50,000 went to Lindbergh himself, "a figure suggested by Morrow." Irwin and Debi Unger, *The Guggenheims; A Family History*, (N.Y.: HarperCollins, 2005), pp. 257-8.
44. Disputed details and minor inaccuracies are another matter. Lindbergh himself, ever mindful of his historical legacy, deposited at the Library of Congress two 75-page documents correcting mistakes in the biographies written by Kenneth S. Davis and Walter S. Ross. There is also a whole box of such material in the Lindbergh Papers at Yale University, Group 325, Series X, Box 450.
45. Look at *Boyhood on the Upper Mississippi; A Reminiscent Letter*, (St. Paul: Minnesota Historical Society, 1972) and *The Spirit of St. Louis*. Complex motivations do not often break through the smooth surface of the images.
46. News of Lindbergh's extramarital affairs does not seem to have garnered much interest in the U.S. or dented his reputation. Whether that is the result of growing indifference to Lindbergh or an unwillingness to revise the received view of him is an open question.
47. For illustrations, see T. Willard Hunter, *The Spirit of Charles Lindbergh; Another Dimension*, (Lanham, Md.: Madison Books, 1993), p. 1; Davis, *The Hero*, pp. 282, 392, 410; Hixson, *Charles A. Lindbergh*, pp. 72, 102; Hardesty, *Lindbergh*, p. 222. Lindbergh bibliographer Perry D. Luckett does not mention Lindbergh's attitude toward the Nazis except to note his admiration for the Luftwaffe. Brendan Gill does not say even that much about the flirtation with Nazism.
48. In two recent attacks on Lindbergh, the image survives. Philip Roth's novel *The Plot Against America*, (N.Y.: Houghton Mifflin Co., 2004) puts Lindbergh at the center of an attempt to introduce fascism to the U.S. Nonetheless, Roth depicts Lindbergh as a godlike figure with a "boyish manly aura," who descends from the sky on a regular basis. He is clearly more benign than his successor as President, Burton K. Wheeler. Lindbergh is forced to repellant policies because Hitler secretly holds his kidnapped son, Charles, Jr., hostage. The Nazis actually find Lindbergh too soft and want to replace him with Henry Ford. It is noteworthy that Roth cannot kill Lindbergh—he mysteriously disappears—and that Anne Morrow Lindbergh is instrumental in returning the country to constitutional sanity. Max Wallace's study of Henry Ford's and Charles Lindbergh's connections to Nazism, *The American Axis; Henry Ford, Charles Lindbergh, and the Rise of the Third Reich* (N.Y.: St. Martin's Press, 2003), takes a different tack. Wallace asserts that Lindbergh should be held accountable for his moral blindness and "devastating impact" on the prewar debate. Yet he acknowledges that Lindbergh is one of America's "greatest heroes," essentially "misguided" and "perhaps too honest for his own good." Wallace intends to deface the Lindbergh image but also pays homage to it. For examples of his equivocal attitude, see *American Axis*, pp. 378-80; 385-6.
49. Joshua Micah Marshall, "National Treasure," *New Yorker* (23 May 2005), pp. 89-90. Marshall's piece is a review of David McCullough's *1776*. He does not suggest the parallel.
50. David D. Lee, *Sergeant York; An American Hero*, (Lexington: University of Kentucky Press, 1985), p. 39.
51. Lee, *Sergeant York*, pp. 59-63. Biographies appeared in 1922, 1928, and 1930. In 1941, a film of York's life, starring Gary Cooper, was released. Neil Armstrong was so recessive "Americans with living memories of the moon landing...have a hard time summoning any recollection of Armstrong's face." Thomas Mallon, "Moon Walker," *New Yorker*, (3 October 2005), p. 94. Admiral Byrd is yet another possible comparison. See Edwin P. Hoyt, *The Last Explorer; Adventures of Admiral Byrd*, (N.Y.: the John Day Company, 1968), especially pp. 126-47.
52. That theme is beyond the purview of this essay, but one need only look at Lindbergh's brief *Of Flight and Life*, (N.Y.: Charles Scribner's Sons, 1948), in which, as one admirer puts it, "he was prepared to come out of seclusion and use his world celebrity to achieve no less a global objective than saving civilization." T. Willard Hunter, *The Spirit of Charles Lindbergh*, p. 101.

ARNOLD RACES THE CLOCK: THE BATTLE OF JAPAN





Herman S. Wolk

(Overleaf) B-29s of the 500th Bomb Group drop fire bombs on Yokohama, Japan in 1945.

ARNOLD, WHO HAD BUILT UP THE AAF AND HAD TAKEN AN ENORMOUS GAMBLE BY DRIVING THE B-29 THROUGH ACCELERATED DEVELOPMENT AND PRODUCTION CYCLES TO OPERATIONALLY DEPLOY IT TO THE PACIFIC

In the spring and summer of 1945, the war in the Pacific against the Empire of Japan reached a crescendo. The rationale for the Japanese attack on Pearl Harbor, that in a year or two Japan could solidify its aggression in East Asia and reach a negotiated settlement with the United States, had proven to be a fatal mistake. The United States and its allies, insisting on unconditional surrender, had pushed Japanese forces back across the Pacific and by the spring of 1945 the air and sea blockade was strangling the Japanese island homeland. The B-29 strategic bombing offensive had brought the war home to Japan, smashing her cities, resulting in millions of evacuees, and imploding morale and war production.

Within the Japanese government, this situation caused friction between those officials searching for a way out of the rapidly deteriorating conflict and the militarists who argued for continuing the war. Meanwhile, the U.S. Joint Chiefs of Staff (JCS) conducted an intensive review of strategy and command in the Pacific. Following the death of President Franklin D. Roosevelt on April 12, 1945 and the bloody battle for Okinawa, resulting in almost 7,000 U.S. killed, and 36,000 wounded, the JCS promulgated a decision as to command arrangements for the final phase of the Pacific war. General Douglas MacArthur, now Southwest Pacific commander, was named to command all Army forces in the Pacific and Admiral Chester Nimitz was assigned command of all naval forces. General Henry H. "Hap" Arnold, commanding general, Army Air Forces (AAF), would continue as commander of the Twentieth Air Force, operating the long-range strategic bombing campaign as executive agent of the JCS. The critical question facing the Joint Chiefs and the new president, Harry S. Truman, was whether or not an invasion of the Japanese home islands would be required to force a surrender.

This question held special portent for General Arnold, who had built up the AAF and had taken an enormous gamble by driving the B-29 through accelerated development and production cycles to operationally deploy it to the Pacific. Arnold could recall his long struggle with the B-29 including the lack of success in 1944 with Operation MATTERHORN, the B-29 operations from the China-Burma-India theater. Once B-29 operations were



initiated from the Mariana islands in November 1944, Arnold maintained extraordinarily high expectations. However, Brig. Gen. Haywood S. "Possum" Hansell, Jr., failed to meet these expectations, and in January 1945 Arnold relieved him in favor of Maj. Gen. Curtis E. LeMay. Arnold, in fact, had written Hansell that "I am watching you on a daily basis," as indeed he was. Moreover, Arnold reminded Hansell that the future of the air arm depended upon how the B-29 force performed in what he termed "The Battle of Japan."¹ Hansell's major problems centered on fighting the jet stream at high altitudes, inadequate maintenance, and poor weather. LeMay turned the campaign around on March 9-10, 1945, going with incendiaries at low level at night, resulting in the enormously destructive attack on Tokyo.

Arnold drove himself without regard to his health and had suffered several heart attacks during the war, the worst—it almost killed him—in January 1945, which incapacitated him until the middle of March. While Arnold recuperated in Florida, Brig. Gen. Lauris Norstad, the Twentieth's

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(Left to right) Maj. Gen. Curtis E. LeMay, Brig. Gen. Haywood S. Hansell, and Brig. Gen. Roger M. Ramey.



THE B-29 AMOUNTED TO AN OBSESSION FOR ARNOLD, THE PLANE THAT WOULD SHOW THAT A MODERN INDUSTRIAL NATION LIKE JAPAN COULD BE DRIVEN OUT OF THE WAR WITHOUT THE NECESSITY OF AN INVASION

Chief of Staff under Arnold, communicated with LeMay, commanding the XXI Bomber Command in Guam. This arrangement has sparked speculation among historians that Norstad was directing the Twentieth Air Force, not only during Arnold's absence from the Pentagon, but even before and after the recuperation period. The fact is that Norstad never deviated from what Arnold desired; they remained in almost daily contact even while Arnold was in Florida. Norstad always knew exactly what "the boss" wanted.

It was surely not an overstatement to note that the B-29 amounted to an obsession for Arnold, the plane that would show that a modern industrial nation like Japan could be driven out of the war without the necessity of an invasion of the homeland. General George C. Marshall, Army Chief of Staff, and MacArthur, emphasized the need for an invasion, as "the quickest and cheapest way to assure the end of the war."² Planning by the Joint Chiefs of Staff called for an invasion of southern Kyushu (OLYMPIC), target date November 1, 1945 and, if necessary, an invasion of the Tokyo plain (CORONET) with a target date of March 1, 1946. The Kyushu invasion directive was issued by the Joint Chiefs on May 25, 1945. As part of the directive, Arnold, as commander of the Twentieth Air Force, was directed to support planning and execution of OLYMPIC. As determined by the Joint Chiefs, at appropriate times, the Twentieth would come under the direction "of the appropriate commander," for support of OLYMPIC.³

While OLYMPIC planning by the Joint Chiefs continued in the spring of 1945, LeMay's incendiary campaign also continued along with the air and sea blockade. Arnold and the JCS remained clear that Japan's military situation was significantly deteriorating. Moreover, evacuations from urban

areas greatly increased under the savagery of the B-29 attacks and Japanese morale plummeted. Consequently, the Joint Chiefs held the option that OLYMPIC invasion planning remained not only subject to review, but even ultimately to cancellation. Nonetheless, Marshall and MacArthur continued to insist that an invasion was the quickest way to force a Japanese capitulation. Arnold, King, and Leahy, for perhaps different reasons, in the spring of 1945 were convinced that OLYMPIC would not be necessary.

Following Roosevelt's death, President Truman had little time to prepare for the crucial conference to be held in Berlin with the Soviet and British leaders. As background for the President, the Joint War Plans Committee developed a memorandum that emphasized that "the only sure way, and certainly the quickest way to force the surrender of Japan is to defeat her armies on the main Japanese islands." The overall objective was to force an unconditional surrender by: "Lowering Japanese ability and will to resist by establishing sea and air blockades, conducting intensive air bombardment and destroying Japanese air and naval strength; and invading and seizing objectives in the industrial heart of Japan."⁴

The committee's memo stressed an invasion of southern Kyushu as a prelude to CORONET, an assault on "the industrial heart of Japan through the Tokyo plain," this being part of the overall plan for invasion of Japan, code-named DOWNFALL.⁵ The joint war planners estimated that by November 1945 Japan's situation would be critical, their Navy no longer a factor and their air element able basically only to mount Kamikaze suicide attacks. Yet, the Joint Chiefs awaited "further developments" before directing execution of any post-OLYMPIC operations. The blockade and bom-

Gen. Lauris Norstad,
Twentieth Air Force's Chief
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bardment would be intensified. It is noteworthy that the JCS also stated that Japan could be defeated whether or not the Soviet Union entered the conflict.⁶

On June 14, 1945, Admiral Leahy informed the Joint Chiefs that President Truman wanted to be “thoroughly informed of our intentions and prospects” in order to prepare for discussions with Churchill and Stalin at Potsdam. Truman wanted an estimate, Leahy emphasized, “of the time required and the losses in killed and wounded that would result from an invasion of Japan.” The President desired estimates of time and casualties that could be expected through the attempt to defeat Japan “by isolation, blockade, and bombardment by sea and air forces.” Leahy emphasized that it was Truman’s intention to make his decisions in order to economize “to the maximum extent possible in the loss of American lives. Economy in the use of time and in money cost is comparatively unimportant.”⁷

To the Joint Chiefs, invasion planning, the blockade and B-29 bombardment were not mutually exclusive. The Chiefs noted that prior to CORONET, “more bombs will be dropped on Japan than were delivered against Germany during the entire European war. If the blockade and bombardment concept is capable of achieving decisive results, these will, in all probability, be brought about by this scale of effort prior to the planned date for the invasion of the Tokyo Plain. However, in the event this invasion is not considered feasible and acceptable on the planned date, a course of action to extend bombardment and blockade is open to us.”⁸

Aware, of course, that Truman remained highly sensitive to potential casualties in an invasion, especially in the wake of the Okinawa campaign, the JCS noted to the President that the number of potential casualties depended upon the length of land campaign and the ferocity of the enemy defense. The Joint Chiefs estimated that for both OLYMPIC and CORONET a possible total number of casualties might be as follows: 40,000 killed; 150,000 wounded; and perhaps 3,500 missing in action.⁹ The possibility of a date for the end of the war remained elusive. Somewhere between mid-1946 and the end of the year was a “best estimate.”¹⁰ According to the Joint Chiefs, it was not possible to predict an end to the conflict by bombardment and blockade. In light of the concern over potential casualties, the JCS position on bombardment and blockade seems somewhat curious, especially given the success in March-May 1945 of LeMay’s B-29 campaign against Japanese urban areas. However, as mentioned, Marshall (and MacArthur) continually pointed out that strategic bombing failed to drive Germany out of the war, necessitating an invasion.¹¹

As to potential casualty figures, historians have been arguing over this topic for decades. A number of historians contend that, contrary to numbers in the several hundred thousands, it might have been possible to limit the casualty figure to approxi-



mately 25,000. Whatever the number put forward, the over-arching fact was that Truman was gravely concerned about U.S. casualties, not wanting “an Okinawa from one end of Japan to the other.”

Meanwhile, by April Arnold had sufficiently recovered from his hospitalization to make inspection trips to both Europe and the Pacific. In June 1945, he met with LeMay in the Pacific to receive a first-hand report on what he knew to be stunning progress in the B-29 campaign against Japan. He had been kept up to date by Norstad, the Twentieth’s Chief of Staff in Washington, and now he wanted to hear from LeMay himself. LeMay proceeded to inform Arnold that the Japanese could not hang on past October, under the intensifying incendiary attacks. Impressed by his B-29 bomber commander’s assessment, Arnold directed LeMay immediately to fly to Washington to brief the Joint Chiefs on the status of the campaign.¹²

These events meshed with two other developments that convinced Arnold that at long last the Army Air Forces had the opportunity to demonstrate that a strategic air force could drive a modern, industrial nation out of war without the necessity of an invasion. While on Guam with LeMay, Arnold had received a cable from Marshall stating that the Joint Chiefs would meet with Truman on June 18th to consider the question: “Can we win the war by bombing?”¹³ This description of the meeting by Marshall seems curious since he certainly thought that the answer to this question was in the negative.

Secondly, Arnold, while with LeMay on Guam, received a preliminary report from the United States Strategic Bombing Survey (USSBS) describing the significant impact of strategic bombing on Germany. He had requested Franklin D’Olier, USSBS chairman, to brief him on the survey’s pre-

MARSHALL REITERATED THE VIEW OF THE ARMY STAFF THAT INVASION WOULD BE THE FASTEST, MOST CERTAIN ROUTE TO FORCE JAPAN TO CAPITULATE



HOWEVER, HE INFORMED TRUMAN THAT THE EXPERIENCE IN THE PACIFIC INDICATED THAT IT WOULD BE DIFFICULT TO ESTIMATE CASUALTIES IN AN INVASION OF JAPAN

liminary findings. D'Olier emphasized that this early information "might possibly serve in the war against Japan as contemplated in the directions from the President and the Secretary of War to the Survey."¹⁴ Although this certainly amounted to a preliminary investigation, D'Olier stressed that it was well-documented, and included interrogations of most of the personnel in German war production and inspections of German industrial facilities. The Survey's interim report noted that "the strategic air offensive, as developed and employed in the latter part of 1944, effectively paralyzed the German war economy and thereby contributed in decisive measure to the early and complete victory which followed."¹⁵

Regarding Japan, the D'Olier report, combined with LeMay's prediction, gave Arnold a surge of optimism relating to a possible early Japanese demise. The USSBS findings stated that Japan's war industry appeared more vulnerable to air attack than Germany's, a finding that confirmed previous conclusions by Arnold's Committee of Operations Analysts and the Joint Target Group. Moreover, Japan could not stop the bombing strikes. "It is apparent," the report concluded, "that Japan's position as a strong military and industrial power is already terminated."¹⁶ The report recommended intensified attacks on urban industrial areas and especially the Japanese transportation system—the railway system and coastal shipping. In summary, the report found that "the general view is that the fullest possible employment of strategic bombardment against Japan can contribute in a most important way toward achieving a decision with the minimum cost of American lives."¹⁷

As noted, this USSBS report elated Arnold and seemed to corroborate his view: "If we could win the

war by bombing, it would be unnecessary for the ground troops to make a landing on the shores of Japan. Personally, I was convinced it could be done. I did not believe Japan could stand the punishment from the air that Germany had taken."¹⁸ Here, at least in his own mind, Arnold countered Marshall's point that strategic bombing had not driven Germany out of the war. Unlike Germany, the Japanese homeland contained highly flammable cities.

The June 18th meeting convened by Truman was attended by his pre-eminent military and civilian officials. Arnold, of course, was in the Pacific, and whether LeMay had been able to reach Washington in time for the meeting or not, General Marshall wanted Lt. Gen. Ira Eaker, Arnold's Deputy Commander, to sit in for Hap Arnold. In Marshall's view, LeMay was a two-star field commander; Eaker had commanded the Eighth Air Force, the Mediterranean Allied Air Forces and had dealt at the highest levels, including with Prime Minister Winston Churchill. Consequently, Eaker represented Arnold at this critical meeting. Also in attendance were: Leahy, Marshall, King, Stimson, Forrestal, and Assistant Secretary of War John J. McCloy.

Marshall initiated the discussion with a statement that by November 1st the B-29 campaign "will have smashed practically every industrial target worth hitting in Japan as well as destroying huge areas in the Jap[anese] cities."¹⁹ In Marshall's view, an invasion of Kyushu amounted to the next "least costly" move, an operation that fit into his conception of a strategy of "strangulation."²⁰ To Truman, Marshall reiterated the view of the Army staff that invasion would be the fastest, most certain route to force Japan to capitulate. As to the sensitive issue of potential casualties, Marshall estimated that the first thirty days in Kyushu should not exceed the number of casualties in the Luzon campaign. However, he informed Truman that the experience in the Pacific indicated that it would be difficult to estimate casualties in an invasion of Japan: "It is a grim fact that there is not an easy, bloodless way to victory in war and it is the thankless task of the leaders to maintain their firm outward front which holds the resolution of their subordinates."²¹

King and Leahy thought that casualty rates in Kyushu would be similar to Luzon and Okinawa. Truman then queried Marshall as to an estimate of the number of Japanese troops opposing a Kyushu invasion. Marshall replied eight Japanese divisions or about 350,000 troops. This estimate, as we shall see, proved massively low. Admiral Leahy brought up the unconditional surrender policy, emphasizing that in his view it made the Japanese more determined to prolong the war, thus potentially increasing U.S. casualties. Having inherited the unconditional surrender policy, Truman replied that he could not do anything about it at this time.

Eaker, representing General Arnold at this meeting put forward the *official* AAF view supporting an invasion, thus gaining air bases on Kyushu to support additional bomber groups. According to



A 315th Bomb Wing B-29 returns to base at Northwest Field, Guam.

Eaker, “air casualties are always much heavier when the air faces the enemy alone and that these casualties never fail to drop as soon as the ground forces come in.”²² Eaker’s view here remains troubling—described as “deferential” by Maj. Gen. John Huston, editor of Arnold’s diaries—as there is little doubt that he was aware of Arnold’s opinion of the impact of LeMay’s incendiary campaign and the high probability that an invasion would not be necessary. On the other hand, it is quite clear that Arnold was operating on two tracks. Eaker’s expression was emblematic of Arnold’s insistence on refraining from opposing Marshall and Truman in regard to invasion planning. In retrospect, Eaker told me that in the spring and summer of 1945 no one in the top leadership of the Army Air Forces thought that an invasion would be required.²³

The fact is that neither Arnold nor Eaker on June 18th would have crossed Marshall’s view in front of President Truman. Arnold and the AAF owed a great deal to Marshall going back prior to the war when Arnold was desperately attempting to build up the air forces. Subsequently, in 1942 Marshall rammed through a major reorganization of the War Department that made the AAF coequal with the Army ground forces and service forces. Marshall now gave Arnold pretty much free rein to run the air forces and a green light to hammer Japan, although Marshall saw it as a prelude to the invasion. Arnold never lost sight of his great debt to the Army Chief of Staff. Also, Arnold had nothing to gain by predicting a date by which Japan would surrender. He considered that his two track approach worked best—intensifying the bombing while officially going along with invasion planning. As for Truman, based upon what he heard from his military chiefs on June 18th, especially from Marshall, he approved that planning go forward for the November 1st target date for the Kyushu invasion.²⁴

It will be recalled that following LeMay’s assessment that Japan was on the ropes, Arnold sent the XXI Bomber Commander hurrying to

Washington. LeMay briefed the Joint Chiefs on June 19th, the day after Truman met with them. LeMay described this meeting as “a fiasco,” the Joint Chiefs “not at all interested in what a young, two-star general had to say.”²⁵ LeMay noted that Marshall dozed throughout the briefing—“he had been worked down to a nub”—while King and Leahy appeared distracted.²⁶ The fact was that the day before Truman had approved that planning go ahead for the invasion. LeMay appeared after a *fait accompli*. The Joint Chiefs, in effect, told LeMay to go back to the Pacific and take care of his operational business while they handled strategy and policy in Washington. For all intents and purposes, the Chiefs blew off LeMay.

Arnold, now back in Washington, drove ahead with plans to ramp up the incendiary and transportation campaigns and with preparations for the Potsdam conference in July with Truman, Churchill, and Stalin. He received a report of the Joint Target Group estimating that the Japanese ability to continue the war could be shattered by dropping 1,620,000 tons of bombs on the Japanese homeland. It was thought that this onslaught would effectively paralyze industry and transportation and seriously impact the production and distribution of food. This campaign could possibly “cause the capitulation of the enemy and in any event will assure the success of the land campaign in Japan and reduce the loss in American lives to a minimum.” The Joint Target Group stated that “whether a formal capitulation is ever obtained by these means still remains within the choice of the Japanese government.”²⁷

LeMay’s briefing on Guam, the preliminary USSBS findings, and the Target Group’s report formed a confluence in Arnold’s mind that pointed to what he considered a mandate for organizational change. A U.S. Army Strategic Air Forces (USASTAF) should be established in the Pacific, signaling an end to “all dillydallying.” Arnold wanted a strategic bombing force in the Pacific unhampered in its administration and logistics; a force that could maintain a “free hand” while intensifying a massive bombing campaign against Japanese industry and transportation.²⁸ Basically, for some time Arnold (and LeMay) had been frustrated by tensions with the Navy over logistics. Nonetheless, he and Admiral King thought that blockade and bombing could force a Japanese surrender. The only dissent to formation of the USASTAF came from MacArthur, who recommended that all land-based aircraft be controlled by a single commander, namely himself. Admiral King, however, supported the move—as did Marshall—and as a result on July 16, 1945, the Joint Chiefs approved establishment of the USASTAF in the Pacific.

The Strategic Air Forces in the Pacific included not only the Twentieth Air Force but also units of the Eighth Air Force, coming over from Europe. Consonant with his thinking all along for the new organization, Arnold in July directed that General Carl “Tooley” Spaatz assume command of

LEMAY DESCRIBED THIS MEETING AS “A FIASCO,” THE JOINT CHIEFS “NOT AT ALL INTERESTED IN WHAT A YOUNG, TWO-STAR GENERAL HAD TO SAY”



These B-29s were essential to carry the war to the Japanese homeland.

IN MAC-ARTHUR'S OPINION, THE BOMBING REMAINED COMPLEMENTARY TO THE LAND CAMPAIGNS. AN INVASION OF JAPAN WOULD BE ABSOLUTELY NECESSARY

USASTAF—with headquarters on Guam—and he appointed Lt. Gen. Barney Giles as Spaatz's deputy. LeMay was assigned to serve as Spaatz's chief of staff. Arnold put Lt. Gen. Nathan Twining in command of the Twentieth in the Marianas and Lt. Gen. Jimmy Doolittle to head the Eighth Air Force in Okinawa. Arnold would continue to act as executive agent of the Joint Chiefs.

Behind Arnold's thinking on this reorganization lay his conviction that he needed a pre-eminent commander for USASTAF who would be "more nearly on parity" with MacArthur and Nimitz—namely Tooy Spaatz.²⁹ That Arnold had hit the nail on the head here was confirmed by MacArthur himself who protested that the arrival of Spaatz in the Pacific would "muddy the waters." MacArthur was concerned with protecting his own four-star airman, General George Kenney, as well as having now to contend with a USASTAF four-star commander in Spaatz. As Strategic Air Force Commander, Spaatz was "charged with the primary responsibility for the conduct of land-based strategic air operations against Japan with the object of accomplishing the progressive destruction and dislocation of Japan's military, industrial and economic systems to a point where her capacity for armed resistance is fatally weakened."³⁰ The USASTAF commander would also support the planning and preparation for the invasion. Concurrently, Nimitz and MacArthur would support Spaatz's logistic requirements, "subject to the over-all availability of resources."³¹

Arnold and MacArthur knew each other, having crossed paths over long careers. Arnold remained cautious in dealing with the mercurial Southwest Pacific commander. He was appreciative of MacArthur's support of General Kenney, whose air forces made a significant contribution to MacArthur's land campaigns. On the other hand, in the contentious fight for theater resources, MacArthur and Kenney were indebted to Arnold, on whom they relied to build up the Far East Air Forces. Both commanders suspected that the Navy

was building up facilities in the Pacific for the post-war era, MacArthur emphasizing that the Navy would never relinquish control over anything.

Arnold from time to time would inform MacArthur of his plans and progress in the B-29 campaign. He thought however, that MacArthur never really understood the strategic bombing campaign against Japan. In MacArthur's opinion, the bombing remained complementary to the land campaigns. An invasion of Japan would be absolutely necessary.

By July 1945, the factors affecting planning and preparations for the invasion of southern Kyushu had dramatically changed. The deciphering of Japanese military codes (ULTRA) and decryption of their Foreign Ministry communications (MAGIC) showed that allied intelligence had vastly underestimated Japanese strength on Kyushu. At the June 18th meeting with Truman, Marshall estimated enemy strength on Kyushu at eight divisions totaling about 350,000 troops. By the time of the tripartite meeting in July at Potsdam, intercepted communications indicated that the number of Japanese divisions in southern Kyushu had doubled over the number initially estimated, the force now numbering over 650,000.

These new estimates resulted in an August 4th Joint War Plans Committee memorandum to the Joint Planning staff that recommended: "Possible effects on OLYMPIC operations of this buildup and concentration" of Japanese troops should result in commanders reviewing "their estimates of the situation, reexamining objectives in Japan as possible alternates to OLYMPIC and prepare plans for operations against such alternate objectives."³² Thus, the Joint Chiefs were reexamining the OLYMPIC plan and looking for alternatives. As noted, Arnold, King and Leahy had in their own minds held back from OLYMPIC, greatly concerned over potential American casualties in the Kyushu invasion. The move towards alternative targets was supported by Marshall who continued to advocate an invasion.³³

In reinforcing their defensive positions on Kyushu, the Japanese counted on their *Ketsu-Go* strategy to defeat the invasion. This called for a massive counter-attack—including large numbers of *Kamikazes*—against the invasion forces on the beaches. In a postwar interrogation of Maj. Gen. Masakazu Amano of Imperial Headquarters, he emphasized:

*We were absolutely sure of victory, It was the first and the only battle in which the main strength of the air, land and sea forces were to be joined. The geographical advantages of the homeland were to be utilized to the highest degree, the enemy was to be crushed, and we were confident the battle would prove to be the turning point in political maneuvering.*³⁴

The Japanese depended on inflicting prohibitive casualties on the invasion beaches to reach a negotiated settlement short of unconditional surrender.



The Boeing B-29 Superfortress Enola Gay dropped the atomic bomb on Hiroshima, Japan.

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Here then, was the crystallization of the dilemma facing the U.S. military leadership. The Joint War Plans Committee in early August seemed to favor postponing the Kyushu invasion while intensifying the bombing campaign from Okinawa. Time was now the crucial factor and Arnold, above all, realized that the USASTAF faced a race against the invasion clock.

Meanwhile, the Japanese buildup on Kyushu was much on the minds of the U.S. military and civilian leadership at Potsdam. However, an even larger issue surfaced at Potsdam when Secretary of War Henry Stimson informed Truman on July 16th that an atomic bomb had been successfully demonstrated in the New Mexico desert. This resulted in a series of meetings between Truman, Stimson, Marshall, and Arnold relating to the potential timing and targeting of the new weapon.

Arnold had been informed of the Manhattan Project in the summer of 1943 by Maj. Gen. Leslie Groves, who briefed him on the development of the atomic bomb. In the spring of 1944, Arnold and Groves agreed that the AAF would accomplish three major tasks: Providing modified B-29s to carry the bomb; organizing and training the tactical unit to accomplish the mission; and then, to deliver the bomb on target. The goal was to modify a total of fifteen B-29s to deliver the bomb. By July, the 509th Composite Wing, Col. Paul W. Tibbetts, Jr., commanding, was in place on Tinian island in the Marianas.

At Potsdam, the U.S. and British Combined Chiefs of Staff (CCS) described Japan's military situation as basically hopeless. The Japanese were unable to defend against allied air and sea offensives. The B-29 incendiary bombing had shattered the enemy's morale, economy, and war production. The planned campaign against transportation could potentially result in a total collapse. Politically, however, the Japanese refused to acknowledge defeat. Interestingly, Truman in his memoir, stated that at Potsdam the military had agreed with the use of the atomic bomb against Japan. However, Arnold had made clear at Potsdam that in his view—although not opposed to employing the bomb—its use was not necessary to defeat Japan.³⁵ Margaret Truman, in her book on

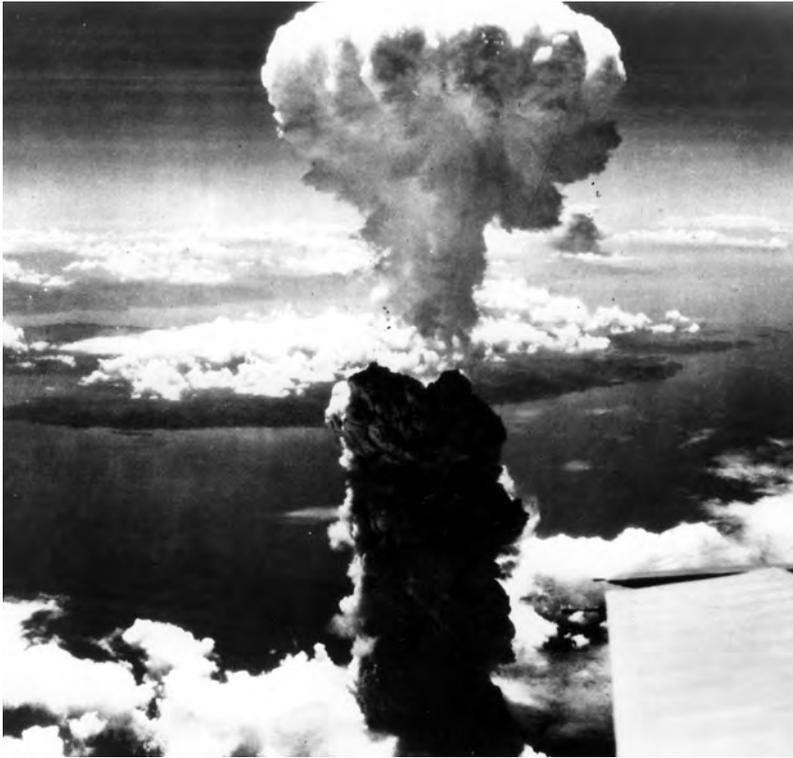
her father, wrote that Arnold, alone of the Joint Chiefs, voiced his opinion that the conventional B-29 campaign could force Japan to surrender.³⁶ The official U.S. Army history noted that Arnold at Potsdam read a statement into the record “representing the most optimistic point of view” as to when the Japanese might capitulate (October 1945). In Arnold's view:

*In the employment of forces in the Ryukyus supplementing the present forces in the Marianas, we expect to achieve the disruption of the Japanese military, industrial and economic systems....We estimate that this can be done with our forces available in the month prior to the invasion of Japan. Japan, in fact, will become a nation without cities, with her transportation disrupted and will have tremendous difficulty in holding her people together for continued resistance to our terms of unconditional surrender.*³⁷

Here Arnold officially put on the record at Potsdam that Japan could be driven out of the war with conventional B-29 bombing by October, before an invasion.

Although Secretary of War Stimson favored that the Japanese be informed that the Emperor would be allowed to stay on (proposed by Ambassador Joseph Grew), the Potsdam Proclamation of July 26th did not mention keeping the institution of the Emperor. This declaration, signed by the governments of the United States, the United Kingdom, and China, stated that “the full application of our military power, backed by our resolve, will mean the inevitable and complete destruction of the Japanese armed forces and just as inevitably the utter destruction of the Japanese homeland.”³⁸ The declaration called on Japan “to proclaim now the unconditional surrender of all Japanese armed forces, and to provide proper and adequate assurances of their good faith in such action. The alternative for Japan is prompt and utter destruction.”³⁹ No mention of the atomic bomb was made in the declaration. In late July, Japanese Prime Minister Suzuki replied to the Potsdam declaration with a “mokusatsu” reaction—treating it “with silent contempt.” Emperor Hirohito remained silent.

After the report of the successful atomic explosion in New Mexico was forwarded to Potsdam, Arnold met with Marshall and Stimson. “This did not come as a complete surprise to me,” Arnold noted, “but I had thought that the test was a week or two away. From the information we received, the scientists were very well pleased with the results....The results of that test proved conclusively that we had in our possession the means to wipe out completely large areas of an enemy country.”⁴⁰ Arnold discussed timing and targets with Marshall and Stimson, recommending that Spaatz be given flexibility in carrying out the atomic mission. Stimson and Marshall agreed and Arnold then informed Spaatz to be ready to employ the bomb. On July 25th, General Thomas T. Handy, acting Army Chief of Staff in Washington, signed the fol-



The plume rises from the exploding atom bomb dropped over Nagasaki, August 9, 1945, the second and concluding atomic attack unleashed during World War II.

THE ENORMOUS DESTRUCTION AND CASUALTIES RESULTING FROM THE ATOMIC ATTACKS FORCED EMPEROR HIROHITO TO MAKE AN UNPRECEDENTED INTERCESSION

lowing War Department order to General Spaatz: *The 509 Composite Group, 20th Air Force, will deliver its first special bomb as soon as weather will permit visual bombing after about 3 August 1945 on one of the targets: Hiroshima, Kokura, Niigata, and Nagasaki.... Additional bombs will be delivered on the above targets as soon as made ready by the project staff. Further instructions will be issued concerning targets other than those listed above.... The foregoing directive is issued to you by direction and with the approval of the Secretary of War and the Chief of Staff, USA. It is desired that you personally deliver one copy of this directive to General MacArthur and one copy to Admiral Nimitz for their information.*⁴¹

This directive was forwarded to Potsdam where it was approved by Stimson, Marshall, and President Truman. Retrospectively, Truman wrote: "With this order the wheels are set in motion for the first use of an atomic weapon against a military target. I had made the decision. I also instructed Stimson that the order would stand unless I notified him that the Japanese reply to our ultimatum was acceptable."⁴²

The dropping of an atomic bomb on Hiroshima on August 6, 1945, was followed on August 8th by the Soviet Union's declaration of war on Japan. A second atomic bomb was dropped on August 9th, on Nagasaki. The enormous destruction and casualties resulting from the atomic attacks forced Emperor Hirohito to make an unprecedented intercession with the Japanese cabinet and the Supreme Council, emphasizing that he supported accepting the Potsdam Declaration if the imperial institution could be retained. Hirohito's rescript made mention of "a cruel new weapon" that could

destroy the Japanese nation. However, the U.S. and the allies insisted upon unconditional surrender, whereupon Hirohito again appealed to the cabinet and Supreme Council. Both bodies agreed and on August 15, 1945, Hirohito's broadcast informed the Japanese people that the war had ended.

Also ending was General Hap Arnold's race against the invasion clock which had started months prior to August 1945. He had long made the case to the JCS, and subsequently at Potsdam, that an intensive bombing offensive, along with a naval and air blockade, could force "a capitulation of the enemy without an invasion."⁴³ To Arnold, the atomic attacks had delivered a psychological shock to the Japanese, giving the Emperor and the nation "a way out." However, he viewed the surrender—which in its timing came as somewhat of a "surprise" to him—as the culmination of the Twentieth Air Force's conventional incendiary campaign of the spring and summer of 1945. According to Arnold, the surrender of Japan, "was not entirely the result of the two atomic bombs.... Our B-29s had destroyed most of the Japanese industries.... and had made it impossible to carry on a large-scale war."⁴⁴ Because of the results of incendiary attacks, Arnold stressed, "it always appeared to us that atomic bomb or no atomic bomb, the Japanese were already on the verge of collapse."⁴⁵ Postwar interrogation of Japanese leaders, such as Konoye, brought out that Japan could not have hung on much longer, even without the employment of the atomic bomb.

After the war, Arnold was concerned that the dropping of atomic bombs would detract from what he viewed as the major contribution to victory of the B-29 conventional campaign. In Arnold's view Japan would have certainly surrendered by the end of 1945, even without employing the atomic bomb. Japan surrendered, he stated, "because air attacks, both actual and potential, had made possible the destruction of their capability and will for further resistance."⁴⁶ The dropping of the atomic bombs enabled the Emperor "to save face." The surrender came without an invasion of the homeland; "the first time," Arnold noted, "a nation has capitulated with its major armies designed for defense of the homeland still intact."⁴⁷ Yet, he also realized that the triumph over Japan was a joint effort: "We cannot over-emphasize the immeasurable contributions of our sister forces which preceded the sustained attacks by land-based bombers. The land battles up from Australia, Burma and China—the ability of the Navy to bridge unprecedented distances and join with its fast carrier and fleet strength in bombarding Japanese occupied islands, permitted air power to wield the maximum strength."⁴⁸

In the never-ending historical controversy over the use of atomic weapons, it is well to remember that had the incendiary raids continued along with attacks on the Japanese transportation network—causing widespread starvation—enormous numbers of civilians would have been killed in August–November 1945. Also, had the war gone on into late 1945, doubtless hundreds of thousands of noncom-



Engine change for a B-29 Superfortress. The B-29s were based in the Marianas and supported by the fighters on Iwo Jima.

ARNOLD ENVISIONED SUPERSONIC FLIGHT, UNMANNED VEHICLES, AND ROBOTS

batant Asians under Japanese control would have perished. Large numbers of allied prisoners of war would have been lost. As Richard B. Frank has pointed out in his brilliant study of the end of the Pacific war, in August 1945, the JCS were involved in a major reconsideration of invasion strategy. The air attack on the Japanese railroad network was a major part of this re-evaluation which potentially pointed to a postponement of the invasion and the possibility that Japan might capitulate without an invasion.⁴⁹

Some historians have raised the question as to why Arnold and his commanders in the Pacific had *carte blanche* in their strategic bombing operations against Japan. The answer remains quite simple. Continuity existed between Presidents Roosevelt and Truman on strategic bombing policy. Long before the Japanese attack on Pearl Harbor, Roosevelt had ordered a massive buildup of Arnold's air forces; during the war, he remained a strong advocate of striking Japanese cities with land-based bombers. Both Roosevelt and Truman informed Marshall that everything should be done to end the war as quickly as possible with the least loss of American lives.

Given that physically and emotionally, Arnold drove himself unmercifully during the war, building up the great Army Air Forces, his postwar thinking is quite remarkable. His vision for the future did not include air forces like those that fought in World War II. Air power, he emphasized, could well become "obsolete." Based on Theodore

Von Kármán's *Toward New Horizons*, Arnold envisioned supersonic flight, unmanned vehicles, and robots. Eaker also, saw the future as dominated by "pilotless craft, probably of the nature of a long range guided missile."⁵⁰

Although acknowledging his technological foresight, some historians considered that Arnold lacked intellectual power. Yet, among the great war leaders, Arnold stood out with his call for brain-power to make certain that total war be eliminated. No pie-in-the-sky dreamer, he was a strong advocate of the United Nations organization. This organization needed to be strengthened, he stated, by the inclusion of international air contingents for world police duty. Sometimes portrayed by historians and observers as a parochial, narrow-minded airman, Arnold was in fact a futurist who stressed that America in the postwar era required "the highest type of intellectual leadership....to contribute to the organization of a world in which law, and not force, will rule."⁵¹

Looking back upon the enormously destructive power wielded by the Twentieth Air Force against Japan, Arnold made clear that this power could "obliterate the great centers of mankind." Consequently, "the existence of civilization as we know it is subject to the good will and the good sense of the men who control the employment of air power. The greatest need facing the world today is for international control of these forces of destruction."⁵² With atomic bombs, the Twentieth Air Force could now in one day eliminate more of Japan's

industrial facilities than was done in months by the B-29 campaign. International controls will be required to prevent the use of atomic weapons.⁵³ Yet, the demonstrated power of the atomic bomb,

Arnold emphasized, would surely act as a deterrent. Thus, he forecast a long period which would be distinguished by an absence of large conflicts—an era of what became known as the Cold War. ■

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Air Force Co Desert One



**Combat Controllers at
e: April 24-25, 1980**

Forrest L. Marion

In 1979, Iran was in the midst of an Islamic revolution. After thirty-seven years of rule that many Iranians characterized as secular, immoral, and repressive, a growing instability at the start of the year led the Shah, Mohammed Reza Pahlavi, to flee to Egypt. Soon after, two million cheering Iranians welcomed a radical cleric, the Ayatollah Khomeini, as he returned from exile to become the country's new ruler. Following President Jimmy Carter's decision to allow the Shah to enter the U.S. for medical treatment, on November 4, 1979, Iranian radicals stormed the American Embassy in Tehran, taking some sixty Americans hostage. The resulting crisis would serve as the backdrop for a dramatic rescue attempt resulting in tragedy at a desolate Iranian desert site and would end Carter's chances for a second term. Much ink has been spilled over the mission but, to my knowledge, nothing has been written on the role of the U.S. Air Force Combat Control Team (CCT) at Desert One.¹

Within days of the embassy's seizure, an ad hoc joint task force began forming at the Pentagon in the Special Operations Division under the Joint Chiefs of Staff. An Army officer, Maj. Gen. James Vaught, commanded the task force; his deputy, Air Force Col. James Kyle, possessed a wealth of experience in special operations C-130s. Among various plans considered was for an elite counterterrorist force, under Col. Charlie Beckwith, to enter the embassy and rescue the hostages. Navy RH-53D minesweeping helicopters were brought into the plan to provide airlift for both the counterterrorist ground force and the hostages. An Air Force CCT, led by Maj. John Carney, would provide air traffic control and remote Landing Zone navigational systems and lighting, and they would marshal the aircraft on the desert strip.²

The term "compartmentation," or the denying of information to those without a specific need-to-know, including participants in an operation, has been acknowledged in reference to the hostage rescue mission. Combat Controller Rex Wollmann's experience confirmed that aspect of the operation. In the winter of 1979-1980, Wollmann was a young staff sergeant assigned to the 1st Special Operations Wing's CCT at Hurlburt Field, Florida, when he received a call from Major Carney—whom he had never met—to bring a wet cell battery for a TACAN needed for an exercise at Yuma, Arizona. Wollmann recalled:

It was basically, hey, you're coming here. Bring this battery to help support us. I actually brought the wrong battery because I didn't understand him, but it worked out anyway... And that's when I started seeing everything kind of tying in together. Even

though I wasn't briefed on what was going on...I think at that time I realized that this was for a bigger purpose than just training aircrew.

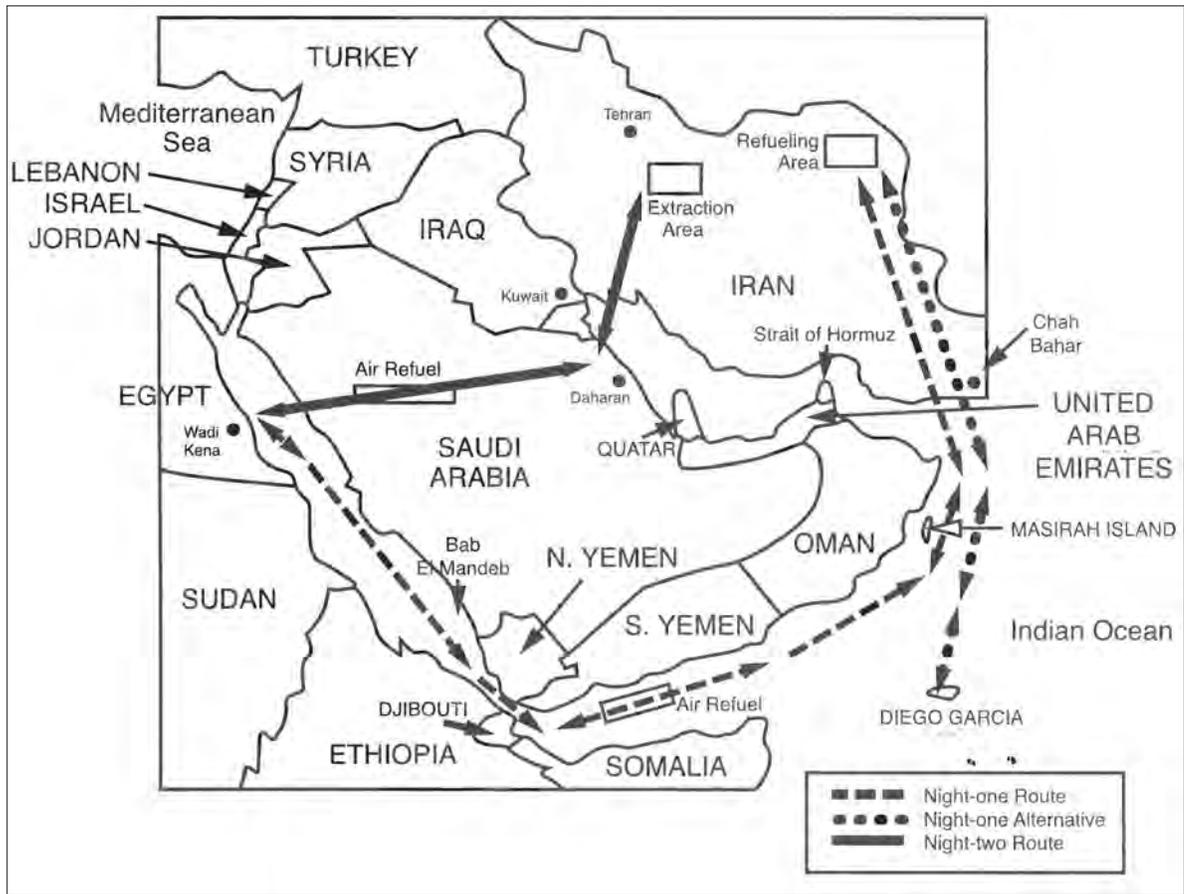
Wollmann became a frequent participant in the exercises. Finally, while on the bus after one scenario he cornered Colonel Kyle, the JTF Deputy Commander and the Air Force component commander, and said, "I know what's going on...and if this thing's going to go, I want in!" Even then, Kyle remained noncommittal, and it was some time before Wollmann was designated a participant in the operation.³

A key factor concerning the lengthy five-and-a-half month period between the seizure of the embassy and the mounting of the rescue operation was that the JTF had to be ready to conduct the mission as best it could, if the Iranians were to start executing the hostages. That tended to give the JTF a short-term perspective on training. Furthermore, on several occasions diplomatic initiatives appeared close to bringing the hostages home. Each time, the JTF lowered its expectations that a rescue mission would actually be approved. Particularly that was the case when the task force was directed to stand-down over Christmas, taking two weeks off as during normal peacetime training. Combat Controller John Koren quoted another task force member who expressed insightfully, "We didn't have five months to get ready one time. We had one month to get ready five times."⁴

Between November 1979 and early April 1980, the JTF considered several rescue options. The final, approved plan was highly complicated and required some forty hours over two nights from start to finish. On Night One, six C-130s—three MC-130 Talons and three EC-130E's carrying fuel bladders—would fly from Masirah Island, Oman, into Iran and land at a semi-prepared site well southeast of Tehran. Eight Navy RH-53s piloted mostly by Marine aviators, would launch from the deck of the USS *Nimitz* and land at Desert One, as the site was known. There the helicopters would be refueled after which the C-130s would return to Masirah. The helos would then airlift Colonel Beckwith's ground force to a "hide site" about fifty miles from Tehran. There, American agents would meet the troopers and lead them on foot to a remote hilly area where they would hunker down for the day. Meanwhile, the helos would fly another fifty miles to a remote hideout where they would be camouflaged during the upcoming daylight hours. The JTF would monitor communications throughout the day to determine whether or not the rescue force had been detected. If all looked good, on Night Two, MC-130s and AC-130s would launch from Wadi Kena, Egypt, to secure the Iranian airfield at

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THE AGENTS WOULD LOAD BECKWITH'S MEN INTO SEVERAL VEHICLES AND DRIVE THEM INTO TEHRAN FOR THE EMBASSY ASSAULT

Manzariyeh south of the U.S. Embassy and to provide close air support in the Tehran vicinity. Next, two C-141s would fly into Manzariyeh to await the arrival of the rescuers and the hostages. The Starlifters were to evacuate all rescuers and hostages and provide medical care as needed. Meanwhile, the agents would load Beckwith's men into several vehicles and drive them into Tehran for the embassy assault. Once the attack had begun at Beckwith's signal, an AC-130 would appear overhead and the RH-53s would fly to the soccer stadium to receive the rescued hostages, bringing them to Manzariyeh. There, the H-53s would be abandoned and the hostages, ground force, and helo crews evacuated out of Iran on the C-141s.⁵

Six enlisted Combat Controllers plus Carney—known as “Coach”—would go into Iran. Marshaling duties on the North LZ, where three of the six C-130s and six of the eight RH-53s were expected to land, were the responsibility of Mike Lampe, John Koren, and Bud Gonzalez. On the South LZ, Dick West and Rex Wollmann would emplace the TACAN next to the dirt road and also marshal the other three C-130s and the remaining two helicopters. John Carney and Mitch Bryan would establish the control point collocated with the TACAN and handle the air traffic control duties from there. Colonel Kyle would position himself there as well. Two other Combat Controllers, Bill Sink and Doug Cohee, were to remain at Masirah in support of the JTF—and they were not at all happy about that!⁶

Even when Carney's team arrived at Wadi Kena on April 20, 1980, operational details remained to be finalized. Prior to a covert reconnaissance mission early in the month in which Carney was flown into Desert One, all planning had been based on a single landing zone. On the reconnaissance mission flown in a CIA-piloted Twin Otter, Carney was given an hour on the ground to take soil samples and emplace CIA-developed, remotely activated lights in the traditional “box-and-one” pattern that would guide the first Talon to a safe landing. If caught by the Iranians, his cover story was that he was a geologist and had gotten lost. Returning safely with Iranian soil samples and without having to resort to any fabrication, Carney was certain that a dual runway operation was feasible, but there was no opportunity to practice this in the final rehearsal on April 11. The road next to where he had buried the LED lights would separate the two LZs, one to the north and one to the south. John Koren summarized the CCT's role at Desert One: “The biggest thing...was laying out runways, parking the aircraft [for refueling], and getting the TACAN up and running—which was a fairly heavy piece of equipment and emitted a lot of power.” To assist in moving up and down the LZs, the team had acquired two Kawasaki motorcycles, and they spent part of their time at Wadi Kena practicing with the bikes. According to Colonel Kyle, John Carney was pretty good at keeping his Kawasaki upright even at high speeds across the desert!⁷

MC-130E Combat Talon one, tail number #0572 deployed to Wadi Kena, Egypt and staged for night two of the Eagle Claw operation. Since Desert One this aircraft as shown has undergone numerous upgrades to include the paint scheme and ECM equipment.

EN ROUTE, BRENCI'S CREW ENCOUNTERED FIRST ONE, THEN ANOTHER LARGE AREA OF SUSPENDED DUST ASSOCIATED WITH DISTANT THUNDERSTORMS, KNOWN AS A "HABOOB"



Finally, the mission was a “go.” Departing from Masirah Island at dusk on April 24, the Coach’s seven-man CCT flew into Desert One on the lead Talon piloted by Bob Brenci. Two other Talons and three EC-130s followed, along with the eight RH-53 helicopters. En route, Brenci’s crew encountered first one, then another large area of suspended dust associated with distant thunderstorms. Known as a “haboob,” the condition had not been forecast and would prove extremely difficult for the helicopters to fly through. Four hours after takeoff, as Brenci’s MC-130 neared Desert One, they had passed the haboobs. In fact, the night air was crystal clear and the weather perfect at the landing site. Undoubtedly, one of the tensest moments for the CCT was when Mitch Bryan activated the LED lights that John Carney had planted in the ground some three weeks earlier. Kyle described those moments:

We were now five miles from the desert landing zone...and Mitch flipped the switches that would activate the lights. Would they work? They'd been out there at the mercy of the elements for almost a month. All eyes were straining to catch a glimpse of them....'There they are! Off to the right!' It was Carney. A cheer went up and John was on the receiving end of some good-natured back-slapping and kidding about his 'Flash Gordon' device.⁸

Within minutes of Brenci’s landing on the South LZ, two unsettling interruptions took place. First, an Iranian tour bus happened to drive down the dirt road in the middle of the site. Such a possibility had been anticipated, but occurring as it did just at the start of ground operations must have tightened a few stomach muscles. Ground force

members quickly stopped the bus and secured its terrified driver and forty-plus passengers. Rex Wollmann recalled he and Dick West were so intent on carrying the TACAN off the Talon’s ramp that they didn’t even see the bus until they were almost the only ones left standing there. “When we saw the bus,” Wollmann said, “it was...oh, we shouldn’t be doing this just yet.” Only a few minutes later, a fuel truck followed by a small pickup came down the same road. Ground force members fired a warning shot that went unheeded. They then took out the truck with a light antitank weapon. The truck burst into flames—ruining the night vision of everyone in the area—but the driver managed to jump out and escape in the second vehicle. Colonel Kyle asked Charlie Beckwith what to make of the situation. Beckwith quipped, “Let’s don’t get excited until we get eight or ten vehicles in here and have to establish a parking lot.” Shrewdly, he surmised that the fuel truck was part of a smuggling operation and that the driver would not be reporting anything to Iranian authorities. In any case, the driver had neither seen the Talon nor heard American voices. In the meantime, the CCT had set up the North LZ using basically a “compass and pacing” technique, turned on the lights, and was ready for the rest of the force to arrive. The mission continued.⁹

Assisting in the landing and parking of the aircraft under Desert One’s conditions was no easy task. John Koren commented, “Once somebody landed we had to marshal them into their parking position because this was not a definable area....We only had the box-and-one, [and] coupled with the obscurity with the dust and the sand, we had to...hand marshal...with our night vision marshaling wands.” The controllers aimed for only twenty

C-130E tail number #1857, from Keesler AFB, Miss. was one of three ABCCC Airborne Command Post aircraft equipped with fuel bladders which landed at Desert One to refuel the helicopters.



TWO OF THE ORIGINAL EIGHT HELOS WOULD NOT MAKE IT TO DESERT ONE. ONE WAS ABANDONED IN THE DESERT WITH A BLADE WARNING LIGHT AND ANOTHER TURNED BACK TO THE USS NIMITZ WITH MULTIPLE INSTRUMENT AND NAVIGATIONAL SYSTEM FAILURES

feet of separation between C-130 wingtips and the rotor sweep of the H-53s, largely because of the limited length of the EC-130s' fuel bladder hoses needed to refuel the helos. "And that's very close, at nighttime under [night vision goggles, or NVGs] in a dust environment in a combat zone," Koren added.¹⁰

Although Brenci's lead Talon had perhaps the most challenging landing, the nearest occurrence to a mishap *upon landing* may have involved Hal Lewis' EC-130. After Brenci's arrival on the South LZ, Marty Jubelt's Talon was the next to set down, landing on the North LZ. Three minutes later, Steve Fleming landed his MC-130 on the southern strip. Hal Lewis was next on the North side, piloting the first of the three refuelers. Working on the northern strip, Mike Lampe described the scene: "We're moving like molasses in January in the sand, with our rucksacks and our weapons...we've got a [motorcycle] that's pretty much useless to us in the soft sand, so...we're doing everything on foot." The sand slowed not only the CCT, it also slowed the ground force members as they off-loaded equipment from Jubelt's Talon. Lampe continued, "I kept looking at my watch, and I knew the landing sequence, I had that memorized...So, I'm...realizing the next aircraft is supposed to land in this LZ and is probably just turning final." Failing in his attempts to contact Mitch Bryan who was handling air traffic control duties, Lampe finally decided to move Jubelt on his own. "I could see the guys...were still off-loading and so I finally made a decision and...got the aircraft's attention." Turning around with his marshaling wands, Lampe moved as quickly as he could to get Jubelt's aircraft away from the landing zone. As Jubelt's Talon turned out of the way, the next aircraft,

Lewis', came right past him. The future chief and legend in the CCT community summed up the close-call: "I just made an independent decision to move that aircraft at that time based on knowing what the time sequence of the next landing was, and I'm glad I did."¹¹

The last two EC-130s were piloted by Russ Tharp and Jerry Uttaro. Tharp's landing meant there were five C-130s on the ground. It was time to launch Brenci and Jubelt on their return flights to Masirah to make room for Uttaro and the inbound helos. As soon as the dust had settled from Tharp's touchdown, the Combat Control Team marshaled Brenci into position and launched him from the South LZ, followed by Jubelt on the North LZ. Uttaro's landing a few minutes later placed two EC-130s on the northern strip with one EC-130 and the remaining Talon on the south.¹²

Following the arrival of the -130s, Lampe, Koren, and Gonzalez established the standard "Y-lighting pattern" in preparation for the arrival of the helos. Two of the original eight helos would not make it to Desert One. One was abandoned in the desert with a blade warning light and another turned back to the USS *Nimitz* with multiple instrument and navigational system failures. That left six helicopters, the absolute minimum required to complete the mission. Arriving late, at different times and from different directions, the six remaining RH-53s had been separated under the harrowing conditions created by the unexpected haboobs. When the first helicopter finally came in, its rotor downwash kicked up sand and debris that knocked out one of Lampe's NVG lenses and one of Gonzalez's as well. The two had to work slowly and carefully, kind of hand in hand, to park the H-53. When all six had landed, four were positioned to

Members of the CCT (left to right) Mitch Bryan, John Koren, Mike Lampe, Bud Gonzalez, Dick West, John Carney (on the bike), Bill Sink (in sunglasses), Rex Wollmann, Doug Cohee.



LEWIS' EC-130 HAD BECOME SO LOW ON FUEL THAT HE NEEDED TO BE LAUNCHED IMMEDIATELY...BUT HELO-3 AND HELO-4 WERE PARKED BEHIND HIM AND LEWIS COULDN'T MOVE UNTIL THEY WERE OUT OF THE WAY

...THE PILOT DRIFTED SIDWAYS INTO THE LEFT SIDE OF THE EC-130, LEADING TO A TREMENDOUS EXPLOSION AND SEVERAL CASUALTIES

the north behind two of the EC-130s (Lewis, Uttaro), the remaining two to the south behind the third EC-130 (Tharp).¹³

The mission was still proceeding, although it was well behind schedule. Helo-2 had lost one of its hydraulics systems, thereby creating a serious flight control situation. When the aircraft was deemed unflyable, it reduced the helicopter force to five. Much earlier, it was assumed that *six* helos were required to complete the mission. The on-scene leadership quickly conferred and agreed they now faced an abort situation. They relayed their decision to the JTF Commander, Major General Vaught, and on to the White House. With a heavy heart, President Carter accepted the decision of his field commanders.¹⁴

Now the force faced a withdrawal from the Iranian desert, and at that point disaster struck. Hal Lewis' EC-130 had become so low on fuel that he needed to be launched immediately in order to make it back to Masirah. But Helo-3 and Helo-4 were parked behind him and Lewis couldn't move until they were out of the way. Directed to move but unable to ground taxi, Helo-3 picked up to a hover and encountered a brownout. Losing his orientation, the pilot drifted sideways into the left side of the EC-130, leading to a tremendous explosion and several casualties.¹⁵

Among environmental factors that challenged the CCT at Desert One: the darkness of a blacked-out NVG landing zone, temperatures around ninety degrees, and the bone-rattling noise of C-130 and H-53 engines that made communications extremely difficult. The ever-present dust seems to have been the worst. Rex Wollmann described it as powder-like, so fine that just walking through it created dust clouds. John Koren

added, "It was very hot. We didn't have much of a crosswind, we had a lot of suspended dust...it was not a nice place." Given the dust situation that C-130 propellers and H-53 rotors only made worse, visibility was extremely limited. Mike Lampe and Bud Gonzalez, for whom visibility was reduced even further after each lost one of his NVG lenses, probably had less than fifty feet of visibility—and with only one eye.¹⁶

Some published accounts on Operation Eagle Claw have suggested the CCT erred to some degree in two specific actions in the desert. In *Best Laid Plans: The Inside Story of America's War Against Terrorism*, the authors state that the pilot of the mishap helicopter, Major Schaefer, "lifted off and turned 10 degrees to the left, keeping his eyes fixed on the sergeant," that is, the CCT marshaler. Martin and Walcott continue, "But the sergeant backed away from the 100-mile-per-hour blast of Schaefer's rotors. What Schaefer thought was a stationary object was now moving." Thus, in *Best Laid Plans* readers would logically conclude that the marshaler was to some extent responsible for the mishap. The problem with this scenario is that as soon as the RH-53 lifted off, it was engulfed in the ever-present dust that plagued every movement of men and machines at the site that night. Even if the pilot had expected to be able to use his marshaler as a hover reference—which, recalling firsthand experience with H-53s from the 1980s, I would argue was a poor choice under any circumstances—he simply could not have kept "his eyes fixed on the sergeant" after lifting into a hover and thereby creating a dust storm with the powerful downwash of the H-53's rotors.¹⁷

The second action was the CCT's retrieval of the LED lights during the evacuation following the

Iranians view the wreckage at Desert One.



IF THE CCT WAS AT FAULT FOR NOT REALIZING THE HAZARD CREATED BY RETRIEVING THE RUNWAY LIGHTS, IT WAS A RESPONSIBILITY SHARED WITH OTHERS WHO DIRECTED THE RETRIEVAL

mishap. Those were the lights planted by John Carney three weeks prior to the operation on what became the South LZ. In an excellent and comprehensive work, *The Praetorian Starship: The Untold Story of the Combat Talon*, retired Air Force Col. Jerry L. Thigpen writes, "When the CCT removed the runway lights and replaced them with chem-lites, they did not realize that the pilots could not see the dimmer chem-lites that outlined the runway." As a result, when first Russ Tharp and then Steve Fleming started his takeoff run from the South LZ, each rammed his C-130 into a roughly three-foot-high sand berm marking the road, leading their passengers if not their crews to wonder if they would make it. Thigpen continues, "A catastrophe was avoided thanks to the durability of the tough C-130 aircraft and the superior flying skills of their crews." While Thigpen is correct, the reader is left with a wrong impression, one arguably unfair to the CCT. In *The Guts to Try*, retired Colonel Kyle writes that after locating John Carney in the aftermath of the explosion, he directed Carney, "Make sure you have all your runway lighting and navigation gear collected." Carney did so. Moreover, Bud Gonzalez recalled that prior to the mission the CIA had specifically requested that the LEDs be retrieved. It appears, therefore, that if the CCT was at fault for not realizing the hazard created by retrieving the runway lights, it was a responsibility shared with others who directed the retrieval.¹⁸

Perhaps ironically, the single CCT action that the Coach would have done differently has not been mentioned, to my knowledge, in any publication on the mission. In an interview, Colonel Carney stated, "The only thing I can think of is that nobody should have left that control point. And that's what I told combat controllers day-in and day-out after

that. You don't leave the control point. You stay there and that's where everything is controlled from. Every decision that goes on at that airfield is made from that control point....You never let that happen again." Carney was referring to the fact that he had allowed Mitch Bryan to leave the control point in an attempt to deal with a radio problem just prior to the decision to reposition Helo-3. Whether anything would have turned out differently, or course, is unknown.¹⁹

Several of the CCT experienced the helo/C-130 explosion from close quarters. Mike Lampe, who was positioned near Hal Lewis' tanker, described that as Helo-3 picked up in a hover behind Lewis, he turned his back to avoid the rotor downwash. The next thing Lampe remembered was the heat and "huge fireball from the explosion" that almost knocked him down. Lampe felt that the egress training the operators had practiced at places like Yuma, Arizona, and Indian Springs, Nevada, was to no small degree responsible for enabling them to get out of the burning C-130 as well as they did. Indeed, it was perhaps remarkable that under such conditions no operator or crewmember remained trapped inside the cargo compartment of Lewis' aircraft. Indeed, Lewis' radio operator, Joseph Beyers, was saved by two troopers who reentered the burning aircraft and pulled him out. Several others caught in the cargo section suffered burns but survived. But, tragically, five crewmembers trapped inside the EC-130's cabin perished, as did three of the crew of Helo-3.²⁰

Following the explosion, the seven combat controllers performed a critical role in working with the C-130 loadmasters to distribute and upload the passengers on the remaining three C-130s and accounting for all personnel. Colonel Kyle was



(Top) Michael I. Lampe, Combat Control Team member who rose to chief master sergeant and went on to become the first Command Chief of the U.S. Special Operations Command.

(Above) MC-130E Combat Talon One, tail number #0565 departs Masirah Island, Oman as the lead aircraft for the Eagle Claw mission to Desert One.

adamant that after all that had gone wrong that night, he was not going to leave someone behind. Minutes later, Jerry Uttaro's EC-130 was the last aircraft to depart Desert One. Appropriately, the last two men to board were John Carney and Jim Kyle. In *The Guts to Try*, Kyle writes, "The C-130 crews and combat controllers had not failed in any part of the operation and had a right to be proud of what they had accomplished... They had gotten the forces out of Iran to fight another day."²¹

Throughout the summer and fall of 1980, a much larger training exercise, known as Honey Badger, was practiced, should the need for a second rescue attempt arise. Fortunately, it was not

required. Finally, on January 20, 1981, during the inauguration of President Ronald Reagan, the Iranians released all the remaining American hostages.

Any discussion of the work of Coach Carney's CCT at Desert One would be incomplete without a few comments illustrating how Carney's men viewed him. One put it this way: "He's the only man I know that can walk into a room and everyone knew he was there, out of respect. I mean he's just charismatic, confident... Natural kind of leader, good sense of humor. Sometimes from what I've heard, better than a good sense of humor!" Another felt that the Coach was "a True Leader who "commanded respect from all who came in contact with him... because of how he conducted himself." He continued, "There are those of us who would follow him into the flames." The Coach's CCT members were not alone in their view. The late U.S. Army General Wayne Downing, a former Commander of the 2d Ranger Battalion and, later, U.S. Special Operations Command, commented, "John's a gregarious Irishman; he could charm the pants off a snake... a good fellow, he could think big, good leadership, good vision, and was able to enact it."²²

One of the seven Combat Controllers at Desert One, Dick West, is now deceased. Rex Wollmann, who worked side-by-side with West on that unforgettable night, said, "He was just like the rest of them, hard as woodpecker lips and very dedicated, motivated to do the job... Of all the personalities there, I think he was probably the easiest to get along with." Two other team members noted, "He was solid as a rock, strong like a bull, selfless, and a class act." A third added, "Dick should be recognized as a participant of Desert One whose selfless action that night, along with his other CCT mates, averted a much bigger catastrophe."²³

In the end, the events that unfolded in the Iranian desert on the night of April 24-25, 1980, left an indelible mark on the minds and hearts of all its participants. Sadly, the "miracle" that a dedicated team of Americans had somehow pulled off in February on the ice at the Winter Olympics in New York was not to be repeated in April in the desert of Iran. One CCT member recalled, "It was a national mission and we let the country down." Another said, "You had America's best out there, and it didn't work." And a third felt "a whole lot of disappointment" coupled with uncertainty over the fate of the hostages once the Iranians realized what had taken place.²⁴

But Operation Eagle Claw held a "silver-lining" and served as a catalyst in two important respects. First, the event signaled the undeniable need to begin rebuilding the nation's special operations capabilities. This work began in October 1980 with the establishment of the Joint Special Operations Command (JSOC). Second, the loss of eight special operators that night—five Airmen and three Marines—and a ninth warrior, who remained incapacitated, left seventeen children in need of assistance with their education. In response, several special operators spearheaded an

initiative that today is known as the Special Operations Warrior Foundation, an entity providing college funding for the children of fallen SOF warriors. Because of his leadership, John Carney was chosen the Foundation's president and chief executive officer. Today, nearly twenty-nine years after Desert One, there have been more than 700 children of these warriors—nearly half since

September 11, 2001²⁵—to which the Foundation is committed to providing college tuition assistance. One hundred nineteen have already graduated and another 109 were in college during the spring 2008 term. Surely, a more worthy cause would be hard to find, and that itself represents a lasting tribute to those who gave their lives at Desert One.²⁶ ■

NOTES

Note: The author gratefully acknowledges the assistance of the following individuals: Capt. Nicole Dubnicay, USAFR, who expertly transcribed the interviews cited herein; Mr. Sam Shearin, AFHRA, who typed the manuscript in unclassified form; Mr. Edward Robbeloth and Mr. Matthew Durham, Headquarters Air Force Special Operations Command (Hq AFSOC), who provided the security review of the original essay and cleared it for public release, respectively; and the 720th Special Tactics Group, and Hq AFSOC Public Affairs and Command History offices, and the Air Commando Association, each of whom made available their facilities for conducting various interviews and related activities.

1. Gary Sick, *All Fall Down: America's Tragic Encounter with Iran* (New York: Random House, Inc., 1985), pp. 76, 175; Paul B. Ryan, *The Iranian Rescue Mission: Why It Failed* (Annapolis, Md.: Naval Institute Press, 1985), pp. 6-12; William J. Daugherty, *In the Shadow of the Ayatollah: A CIA Hostage in Iran* (Annapolis, Md.: Naval Institute Press, 2001), p. 94; John T. Carney, Jr. and Benjamin F. Schemmer, *No Room For Error: The Covert Operations of America's Special Tactics Units from Iran to Afghanistan* (New York: Ballantine Books, 2002), Chapters 6 and 7; Charles G. Cogan, "Desert One and Its Disorders," *Journal of Military History* 67:1 (Jan. 2003), pp. 201-16.
2. James H. Kyle, *The Guts To Try: The Untold Story of the Iran Hostage Rescue Mission by the On-Scene Desert Commander* (Phoenix, Ariz.: Primer Publishers, 1995 [1990]), pp. 15-28.
3. Oral History Interview (OHI), CMSgt. Rex V. Wollmann USAF, (Ret.) with Forrest L. Marion, May 24, 2007, Mary Esther, Fla., Air Force Historical Research Agency (AFHRA hereafter); Kyle, *Guts to Try*, p. 196.
4. OHI, Maj. John A. Koren, USAF, (Ret.) with Forrest L. Marion, Oct. 5, 2006, Maxwell AFB, Ala., AFHRA; Kyle, *Guts to Try*, pp. 117-18.
5. Kyle, *Guts To Try*, pp. 178-85.
6. Various interviews; email, Carney to author; Carney, *No Room For Error*, CCT photograph and caption (page unnumbered).
7. Koren interview; OHI, Col. John T. Carney, Jr., USAF, (Ret.) with Forrest L. Marion, Nov. 7, 2006, Tampa, Fla., AFHRA; Kyle, *Guts To Try*, pp. 143-45, 167-68, 172-74, 186-90, 206, 209-11, 219.
8. Kyle, *Guts To Try*, pp. 235, 246-49, 251, 256-57, quote on p. 257.
9. Kyle, *Guts To Try*, pp. 259-64; Wollmann, Koren interviews; Charlie A. Beckwith and Donald Knox, *Delta Force* (San Diego: Harcourt Brace Jovanovich Publishers, 1983), pp. 269-70; OHI, CMSgt. Michael I. Lampe, USAF, (Ret.) with Forrest L. Marion, Nov. 3, 2006, Ft. Rucker, Ala., and Jun. 5, 2007, Maxwell AFB, Ala., AFHRA. While Beckwith (*Delta Force*, p. 269) states he fired at the bus's tires, Kyle (*Guts To Try*, p. 259) says the driver stopped in response to warning shots. Though differing, the two accounts do not necessarily contradict one another.
10. Koren interview. Kyle mentions the rehearsal on Dec. 18, 1979, in which the need for better marshaling proce-

dures was apparent (pp. 114-15).

11. Kyle, *Guts To Try*, pp. 273-74; Jerry L. Thigpen, *The Praetorian Starship: The Untold Story of the Combat Talon* (Maxwell AFB, Ala.: Air University Press, Dec. 2001), pp. 222-23; Lampe interview.
12. Kyle, *Guts To Try*, pp. 272-75; Thigpen, *Praetorian Starship*, p. 223.
13. Kyle, *Guts To Try*, pp. 249-50, 268-71, 278-82; Thigpen, *Praetorian Starship*, pp. 223-26; Lampe interview. Note that at the time of the mishap, there were two EC-130s on the North LZ (Lewis, Uttaro); one EC-130 (Tharp) and one MC-130 (Fleming) on the South LZ.
14. Kyle, *Guts To Try*, pp. 176, 287-91; Thigpen, *Praetorian Starship*, pp. 224-25.
15. Kyle, *Guts To Try*, pp. 294-99.
16. Wollmann, Koren, Lampe interviews; Beckwith, *Delta Force*, pp. 275-76. Wollmann estimated he carried 85 pounds of equipment, not counting the TACAN. Koren noted that CCT members wore aircraft-type headsets that were not noise-reducing and not very good. Kyle notes the temperature as being above 90 degrees (p. 289).
17. David C. Martin and John Walcott, *Best Laid Plans: The Inside Story of America's War Against Terrorism* (Cambridge: Harper and Row Publishers, 1988), p. 24; for a more recent work that borrows the mishap description of Martin and Walcott, see Susan L. Marquis, *Unconventional Warfare: Rebuilding U.S. Special Operations Forces* (Washington, D.C.: Brookings Institution Press, 1997), pp. 71-72; a different view is presented in Ryan, *Iranian Rescue Mission*, p. 87; Ryan quotes an eye-witness who stated, "The helo pilot could not see"; in an email, John Carney reported that Schaefer experienced "complete brownout." Referring to Schaefer's (Helo-3) planned movement, Kyle notes, "The controller was there as an observer, since this was basically a straight-ahead maneuver and once the dust was churned up he wouldn't be seen anyway" (p. 295).
18. Thigpen, *Praetorian Starship*, p. 228; Kyle, *Guts To Try*, pp. 301, 305; OHI, Maj. Manuel L. "Bud" Gonzalez, USAF, (Ret.) with Forrest L. Marion, Feb. 7, 2007, Hurlburt Field, Fla., and personal discussion at Hurlburt Field, Mar. 25, 2008, AFHRA.
19. Carney interview.
20. Lampe interview; Kyle, *Guts To Try*, pp. 294-99.
21. *Ibid.*, pp. 301-5, quote on pg. 7. One interesting fact is that on the way out of Iran, the CCT's motorcycles were thrown out to lighten the aircraft. John Carney's 'dogtags' were attached to one of the motorcycle's keys, and so were lost (Lampe interview).
22. Wollmann interview; email, Bryan to author; OHI, Gen. Wayne A. Downing (USA, Ret.) with Forrest L. Marion, Mar. 19, 2007, Peoria Heights, Ill., AFHRA.
23. Wollmann interview; emails, Koren, Lampe, Gonzalez to author.
24. Koren, Wollmann interviews.
25. E-mails, CMSgt. Wayne G. Norrad, USAF, (Ret.) to author, Aug. 2007; *Warrior Link* (Special Operations Warrior Foundation, May 2008), 2.
26. *Ibid.*

Landscape with Silos. By Deborah Bogen. Huntsville: Texas Review Press, 2006. Pp. 71. \$12.95. Paperback. ISBN: 1-881515-93-1

Deborah Bogen was born in Montana and raised both there and in neighboring North Dakota during the Cold War construction and initial deployment of Minuteman ICBMs. When she was 15, her family moved to Marin County, California, where Bogen soon was fully engaged in the burgeoning counterculture movement. Her interests in philosophy and the humanities did not, however, manifest themselves in poetic expression until the mid-1990s. Since then her work has been widely published, with this collection winning the 2005 X. J. Kennedy Poetry Prize (presented annually by the Texas Review Press in honor of former college English professor and free-lance writer “Joe” Kennedy).

Landscape with Silos contains forty-seven poems compiled into four themed subsets: “Learning the Language,” “The Poem Ventures Out,” “Visitations,” and “Within the Porcelain Theater.” Most intriguingly explore issues of life and death, family and friendship, health, memory, and community. Although time has tamed the hippie within, vestiges of Bogen’s anti-war outlook can still be found, including subtle inference in the collection’s namesake poem. While most would assume the “silos” to be the storehouses of wheat that feeds the world, the book’s front cover, with its imposing cutaway drawing of an underground Titan missile complex, immediately declares otherwise (that Titans were never deployed in the northern Great Plains warrants but passing mention). More telling is a poem that counterposes the safety of the local community center with the return of televised body counts and ceasefires in far-off lands. Yet, given the emphasis on other poetic themes, one wonders why the collection was not named *Learning Italian, Home Movies*, or for any of the other poems included in the volume.

Those who enjoy poetry will likely find Bogen’s eclectic collection thought-provoking, but there is little in it for typical readers of *Air Power History*. Cold War misseilers, including me, can appreciate Bogen’s memory of us as outsiders who didn’t belong, even if we did normal everyday things like order “root beer and blackbottom pie” (or sticky buns at the Byway Café in Stanford, Montana). The collection’s title and cover tease Cold Warriors, leading us into preconceived expectations of what should follow. That those expectations find expression in but a few lines of one poem is nothing against Bogen’s skill as a poet. They should, however, stimulate us to offer

our own collective memory of life in a landscape with silos because there was so much more to it than just the key turn leading to nuclear Armageddon.

Maj. William E. Fischer, Jr., USAF (Ret.), Westland High School, Galloway Ohio



The Road to Safwan: The 1st Squadron, 4th Cavalry in the 1991 Persian Gulf War. By Stephen A. Bourque and John W. Burdan, III. Denton: University of North Texas Press, 2007. Maps. Illustrations. Photographs. Notes. Appendices. Glossary. Bibliography. Index. Pp. 312. \$27.95 ISBN: 1-57441-232-1

As the bibliography suggests, much has been written about the Persian Gulf War—at various levels. Some works give the big picture, while others are personal accounts with a limited audience. This fills a niche in the middle. Cavalry Recon outfits operate more independently (in the spirit of Jeb Stuart) and over larger fronts and zones than similarly sized organizations of other combat arms. The area of responsibility has been expanded dramatically by organic and attached aircraft. The authors are specially qualified for this task. Burdan was Squadron S-3 (operations) and, therefore, intimately involved in the planning and execution of training and operations. Bourque served on the staff of the Big Red One and brings a different set of experiences and perspective. In addition to their own backgrounds, they have drawn on interviews, logs, journals, and after-action reports. In fast moving situations, many orders and transmissions are not recorded and journals only tell so much, but this is a very comprehensive story. In fact, it may be too detailed for some, but I found it an excellent primer for leading troops at this level. It covers the nuts and bolts, hands-on things that need to be done. The book is candid about mistakes, showing how the fog and friction of war make some inevitable.

Inasmuch as the days of ground combat were limited in Desert Storm, much of the work, rightly, covers functions before and after. The First Division was not part of Desert Shield, so its members had time to direct their training toward probable employment in that theater. The description of the movement there reminds one that some things don’t change. Just 48 years before, when I was a newly minted shavetail and Pioneer Platoon Leader, I too had to load all the wheeled and tracked vehicles of an entire battalion on rail flatcars, when I’d never even seen one close up.

Tie-downs, blocks, and shackles were new too. It was a testimony to the ingenuity of men and the varied talent found in an outfit of citizen soldiers that we got the job done.

After arrival in Saudi Arabia (and passing through Khobar Towers), the squadron was first given a typical cavalry mission of screening the main force but ended with the decisive objective of cutting and holding the Basra Road for 14 hours. After the ceasefire, they were innocent participants in the classic FUBAR surrounding the selection of Safwan as the site for peace negotiations. For redeployment it was “first in, first out,” so there was some delay in their return to the parades, ceremonies, reunion with families, and the first beer in almost five months.

Many, then and now, think that the overwhelming victory in Desert Storm was due to superior Yankee technology. It was a factor, but the skill and training of U.S. service people in employing it was more important. Even more so was the professionalism of leaders at all levels.

The tables and maps are helpful in telling the story, though some of the latter need magnification. The photographs are also useful and a step above the usual group pictures.

Road to Safwan not only rounds out the history of the first Gulf War but also serves as a text book the Armored School might well use. It covers many of the less-than-dramatic things that must be done that I didn’t learn when I took the Associate Advanced Course there.

Brig. Gen. Curtis H. O’Sullivan, ANG (Ret.), Salida, California



Rockets and People: Creating a Rocket Industry (Volume II). By Boris E. Chertok. Washington, D.C.: NASA History Division, 2006 [NASA SP-2006-4110]. Illustrations. Photographs. Notes. Glossary. Index. Pp. xxviii, 669. \$53.00. ISBN 0-16-076672-9.

Few individuals are as qualified as Boris Chertok to tell the history of the Soviet missile and space program. As an engineer responsible for control systems on numerous missiles and spacecraft, he was a key member of the program from the mid 1940s to the mid 1970s. For virtually all milestone events of this period, he was either an active participant or was closely connected with the participants. Thus, his four-volume work is rightly regarded as the most comprehensive history ever published about the Soviet missile and space program.

Volume II covers 1946 to the early 1960s and includes the program to reproduce the German V-2 rocket, development of a domestic rocket industry, development of the world's first intercontinental ballistic missile, the launch of Sputnik, and early unmanned missions to the Moon and near-by planets.

Chertok tells the story from two perspectives. He details technological aspects of the Soviet missile and space program, often providing comprehensive explanations of why a certain technology failed or succeeded in a given situation. At the same time, he delves into the personalities involved, discussing what they did to help or hinder the program and exploring the factors that caused them to act as they did. This two-pronged approach is probably the book's greatest strength and, unfortunately, its greatest weakness. It is certainly possible for an author to weave a great story by going into considerable detail about the technological and personal aspects of an historic era. Murray and Cox's *Apollo* is a prime example, where the authors write in depth about both the hardware and the human beings that were essential to success and do so in a way that keeps the reader interested and engaged from start to finish.

Chertok, however, takes the approach too far. He goes into such depth on both elements of the story that they tend to overwhelm each other, making it difficult for the reader to grasp the more essential facts of the story. For example, one of the well-known Soviet disasters occurred in October 1960 when a developmental missile exploded on the launch pad at Baikonur, killing as many as 150 people. In most books and documentaries, the story of this tragic event focuses on one individual, Marshal Mitrofan Nedelin, commander of Strategic Rocket Forces.

Nedelin is invariably described as a demanding, arrogant taskmaster. In the weeks leading up to the accident he placed his subordinates under such pressure that they felt compelled to bypass test procedures that would normally accompany development and launch of a new missile. In a final act of arrogance, Nedelin decided to observe final launch preparations by sitting just a few feet from the fully fueled rocket, rather than moving to a hardened bunker. He then either ordered or cajoled dozens of other individuals to stay with him. A series of hardware failures resulted in a devastating explosion and fire; Nedelin and many others were killed.

Chertok agrees with this description of Nedelin's role, but he also describes what went wrong with the rocket, using nearly 15 pages to explain how bypassed test procedures resulted in the rocket being placed

on the launch pad before it was ready, how electrical switches were placed in the wrong position, how the rocket's hydraulic systems failed, and how other hardware failures contributed to the explosion. This detail blurs the essential conclusion that should be drawn. Chertok's explanation certainly tells us why the rocket exploded, but it does not answer the question, "Why did the disaster occur?" This event was a disaster because it resulted in the loss of more than 100 lives, and the reason for the loss of life was Nedelin's foolish decision to position himself and his team too close to the launch pad. Had no lives been lost in the explosion, this event would warrant considerably less attention in a history of the era.

Considering this recurring flaw, the book might be appropriate for individuals who want a detailed account of either the technological or human aspect of the Soviet missile and space program. But the reader must be cautioned that in some cases Chertok's narrative makes it difficult to see the forest for the trees.

For those interested in further reading, here's a quick summary of the contents of Chertok's other three volumes: Volume I covers his childhood, early years as an engineer, and experiences in World War II and post-War Germany. Volume III focuses on the early to mid 1960s and deals with the program to launch the first human into Earth orbit, the rapidly developing Soviet programs of the early '60s, the Cuban missile crisis, development of early ICBMs and reconnaissance satellites, and the Vostok and Voshkod spacecraft programs. Volume IV addresses primarily manned spaceflight efforts: the Soviet Union's unsuccessful program to put men on the Moon, the Salyut and Mir space stations, and the Buran space shuttle.

*Lt. Col. Joseph Romito, U.S. Army (Ret.),
Docent, National Air and Space Museum*



Battle of Britain Memorial Flight: 50 Years of Flying. By Jarrod Cotter. South Yorkshire, UK: Pen and Sword Books, 2007. Photographs. Diagrams. Index. Pp 240. \$60.00 ISBN: 978-1-84415-566-8

A review of *Memorial Flight* must start with a disclaimer: This is not a coffee-table photo book. In conjunction with the Flight's fiftieth anniversary, Jarrod Cotter has created a solid history of the Royal Air Force's Battle of Britain Memorial Flight (BBMF).

The BBMF began humbly with a Hawker Hurricane and three Supermarine

Spitfires as the Historic Aircraft Flight "with the primary aim to provide aircraft for the annual Battle of Britain flypast over London." From those modest beginnings, Cotter traces the movements, changes, and expansions of what has truly become a national treasure with a fleet of two Hurricanes, five Spitfires, one Douglas C-47 Dakota, and one Avro Lancaster bomber. These conduct over 700 flypasts and displays annually.

After tracing the history of the BBMF, Cotter individually describes the history of each BBMF aircraft. Included in the descriptions is a record of each paint scheme the individual aircraft has worn. In addition to lengthy passages containing the personal experiences of past and present BBMF pilots and engineers, Cotter goes the extra mile by sharing combat histories of the pilots whose valor resulted in their aircraft markings being used on the BBMF aircraft. By including these experiences, Cotter helps bring the RAF's World War II history to life and also emphasizes the BBMF's national importance during periods of decreasing defense budgets.

For the airshow enthusiast, Cotter includes detailed descriptions of how BBMF pilots fly the various displays. These descriptions are accompanied by diagrams to illustrate the displays. Also included are details and aircrew experiences of several historic flypasts, such as the Queen Mother's funeral, D-day commemorations, and Victory in Europe/ Victory in Japan events. An interesting note is that on several occasions, the BBMF has dropped a million paper poppies from the Lancaster. However, prior to dropping the poppies, the Lanc's bomb bay has to be lined with a protective cover to prevent the flowers from interfering with the aircraft systems. Another interesting point is that the million paper poppies have to be loaded by hand. This part of the book illustrates the care and exacting attention to detail necessary to keep these World War II veteran aircraft flying.

The pages of the book are filled with stunning, well-captioned photographs of the BBMF history. An excellent addition to the text, the images include the individual portraits of the aircraft in their various paint schemes, the aircraft during historic flypasts, formations with then-current RAF aircraft, logbooks, behind the scenes photos, and BBMF formation photos.

While airshow lovers will focus on the beauty and history of the BBMF display aircraft, the book also includes details on the support aircraft (deHavilland Chipmunks) needed to teach modern-day RAF BBMF pilots how to fly tail-dragger aircraft as well as to keep the Lancaster crew current. Furthermore, Cotter details the

maintenance procedures, flight restrictions, and flight hour limits for each aircraft.

Cotter's book is clearly the definitive history of this unit. It is a very easy and enjoyable read that is more than just a history of the Flight's activities. It is a history of "a national tribute to all who have served, and continue to serve, this country [UK] in the air since the inception of air warfare to the current day."

Lt. Col. Daniel J. Simonsen, USAF, Commander AFROTC Detachment 305, Tech University, Ruston, Louisiana



Five of the Many: Survivors of the Bomber Command Offensive from the Battle of Britain to Victory Tell Their Story. By Steve Darlow. London, UK: Grub Street, 2007. Maps. Illustrations. Photographs. Notes. Appendices. Bibliography. Index. Pp 254. \$35.10 ISBN: 1-904943-98-3

Five of the Many is the latest of Steve Darlow's books where the focus is on sharing personal experiences of combat veterans. It captures the personal experiences of five World War II Royal Air Force Bomber Command crewmembers. They share not only their combat experiences, but also their personal joys, fears and observations from flying night after night over the highly contested airspace of occupied Europe and Germany.

The five are representative of Bomber Command's 125,000 men. Their experiences cover the Command's main aircraft (Wellington, Lancaster, Mosquito and Halifax), and their experiences span the war in its entirety from pre-war buildup to VE day: Bomber Command's build up, the Battle of the Ruhr in 1943, the Battle of Berlin, serving as pathfinder, and the sinking of the German battleship *Tirpitz*. These airmen had a combined total of 299 operational sorties.

Each airman's story begins with how he came to be in the RAF. The stories then detail military experiences to include rotations out of operations and a brief note about post war life. Darlow uses lengthy quotes to relay the airman's experiences in his own words. Between these passages, the author's painstaking research is clearly evident as he fills in the details of both squadron tactical operations and RAF Bomber Command's strategic operation.

Through the five experiences, three key themes emerge. The first is the tight bond that each aircrew developed. The second is the high price paid by Bomber Command aircrew during the war. Over

55,000 Bomber Command men lost their lives. Repeatedly, the author points out the number of aircrew lost. Rather than merely using numbers, he uses names and details the personal friends lost. The final theme is that the men in Bomber Command believe their actions were definitely necessary to win the war. As a whole, they address the post-war reluctance to accept the necessity of Bomber Command's "horrendous" attacks.

Accenting the start of each airman's story is a brief passage from a member of the Women's Auxiliary Air Force who supported Bomber Command. They served as drivers, telephone operators, and typists. Some of these young ladies later became brides of Bomber Command airmen. These sidebars help to relate the context of serving in Bomber Command. The women shared the dedication to the mission and the pain suffered when aircrew didn't return.

The book contains an excellent photograph section. The strength of the photographs is that they are separated into individual sections for each of the five and include personal photographs of the airmen and their respective aircrew as well as photos of their aircraft.

As this is not Darlow's first book of this type, he has become skilled in his presentation. *Five of the Many* is well crafted, informative, and easily read. It provides excellent coverage of life in Bomber Command without getting mired in numbers, statistics, or target lists. In summary, it is a fitting tribute to all those who served in RAF Bomber Command and is an excellent choice for any aviation historian hoping to learn more about the daily experiences of those airmen.

Lt. Col. Daniel J. Simonsen, USAF, Commander AFROTC Detachment 305, Tech University, Ruston, Louisiana



P-47 Thunderbolt at War. By Cory Graff. St. Paul, Minn.: Zenith Press, 2007. Photographs. Appendix. Bibliography. Index. Pp. 128. \$19.95 Paperback ISBN: 0-7603-2948-1.

The latest volume in Zenith's "At War" series is a heavily illustrated history of Republic Aviation's P-47 Thunderbolt fighter aircraft. Despite the title of the series, fully half of the book is devoted to subjects other than combat operations. Nevertheless, this survey history provides a good overview of the complete Thunderbolt story to readers who may be unfamiliar with the vital role played by the

"the Jug" in winning the Second World War.

The author traces the developmental history of the design beginning with a brief biography of "the Major," Alexander de Seversky. De Seversky was the driving force behind the production of the P-35 and the P-43 fighters. While these limited run aircraft ultimately led to the P-47, they also led to de Seversky's ouster from his own company due to massive debts arising from their research and development costs. The new company became known as Republic Aviation and quickly developed a reputation for tough, dependable airplanes.

The chapters on combat operations are arranged geographically: fighter escorts from England; operations in the Mediterranean; close support missions in Europe; and the Pacific. Graff emphasizes the fact that the Thunderbolt was the most numerous American escort fighter during the crucial period of 1943 through the first half of 1944 despite not having the long range of its successor, the Mustang. Unfortunately, the later chapter on ground support operations doesn't do the Thunderbolt justice. While Graff gives numerous anecdotes extolling the P-47's durability and survivability, he places little emphasis on its tactical and strategic significance in the air-to-ground role which greatly facilitated the Army's drive through France after D-Day.

The final chapter covers Thunderbolts in postwar foreign service as well as restoration and preservation efforts here in the United States. These subjects are closely related as many of the surviving examples of the P-47 came home as surplus aircraft obtained from other air forces, predominantly from Latin America. The ruggedness of Republic's design can be seen in a nearly intact example of a P-47D that was raised from an Austrian lakebed as recently as 2005.

The book is generously illustrated with many photos in original color and includes data sheets with performance figures and specifications for each model. There is a temptation to compare this series with Squadron Publishing's long running and popular "In Action" series of books primarily geared towards modelers. However, in addition to the technical details, Graff has included numerous personal stories including a four-page interview with former "Jug" pilot Col. Steve Pisanos. These provide considerable insight into the experiences of the people who maintained and flew the P-47 "at war."

Maj. Anthony E. Wessel, USAF (Ret), Oklahoma City



The ABC's of Leadership. By David M. Hall. Santa Monica, Calif.: AuthorHouse, 2007. Bibliography. Pp. 97. \$12.99 Paperback ISBN: 1-4259-6967-7.

This collection of leadership lessons holds out great promise given its author's remarkable series of successful careers. David Hall rose from airman basic to brigadier general in the Air Force. After retirement, he proved successful in big business and then in academia. Sadly, his vast experience fails to show through most of the 26 leadership principles he expands upon. Overall, this book offers a number of diamonds amidst a roughly edited and inconsistent text. However, it's unlikely those gems merit the \$13 price tag.

Numerous problems rob this work of greater value, with the foremost being a failure of the author to let himself show through the text. In the handful of vignettes where his experience does show through, the lessons he offers resonate with vitality. Yet, in most of the vignettes his use of a pedantic style that employs hackneyed phrases and tired stories saps the work of any lasting resonance. Poor editing lies at the heart of these problems. The style and development of the vignettes varies dramatically. Some give glimpses of hard-earned wisdom through life stories. Some wander or fail to support the main point. Others just come across as preachy. Throughout, the text suffers from dull writing that suffers further from passive voice, misused words, awkward syntax, changing typefaces, missing attribution, and redundant text. The use of a vanity press as the publisher certainly shows through here since professional publishers usually invest a significant effort in the editing process.

One of the key aims the author says he will deal with involves delineating leadership from management. As a common theme in the military, this seems understandable and valuable, especially given the broad applicability of a good leadership book. However, Hall fails to clearly delineate the difference even while offering some useful leadership lessons. In fact, in some places, it appears he conflates leadership and management.

Another common theme involves the need to handle change; however, Hall again fails to provide readers with effective methods in dealing with them. For example, he concludes his vignette on "Meaningful Change" with the following: "Alvin Toffler in his book *Future Shock* [warns] we need to avoid complex, high volume, fast-paced change. To be successful we must bring on change through what W. Edwards Deming calls 'continuous improvement.'" If this were a "going in" statement, valuable

insight might have followed. Instead, it concludes an approximately 400 word section that repeats the mantra—"Change is inevitable". The author offers no lessons learned, no stories, and no explanation. The text then plunges into thoughts about negotiation.

Many of the positives in this book involve life skills that merit regular reminders for nearly everyone: Be polite, Hall counsels; treat others well; seek someone to mentor; plan for change; use people's names often; etc. His best lessons again use real examples in the first two vignettes on adversity and bravery. In the first, he recounts a lesson he helped his son work through after failing to make the cut for the first-string basketball team. The second appears to recount a personal lesson from a data processing operation in which the leader learns that failures in his organization reflect failures in leadership. However, only a few more vignettes follow this pattern.

This book offered Hall a great opportunity to share with younger leaders valuable lessons from his apparently exemplary series of careers. Unfortunately, the opportunity was largely squandered. Though the book still provides some value to those seeking to improve themselves, far better texts exist. Hopefully, the author will pursue a significant rewrite of this work in order to better communicate the passion and wisdom one would expect from someone of his stature.

Col. Brett Morris, PhD, Professor of International and National Security Studies, Air Command and Staff College



Charge! History's Greatest Military Speeches. By Steve Israel, Ed. Annapolis, Md.: Naval Institute Press, 2007. Photographs. Notes. Index. Pp. xv, 300. \$32.95 ISBN: 1-59114-339-4

As a former member of the House Armed Services Committee, Congressman Steve Israel "witnessed the power of words" and gained an appreciation for how words can motivate, inspire, and call people to action. *Charge!* is a collection of sixty-nine military speeches beginning with Moses' instructions to his people to march without him and concluding with President George W. Bush's "Rally America" address, just after September 11th. Israel gives a brief introduction to each speech or group of speeches (chronologically arranged) to either explain the historical circumstances and events surrounding the speech. Additionally, for some speeches,

Israel adds his view and experiences (for the more recent speeches) relating to the events.

The challenge in editing this type of book is not only selecting which speeches to include but also handling the more difficult task of determining which ones to leave out. The speeches range from a single paragraph to up to six pages. The reader may be surprised by some personal favorite speeches that are excluded and very pleasantly surprise by some of the absolutely true "discovered" gems that the Congressman has included. Many of the speeches will be very familiar as they include famous phrases that readers will have heard before:

Americans love to fight, traditionally. All real Americans love the sting and clash of battle. Americans love a winner. Americans will not tolerate a loser.

General George S. Patton, Europe 1944.

And so, my fellow Americans: ask not what your country can do for you—ask what you can do for your country.

President John F. Kennedy, inauguration speech 1961.

While the individual military speeches were each obviously given to different audiences under differing circumstances, all of the speeches provide the reader with two key benefits. First, the speeches convey to the reader the emotion of the time. After reading the speeches, the reader gains insight not only into the mind and personality of the leader but also insight into the audience. Close your eyes and you can sense the determination, the excitement or the urgency of the times:

We shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender

Winston Churchill, England, June 4 1940.

Here we will stand and fight; there will be no further withdrawal. I have ordered that all plans and instructions dealing with further withdrawal are to be burned, and at once. We will stand and fight here. If we can't stay here alive, then let us stay here dead.

General Sir Bernard Montgomery, Egypt, August 1942.

The second benefit from *Charge!* are the truly motivating and inspiring speeches that still have meaning today and still call us to action:

What constitutes an American? Not color nor race nor religion. Not the pedigree of his

family or place of birth. Not the coincidence of his citizenship. Neither his social status nor his bank account. Neither his trade nor his profession. An American is one who loves justice and believes in the dignity of man. An American is one who will fight for his freedom and that of his neighbor. An American is one who will sacrifice property, ease and security in order that he and his children may retain the rights of free men. An American is one in whose heart is engraved the immortal second sentence of the Declaration of Independence.

Secretary of the Interior Harold Ickes,
May 1941.

The reader can jump to different speeches in the book as the mood or situation dictates. *Charge!* is a book that can be read again and again as the speeches continue to hold their deep motivation and meaning. This is a must read book for anyone interested in understanding history and looking to be inspired!

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From Heaven to Hell: Men Like No Others. By Benoit Lelandais. France. OREP Editions, 2007. Maps. Tables. Diagrams. Illustrations. Photographs. Glossary. Bibliography. Index. Pp. 108. \$39.95. Paperback. ISBN: 2-912925-93-2

Having read numerous books about the invasion of Europe, I found this book to be unique. It was well written by a French author and published in France.

Lelandais was very interested in the history of the Normandy invasion as a result of his parents' and grandparents' accounts of their experiences. In 1994 he made contact with a number of American veterans at a fifty-year anniversary celebration. From then on he hung onto the vets for their versions of the invasion.

The book is a fitting tribute to the men of the 508th Parachute Infantry Regiment of the 82nd Airborne Division. It is packed with pictures of many of the aging veterans during interviews conducted by the author. Comments by the troops involved are plentiful. Pictures include not only the individuals but also numerous group shots as well as aircraft and bases involved in the unit's operations. The names of the troops and their airborne "sticks" required considerable research. From enlistment to the unit's various training and staging bases,

to the events leading up to the invasion, and on through the consequences of their many Normandy fights—it's all there in what is a great pictorial history.

The troops interviewed shared their accounts from the final preparations on the airfield at Folkingham, England, just before they boarded their C-47 aircraft for their jump into Normandy and history. These veterans describe their descent from going out the door to their landing. Their comments run up through July 12, 1944, when the 508th PIR ended their participation in the Battle of Normandy. It had cost many lives and casualties. The book is a human testimony from many troops who waited until their old age to tell their stories. The pictures tell the story.

Stu Tobias, Indianapolis, Indiana

Rocketman: My Rocket-Propelled Life and High-Octane Creations. By Michaelson. St. Paul, Minnesota: Motorbooks, 2007. Photographs. Appendices. Pp. 240. \$27.95. ISBN: 0-7603-3143-9

Building rocket-powered vehicles to achieve ever more speed, sometimes associated with climbing to ever higher altitudes, has a long history. Some enthusiasts might trace the record back to sixteenth-century Chinese aristocrat Wan Hu's disastrous attempt to propel himself into space by strapping 47 black-powder rockets to his chair and having 47 servants simultaneously light the fuses. Other speedsters likely would point to Fritz von Opel's and Max Valier's experimentation with rocket-powered automobiles and aircraft in late-1920s Germany. Michaelson will tell you, however, that the golden age for "throttle junkies" occurred during the 1960s and 1970s when he designed streamlined chassis and rocket engines that burned hydrogen peroxide to accelerate "land pilots" beyond 300 miles per hour.

As Michaelson reveals in this autobiographical book, he became obsessed with speed in "very early childhood" and was privileged to participate in a phenomenon that lasted only about a decade. In the early 1980s, the supply of hydrogen peroxide that fueled the phenomenon began to disappear. But by then, the new breed of racers to which he belonged had set numerous track and land speed records that remain unbroken to this day. Using rocket engines he designed to produce 3,000-7,500 pounds of thrust, Michaelson built a series of dragsters and other types of cars for himself and others: *Pollution*

Packer; "Gator Man" Jim Hodges' *Alabama Express*; *Miss STP Rocket Dragster* for driver Paul Murphy; Jerry Hehn's *American Dream*; Fred Goeske's Funny Car and Plymouth Arrow pickup truck; Allen Hudson's *Texas Starship*; Dave Henderson's and Ed Ballinger's *XL-14 Galactic Crusader* and *Astron Invader*; and Kitty O'Neil's *Rocket Kat* 1977 Corvette. Ms. O'Neil claimed two world records in *Rocket Kat*, running 365.21 mph in 3.58 seconds in the El Mirage Desert, while the *Pollution Packer* dragster set thirteen state, national, and international records.

To complement his "extreme rocket-powered vehicles," Michaelson crafted an almost endless variety of what he categorizes as "Rocketman's toys." These include a rocket-powered motorcycle labeled *Gizmo*, plus a snowmobile, mountain bike, tricycle, go-kart, outboard boat motor, Flexible Flyer sled, luge, scooter, and skateboard. Among his more bizarre rocket-powered creations are a chair, wheelchair, belt, blender, toilet (dubbed *SS Flusher*), and outhouse named *Our Stinkin' Rocket*. After visiting a scuba shop in the early 1970s, he even conceived and built a rocket backpack that his son, Curt, demonstrated in the guise of "Captain Roller Ball" at various racetracks and on *The Mike Douglas Show*.

Definitely bitten by the bug to go faster, farther, and higher, Michaelson set his gaze on outer space in the mid-1990s. With his wife, Jodi, and a handful of close friends, he formed CSXT—the Civilian Space eXploration Team. Their launch attempts in 1995 and 1997 receive little more than passing mention, accompanied by a half-dozen color photographs, but CSXT's goal of reaching space "on a shoestring" began to seem more achievable in 2000. Even then, obtaining the necessary government permits and dealing with Mother Nature's wrath at the launch site in Nevada's Black Rock Desert posed serious challenges. Although their Space Shot 2000 rocket achieved an altitude of only 40,000 feet and their *Primera* rocket exploded shortly after clearing the launch tower in 2002, the team persisted. Finally, on 17 May 2004, CSXT's *Go Fast* climbed to an altitude of 72 miles, becoming the first amateur rocket to exceed the 62-mile international definition of space.

While Michaelson's autobiographical account lacks such useful, scholarly accouterments as an index and annotations, it offers anyone curious enough to open its cover a delightfully entertaining, generally informative narrative. For the technically minded, an appendix explains, in "innermost detail" complete with schematics, how hydrogen peroxide rocket engines work. When they turn the last page of *Rocketman*, some readers might even won-

der what Michaelson currently is building in his home workshop at Bloomington, Minnesota.

Dr. Rick W. Sturdevant, Deputy Director of History, HQ Air Force Space Command



Honor Bound: American Prisoners of War in Southwest Asia, 1961-1973, By Stuart Rochester and Frederick Kiley, Annapolis, Md.: Naval Institute Press, 2007 [originally published by the Office of the Secretary of Defense, Historical Office, 1998], Maps, Tables, Diagrams, Illustrations, Photographs, Notes, Appendices, Glossary, Bibliography, Index, Pp. xvii, 706, \$34.95 Paperback ISBN: 1-59114-738-1

Those who have read of the brutality of the Japanese and, to a lesser extent, the Germans, against their military prisoners in World War II will soon discover that the forces of Laos, North Vietnam, and the Vietcong were as bad, if not worse, Rochester and Kiley painstakingly researched what happened to prisoners in Southeast Asia. Their extensive interviews with former prisoners helped them separate fact from fiction.

The first four of more than two dozen chapters are important to understand the overall POW saga. The book begins with the French occupation in Vietnam and continues through U.S. involvement, where the authors show how Hanoi was able to cast the U.S. in the role of just another colonial power replacing France. By the time Americans were taken captive in Vietnam, Vietnamese Communists had already had considerable experience dealing with POWs dating as far back as 1946. Prisoners were clearly treated in a fashion that showed man's inhumanity to man.

The POW story began not with the more familiar aviators held in the North, but with ground troops in Laos and the South. In March 1964, Capt. Jim Thompson, a Special Forces detachment commander, was captured while on a recon mission near the DMZ. Severely injured, he recovered to endure a nomadic confinement in a series of tiny, remote camps, with only one brief encounter with another American until a month before his release on March 16, 1973. His nine years of captivity would make him the longest held POW in U.S. history.

Five months after Thompson's capture came the Tonkin Gulf action and the capture of Navy Lt. Edward Alvarez, Jr., the first aviator prisoner of North Vietnam. Placed in Hoa Lo Prison, later known as

the infamous "Hanoi Hilton," he and subsequent captives were subjected to psychological as well as physical torture, poor food, and nearly non-existent sanitation.

Hoa Lo was divided into a number of sections. The increasing numbers of prisoners found themselves being moved about the complex. It didn't take them long to realize that if they were going to maintain their sanity they needed someone with whom to talk. Communication was difficult and forbidden among prisoners. In the summer of 1965 the tap code was introduced by Air Force Capt. Carlyle Harris. This code was circulated, modified as needed, and given to new prisoners as soon as possible.

As the troop buildup went into high gear in 1965, conditions got even worse—if that were possible—at Hoa Lo. The authors well detail the "quality" of life there including the cruel and crude forms of torture used, Beatings, starvation, and psychological treatment were standard tools. Torture had the twin goals of disrupting POW resistance and obtaining statements that could be exploited for propaganda purposes. A more subtle tactic was indoctrination, an ongoing process of education or reeducation that predated the torture era and continued through the periods of the worst abuses. If torture was intended to intimidate and beat the Americans into submission, indoctrination was designed to confuse them and cause doubt as to the legitimacy of the war in American minds.

Again, though, captives continued to be picked up in South Vietnam. These were not only soldiers but engineers, technicians, mechanics, teachers, contractors, and program administrators. Conditions in the South were quite different than those of the north, where most prisoners were aviators. Rather than being held in prisons such as those in the North, POWs in the South were held in cages and huts. When these were not available in the jungles, captives were chained to whatever was available. Sicknesses such as malaria and beriberi ran wild among the troops, largely from eating bugs, rodents, rotten fish, and vegetables. Mosquitoes and snakes wreaked havoc.

The book continues on to cover many aspects of the POW story through the remainder of the conflict. No American POW had a stronger will or constitution or suffered a crueler fate than Air Force Lt. Lance Sijan, an F-4 back-seater who crashed in Laos on November 9, 1967. He died from his wounds, beatings, and disease several months afterwards and was later awarded the Medal of Honor. Air Force pilot, Robinson Risner, and Naval aviator, Jim Stockdale, were two of the

great leaders among the prisoners. Another aspect covered is the practice of parading prisoners in front of world media and having them visited by American anti-war groups. Some prisoners were released to these groups as part of the overall propaganda campaign of the North. Cubans were brought in to assist in the torture of the prisoners and were especially brutal.

Things started to change for the better in most of the prisons in 1970. What caused the prison staff to back off was a matter of speculation. Prisoners continued to be moved from one facility to another. Food quality and quantity improved as did medical treatment. Prisoners from the Son Tay prison were moved elsewhere, which accounts for the fact there were none at Son Tay during the attempted American rescue. Captives were allowed more freedom and, for the first time, were allowed to mingle with one another. Many prisoners suffered continued problems both physically and mentally. Others just disappeared, never to be heard from.

Finally, the American involvement ended, and prisoners were released in four stages between February 12 and March 29, 1973. Altogether, 600 prisoners—primarily Navy and Air Force aircrew who had spent their entire captivity in the North—were repatriated during Operation Homecoming.

This book is a story of incredible perseverance and bravery in the darkest of hours. It is a great read and a must for anyone interested in studying prisoners of war and their treatment.

Stu Tobias, Indianapolis, Indiana



Hearts of Courage: The Gillam Plane Crash and the Amazing True Story of Survival in the Frozen Wilderness of Alaska. By John M. Tippetts. Anchorage, Alaska: Publication Consultants 2008. Maps. Photographs. Notes. Appendices. Bibliography. Pp. 144. \$19.95 Paperback ISBN: 1-59433-077-3

As a youth, I was fascinated by Jack London's stories of Alaskan adventure and peril; his books were hard to put down. I felt much of that same excitement about this book. While London wrote fiction, Tippetts' tale of survival in some of the harshest climate in the world covers actual events. The subtitle won't mean much to many readers until they read the book. The Gillam plane crash in early 1943, however, garnered national attention coming as it did during World War II

and the Aleutian Islands Campaign. And the survivors' story just begs to be told. While it primarily concerns civilian aviation, it should prove heartening to any military aviator who has gone through a winter survival course. If these people survived such harsh conditions with little in the way of training and supplies, a prepared aviator facing similar conditions should do quite well. *Hearts* is also a story of amazingly strong and deep faith and the role such faith plays in surviving against greater odds than most folks will encounter in a lifetime.

Tippets uses an unusual method to tell the survivors' story. He relates key events through the voice of his father, Joseph, one of four men to actually survive the horrific plane crash during one of Alaska's harshest winters in 100 years. To accomplish this feat, Tippets turned to taped interviews, news accounts, other published sources, and his own recollections of the story from his father and mother. The reader learns of the extreme difficulties the pilot and passengers faced during a full month of sub-zero temperatures under difficult circumstances. Injured, without food or proper winter survival supplies, six people initially pulled together to stand against nature at her worst.

The Lockheed 10B Electra was owned by the Morrison-Knutson (M-K) Construction Company. The very experienced Harold (Thrill 'em, Spill 'em, but No Kill 'em) Gillam was the pilot that day. Passengers included Bob Gebo, M-K Alaska's general contractor; Susan Batzer, Civil Aeronautics Administration (CAA) stenographer; Sandy Cutting, M-K mechanic; Dewey Metzdorf, Anchorage hotel owner and superintendent of Alaska railroad stores, commissary and hotels; and Joseph Tippets, CAA airways engineer. On January 5, 1943, despite a hastily repaired oil leak in one engine and the high possibility of icing during the flight, Gillam took off from Seattle bound for Annette Island, Alaska. He'd survived worse weather, but his confidence may have been their undoing. Before reaching safe haven at Annette Island, the plane's left engine quit and heavy icing forced them to crash.

The exact cause of the crash, pilot error or equipment failure, is for others to judge. Tippets story tells of the well-documented aftermath. Batzer succumbed to her injuries two days after the crash despite the valiant efforts of Tippets and Cutting, the least injured individuals. Not knowing their exact location and realizing they had neither the food nor the winter survival equipment to last for long, Gillam soon set out to find help. He didn't

return and it wasn't until much later the others learned of his fate when his frozen body was found. The remaining four, two seriously injured, strove to survive. And that effort is the stuff of which great adventure stories are made.

Adding immeasurably to the story is Tippets' wonderful collection of artwork, photographs, newspaper clippings, and the like. The illustrations and the text serve to give the reader not only an exciting account of an horrific challenge but a visual feel for the place, people, and peril in which the participants truly showed their hearts of courage. But it is far more than just a story of Alaskan survival. It is also a heart-tugging story of faith and, more importantly, the very real value of a strong faith in surviving such conditions. In short, I found *Hearts of Courage* a great read.

CMSgt. Robert J. Davis, USAF (Ret.), member, Book Critics Circle



With Honor: Melvin Laird in War, Peace, and Politics, By Dale Van Atta, Madison: University of Wisconsin Press, 2008, Photographs, Notes, Bibliography, Index, Pp. xii, 641. \$35.00 ISBN 0-299-22680-8

No other Secretary of Defense has done a better job under more difficult circumstances than Mel Laird from 1969 until 1973, Veteran writer and investigative reporter Dale Van Atta thoroughly documents Laird's long life of public service and his key roles in American political and military history in this authorized biography.

After serving as a Navy officer in World War II, Laird became Wisconsin's youngest state senator. Elected to the U.S. House of Representatives in 1953, he was soon one of Washington's most influential congressmen. Although always a staunch Republican, he worked closely, and sometimes covertly, with Democrats on issues he believed in, such as, public health and medical research. He was especially bipartisan on matters of national defense as a senior member of the Appropriations Committee, where his expertise in overseeing the Pentagon's budget was unequalled.

Before accepting President-elect Nixon's offer to become defense secretary, Laird made him sign an unprecedented "contract" delegating authority to make all his own appointments, Laird promptly hired Silicon Valley pioneer David Packard to help him manage the defense bureau-

cracy. He also required all contacts between the White House and anyone in the Pentagon to flow through his office. These measures, plus Laird's ability to work with Congress, made him one of the most powerful and independent cabinet secretaries in American history. The ways Laird cunningly exercised this power in spite of White House attempts to circumvent him are repeatedly revealed in the two thirds of the book devoted to his tenure as SecDef.

Nixon's campaign left the impression that he had a plan for "peace with honor" to end the war in Southeast Asia. In reality it was Laird who had to devise such a plan. In the mid 1960s, Representative Laird had urged the Johnson administration to use air and naval power against North Vietnam. By 1969, however, Laird believed it was too late to try for an American military victory. Building on recent mission changes by Gen. Creighton Abrams, the U.S. commander in South Vietnam, Laird developed the Vietnamization policy to focus on training and equipping South Vietnamese forces while pulling out American troops.

More than anyone else in the Nixon administration, Laird understood that the negative impact of the war on the home front and on overall defense capabilities posed a graver threat than the fate of what had once been French Indochina. Policy differences and personal rivalries led to bitter bureaucratic battles between the Pentagon and the White House, especially between Laird and National Security Adviser Henry Kissinger, which Van Atta treats as a contest between "dueling Machiavellis."

Besides ending American ground combat in Vietnam, some of Laird's other contributions to national defense included replacing the unfair draft with the all-volunteer force; improving civilian-military and inter-service relations in the Pentagon with a philosophy he called "participatory management;" developing a new generation of weapons systems despite a declining defense budget; restoring the U.S. commitment to NATO; strengthening the National Guard and Reserves with his "total force" concept; vigorously promoting equal opportunity for minorities and women; and insulating the Pentagon from most of the intrigues of the Nixon administration. Then, as promised when appointed, Laird resigned after four years.

When Watergate threatened to paralyze the executive branch, Laird took over as Nixon's domestic policy czar. With the President virtually incapacitated by the crisis, Kissinger ran foreign affairs while Laird presided over the domestic agenda. After getting his close friend Gerald Ford selected as vice president, Laird left the

White House to become senior counselor for *Readers Digest*. He watched from the sidelines as North Vietnam conquered the South, a disappointment he partly blamed on the Ford administration for not lobbying Congress hard enough to keep supplying needed economic and military aid.

Laird may have retired from government service, but he never left public service. He was a consultant, political guru, and board member at numerous corporations and non-profit organizations. He seems to have been a friend, mentor, or advisor to almost every important American political figure of the last 50 years, ranging from Dick Cheney (whom he helped get started in politics) to Hillary Clinton (who once worked for him as a student intern).

Operating behind-the-scenes, Laird tried his best to discourage the invasion of Iraq; but, to his distress, "the top officials of the Bush administration did not seem to want to listen to anyone who was not bent on war." When the subsequent occupation began to resemble the proverbial quagmire of Vietnam, he went public with calls for the administration to get serious about building up Iraqi forces, recalling the initial successes of his Vietnamization policy.

With Honor offers readers a valuable new perspective on the making of defense policy during Vietnam. Except for a few interesting anecdotes, however, it doesn't add much to the historical record of the USAF. It does confirm accounts in previous books that Laird, although not averse to tactical air power, was skeptical about the effectiveness of interdiction and heavy bombing. In discussing the firing of Gen. John Lavelle in 1972 for breaking the existing rules of engagement, Van Atta glosses over Laird's role, perhaps unaware of recent evidence that Lavelle had been given "top cover" for much of what he did up through the chain-of-command all the way to the President. And while the book lauds the modernization of weapon systems that began under Laird's watch, coverage of these programs (and management topics in general) is sparse or lacking. Fortunately, the Air Force's two most prominent members of the Laird-Packard team—Robert Seamans (who died as I was reading this book) and the late John McLucas—both wrote memoirs that do provide this kind of information.

Lawrence R. Benson, a retired Air Force historian, co-authored the memoirs of former Secretary of the Air Force John McLucas, with a foreword by Melvin Laird.

Life's Too Short to Cry: The Compelling Memoir of a Battle of Britain Ace. Tim Vigors. London: Grub Street, 2006. Photographs. Index. Pp. 265. \$34.95 ISBN: 1-904943-61-6

Life's Too Short to Cry is the autobiography chronicling the early life and military service of Tim Vigors, DFC, an Irish pilot serving in the RAF during the early part of World War II. Using only his log book and memory, Vigors recounts his early years of schooling and fox hunting leading to his desire to fly for the RAF. He concludes the story in Java in 1942 while he recovered from severe burns after being shot down.

The reader gets a pilot's front row seat to the brewing storm that would become World War II. With an engaging writing style, the author recounts his learning to fly, selecting bombers, and then changing his mind and switching to fighters. Ultimately, he is assigned to 222 Squadron as the unit converts to Spitfires. Vigors flew in Sir Douglas Bader's flight and gives an engrossing view of this famed ace. He candidly shares his experiences of some key moments of World War II: the Evacuation of Dunkirk, the Battle of Britain, and the sinkings of the capital ships *Prince of Wales* and *Repulse*.

Always humble and honest, the author shares the emotions of the life-and-death experiences of a Battle of Britain pilot. Only nineteen years old during the battle, he describes how his "extreme fear" during his first combat over the beaches of Dunkirk was "quickly replaced by my overwhelming desire for self-preservation." His rare emotion and candor are what make this book great. He recounts how he is scrambled one night in marginal weather to engage attacking German bombers. Still wearing his pajamas and feeling the effects of drinking, he shot down a Heinkel 111 bomber. Ultimately, Vigors became an ace by shooting down six aircraft. All too often, he includes his description of a few pilot actions with the note of the pilot's death later in the war. These sober comments help to drive home the extreme sacrifices of the Battle of Britain's "Few."

After the Battle of Britain, Vigors transferred to the Far East, where he flew an American Lend-Lease Brewster Buffalo. Charged with providing air cover for *Prince of Wales* and *Repulse*, he shared the horror of arriving on the scene to see only *Repulse's* oil slick and the *Prince of Wales* sinking beneath the waves. Both ships had been sunk by Japanese aircraft because the planned for and ultimately required RAF air cover wasn't requested by the Royal Navy when the powerful

ships set sail. Vigors and his squadron mates remained on the ground waiting for the support call that came way too late.

With the memory of the ships' sinking still fresh in his mind, Vigors was shot down three days later. His recovery and subsequent evacuation in the face of advancing Japanese forces brings his memoir to an end.

Many books describe themselves in their titles as compelling memoirs, but few really are. This book definitely fits the bill of being a very enjoyable, informative, and compelling read. Regrettably the manuscript was discovered and published only after Vigor's death; readers would certainly have enjoyed reading more about this ace's life. Diana Vigors deserves sincere thanks for sharing her late husband's memoirs. Aviators will enjoy this book for Vigors' detailed descriptions of flying various airplanes. *Life's Too Short* certainly belongs on the reading list of anyone interested in the Battle of Britain and its brave Royal Air Force pilots.

Lt. Col. Daniel J. Simonsen, USAF, Commander AFROTC Detachment 305, Louisiana Tech University, Ruston, Louisiana



Through Blue Skies to Hell: America's "Bloody 100th" in the Air War over Germany. By Edward M. Sion. Philadelphia: Casemate, 2008. Maps. Illustrations. Photographs. Notes. Bibliography. Index. Pp. ix, 220. \$32.95. ISBN: 1-932033-67-0

I looked forward to reading this book when I first saw it. Now, the best I can say is that it isn't very good. Dr. Sion is Professor of Astronomy and Astrophysics at Villanova University specializing in white dwarf stars, cataclysmic variable stars, and theoretical accretion physics. The book jacket states, "As a whole, *Through Blue Skies to Hell* provides a uniquely informed perspective on a singular campaign in military history." I assume Sion is a superb astronomer, but how that background gives him a "uniquely informed perspective" is beyond me.

The book's major problem is that Sion seemingly never figured out what he wanted to write about. The 100th Bomb Group? A history of the air war in Europe? The European war in general? Technology used in World War II in the air? It is a mishmash of topics that wanders through all of these topics. The book is certainly not the story of the Bloody 100th. Sion's uncle, Dick Ayesch, was a bombardier in the 349th Bomb Squadron, 100th Bomb Group, and



wrote a diary that covered his 34 combat missions from October 1944 through March 1945. So, the nephew read a lot of books and articles and melded the information with his uncle's diary. In some cases, topics are applicable to 100th operations and, in other cases, just don't add to the story of this famous unit.

The book's first 12 pages cover a bit of Ayesh's early life, his training to be a bombardier, and a description of the B-17. Then there's a chapter on munitions and bombs. In here Sion talks about several kinds of bombs, including the M56 4,000-lb bomb that couldn't even be carried on a B-17. He then goes off on a tangent about the Azon, "regarded by many as the first smart bomb" (the Germans, of course, had smart weapons long before Azon was used); and the BQ-7/8 Aphrodite "terror weapon" (in actuality, an attempt to use old B-17s and -24s as very powerful, precision weapons against hard targets). This, too, has nothing to do with the 100th Bomb Group.

Sion's next chapter is entitled, "Top Secret Bombsight: Hitting the Pickle Barrel." The Norden was never Top Secret—this comes from a lot of popular hype. It was Secret until 1942 when it was reclassified as Confidential. By 1944, when Ayesh was flying, it was merely Restricted. The chapter contains other factual errors as well. Sion then covers bomber formations and fighter tactics before launching into blind bombing with radars and pathfinders. In here, he describes radar as being light waves! Some people refer to the entire electromagnetic spectrum as "light" these days, but I've never heard anyone in the radar business use the word light and radar synonymously.

After all of that technical material, there are about 19 pages that get the crew from the U.S. to their operational base at Thorpe Abbots in the UK. There is actually some good information in this section about the base, personnel, the history of

the unit, and operations in the area. But then Sion is off on another tangent laying out the ground war situation—not only on the western front but also in the Soviet areas of operations. For those interested in the names of commanders of all of the Soviet Army Fronts, they're all listed here, general by general!

Sion goes on to cover the air war situation in the fall of 1944, Eighth Air Force headquarters at High Wycombe (which he mistakingly calls Eighth Air Force Bomber Command), and German defenses against bombers (where he repeats the old saw about the Me 262's supposed delay in entering combat because of Hitler's decision to make it a fighter bomber). The next chapter deals with the emphasis on synthetic fuel targets starting in the middle of 1944. Interestingly, only two of the missions Ayesh flew were against these targets. After a chapter that discusses preparing for and engaging in combat, he arrives at Ayesh's diary. Sion relates verbatim the diary entries for the 34 missions his uncle flew and then gives a commentary on many of them to fill in details. He breaks in the middle of the diary entries to give the reader information about romantic encounters in London, to include technical discussions of the V-1 and V-2.

The book starts to wind down with a quick rendering of the group's departure for home after the war and Ayesh's subsequent life. But the ending is reserved for two chapters on The Impact of Strategic Bombing on Final Victory, and 20th Century Moral Issues and 21st Century Implications. The only thing that I really disagreed with in these two chapters (other than what they're doing in a book about the Bloody 100th) is a History Channel type of observation: "It is even more disturbing to consider the consequences to the war effort if time had not been lost by Hitler's costly decision to convert the Me-262 from a fighter to a fighter-bomber."

First off, the Me 262 got into combat about as early as jet engine development would allow, and those who predicted great doom to the Allied bomber offensive seem to assume that the British wouldn't have stepped up Meteor production and we wouldn't have outproduced the Germans with group after group of P-80s. The Me 262 was not going to change the outcome of the war.

Throughout, Sion sprinkles in some strange terms and facts: "Circle of error" when he means "circular error probable, a measure of weapon accuracy; Congressional Medal of Honor (it is the Medal of Honor); Messerschmitt 109 (variously called the Me-109, ME-109, Bf-109 in the same paragraph). And this leads to what I thought was most frustrating—the so-called Notes. They are totally useless; there is no way to check on the information presented. For example: "134. United States Strategic Bombing Survey, U.S. Government Printing Office, September 30, 1945." I guess the reader is supposed to read the entire document in order to find the information! And, note 135, 136, and 137 are exactly the same as 134. Ten notes in a row cite an article by Walter Rostow, again with no clue as to where Sion found the information in the article. Casemate has to share equal guilt with Sion for this worthless part of the book.

Overall, I'm still not sure what to make of this book, but I do know that anyone who wants to truly understand the strategic bombing campaign in Europe, the overall European war, or the technology used by both sides can find any number of books that are far better than this one.

Col. Scott A. Willey, USAF (Ret.), Book Review Editor



PROSPECTIVE REVIEWERS

Anyone who believes he or she is qualified to substantively assess one of the new books listed above is invited to apply for a gratis copy of the book. The prospective reviewer should contact:

Col. Scott A. Willey, USAF (Ret.)
3704 Brices Ford Ct.
Fairfax, VA 22033
Tel. (703) 620-4139
e-mail: scottwille@aol.com

* Already under review.

Books Received

Biggs, Robert E. *Space Shuttle Main Engine: The First Twenty Years and Beyond*. San Diego, Calif.: American Astronautical Society. [AAS History Series, volume 29]. Maps. Tables. Diagrams. Illustrations. Photographs. Notes. Appendices. Glossary. Bibliography. Index. Pp. 256 Paperback \$50 ISBN: 978-0-87703-54-3

Dick, Stephen J., Ed. *Remembering the Space Age: Proceedings of the 50th Anniversary Conference*. Washington, D.C.: NASA History Division, 2008. [SP-2008-4703] Photographs. Notes. Glossary. Index. Pp. xiii, 465 ISBN: 978-0-16-081723-6

Hitt, David, Owen Garriott and Joe Kerwin. *Homesteading Space: The Skylab Story*. [Oxford Odyssey: A People's History of Spaceflight series.] Lincoln and London: University of Nebraska Press, 2008. Photographs. Appendix. Bibliography. Pp. xxvi, 520. \$29.95 ISBN: 978-0-8032-2434-6

Kan, Paul Rexton. *Drugs and Contemporary Warfare*. Washington, D.C.: Potomac Books, Inc., 2009. Notes. Bibliography. Index. Pp. xiii, 192. \$39.95 ISBN: 978-1-597797-256-7

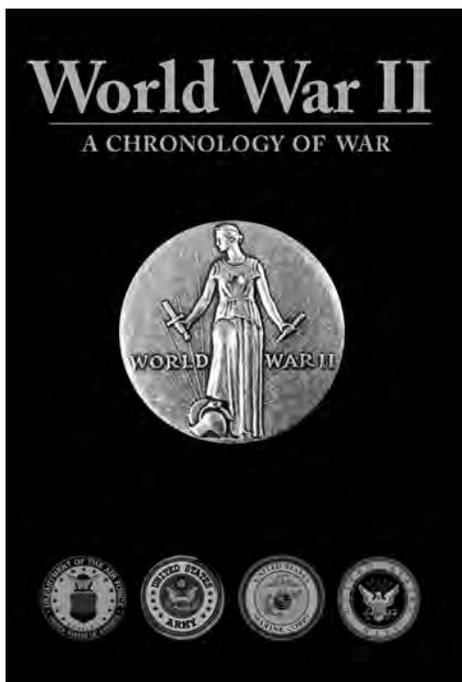
Leadership in Space: Selected Speeches of NASA Administrator Michael Griffin, May 2005-October 2008. Washington, D.C.: NASA HQ, 2008. [SP-2008-564] Illustrations. Photographs. Pp. xii, 329. ISBN: 978-0-16-081565-2 www.nasa.gov

Long, Austin. *Deterrence: From Cold War to Long War*. [Lessons from Six Decades of RAND Research]. Santa Monica, Calif.: RAND Corp., 2008. Notes. Glossary. Bibliography. Pp. xiv, 107. \$25.00 Paperback ISBN: 978-0-8330-4482-2

Rininger, Tyson V. *F-15 Eagle at War*. Minneapolis, Minn.: Zenith Press, 2009. Maps. Tables. Diagrams. Illustrations. Photographs. Glossary. Index. Pp. 159 Paperback \$24.99 ISBN: 978-0-7603-3350-1

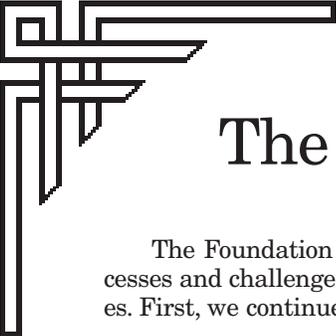
Available Now

From the Air Force Historical Foundation



The Air Force Historical Foundation is proud to announce the publication and availability for purchase of *WORLD WAR II: A Chronology of War*, edited by Col Raymond K. Bluhm, Jr., US Army (Ret). The book was printed by Rizzoli Publishers, Inc., of Westport, Connecticut, in late 2008. This large-format book was published in cooperation with the Army, Naval, and Marine Corps historical foundations. It makes a great gift for any military member, retiree, or veteran. The price until publication of our next book, a chronological history of the Vietnam War, in late 2009, will be \$60.00, including shipping.

The Air Force Historical Foundation is proud to present this book for the reading pleasure of its members and of the general reading public. It is available for sale through the Foundation's Web site, WWW.AFHISTORICALFOUNDATION.ORG or by calling the Foundation office at (301) 736-1959.



The Executive Director's Message

The Foundation is coming off an interesting year and looking forward to another. We have had successes and challenges, but we have worked diligently to overcome the challenges and build on the successes. First, we continued to work to maintain and improve our four primary, most visible programs:

Publication of our flagship, *Air Power History*, for which we continue to receive many favorable comments from our members and other readers.

Awards, including the two newest—the General Carl “Tooe” Spaatz Award and the Major General I. B. Holley Award; in addition, several awards are made to currently serving Air Force members for outstanding historical writing.

The symposium, with planning and preparations underway now for a day-long event on Thursday, October 8, 2009 in Arlington, Virginia.

The book program, including the *WORLD WAR II: A Chronology of War*, published in cooperation with our sister historical foundations for the Marine Corps, Navy, and Army, and the forthcoming (Fall 2009) publication of a similar chronology of the Vietnam War.

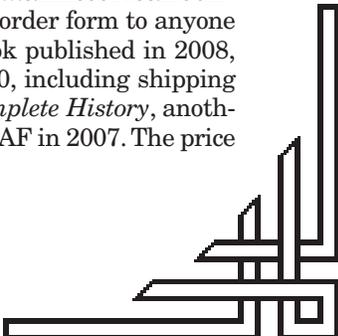
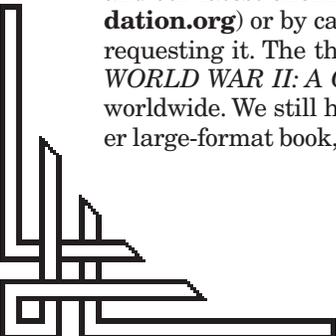
Spaatz and Holley Award Nominations. Next, I request your help in the third annual award of two prestigious honors. *We need the members to nominate individuals or groups for the aforementioned General Spaatz Award and Maj Gen Holley Award.* The Spaatz Award was created in 2007 to recognize a living person(s) who has made a sustained, significant contribution to the *making* of Air Force history during a lifetime of service. Nominations will be accepted anytime during the six month period following the previous award presentation; this year, we will accept nominations through April 30, 2009. The nomination should be not more than one page and highlight significant contributions. After the selection process is completed, the nominating member may be asked to provide the winner's biography. (The latter is particularly important regarding the nominee's post-Air Force career, with which the staff may be unfamiliar.)

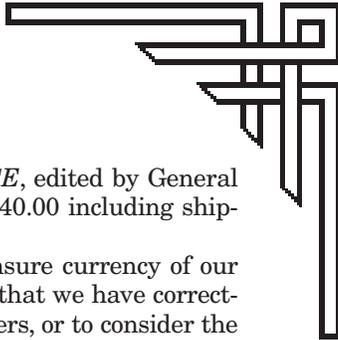
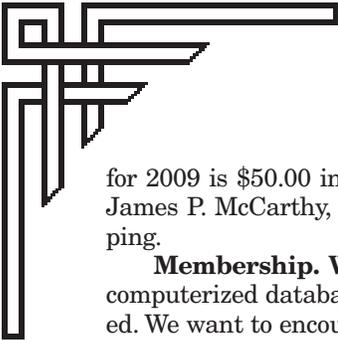
The Foundation President, with the advice of the Board of Directors, will select the winner. The first annual award was made in October 2007 to General David C. Jones, USAF (Ret), former Chief of Staff and Chairman of the Joint Chiefs of Staff, and the second award was made in October 2008 to Major General John R. Alison, USAF (Ret), a Flying Tiger and special operations commander during World War II.

The first annual Holley Award, to recognize a living person(s) who has made a sustained, significant contribution to the *research, interpretation, and documentation* of Air Force history through a lifetime of service, was made in 2007 to General Holley himself, and the second award in 2008 to Brig Gen Alfred F. Hurley, both distinguished military historians. The same nomination and selection procedures apply to both awards.

Symposium. The Foundation hosted a two-day symposium in October 2007 in Arlington, Virginia, and the Board determined to bring it back to a biennial basis. The date for this year's symposium is Thursday, October 8, in Arlington, Virginia. We have a commitment from the Chief of Staff of the Air Force, General Norton A. Schwartz, to be the featured speaker at our awards banquet. We plan to make the event attractive to our members, historians, Air Force active members, Guardsmen, Reservists, retirees, and veterans. It will be an all-day affair, featuring presentation of several major awards.

Books. The Foundation has published 15 books and one additional series over the last 35 years or so, and our latest offering is available for purchase either online (our Web site is at www.afhistoricalfoundation.org) or by calling the office at (301) 736-1959. We can mail a description and order form to anyone requesting it. The three books that we currently have available include our new book published in 2008, *WORLD WAR II: A Chronology of War*. The price for the remainder of 2009 is \$60.00, including shipping worldwide. We still have a large number of two other books. *U. S. AIR FORCE: A Complete History*, another large-format book, was published in preparation for the 60th Anniversary of the USAF in 2007. The price





for 2009 is \$50.00 including shipping. Finally, we have a number of *The AIR FORCE*, edited by General James P. McCarthy, a large-format book published in 2002. Price through 2009 is \$40.00 including shipping.

Membership. We have had to “catch-up” on some membership renewals to ensure currency of our computerized database, and in cleaning it up, have made or discovered a few errors that we have corrected. We want to encourage all our members to renew, to consider becoming life members, or to consider the benefits of renewing for a three-year or two-year period. We intend to provide more online services in the future, including more automation and greater ease in accessing the “Members-Only” sections of the Foundation Web site, member data, all previous issues of *Air Power History* and its predecessor publications, and other benefits.

Board of Directors and Strategic Guidance. The Board of Directors has worked to revise and improve the three-year strategic plan and one-year roadmap to guide the Foundation staff, informing us of the Board’s thinking on the most important projects and tasks for the staff to undertake and complete. We will be happy to share these documents with any members who ask. The Board works without any compensation, providing their time and expertise generously to strengthen the Foundation. Most Board members have full-time jobs, including one on active duty in the Air Force. Their direction, guidance, advice, and help make the Foundation viable. A wonderful group of people, with long, affectionate connections to the Air Force, Board members are dedicated to the objectives of the Foundation as laid out by Carl Spaatz, H. C. Pratt, and T. D. Milling when they incorporated the Foundation on February 20, 1953.

Development. Under the leadership of our President, Lt Gen Mike Nelson, and Development Committee chair, Maj Gen Si Johnson, the Foundation embarked on a corporate development program two years ago. We have enjoyed good success in convincing some major defense contractors to support the Foundation’s efforts to preserve and promote the appreciation of the history and heritage of the USAF and its predecessors. I thank both of these Directors for leading the charge on this effort, and we thank the corporations who have decided to sponsor the work of the Foundation.

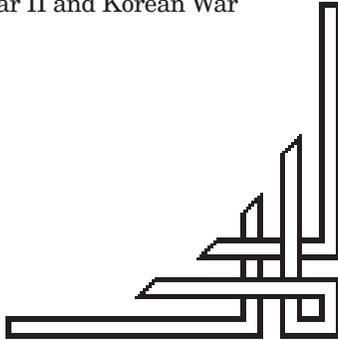
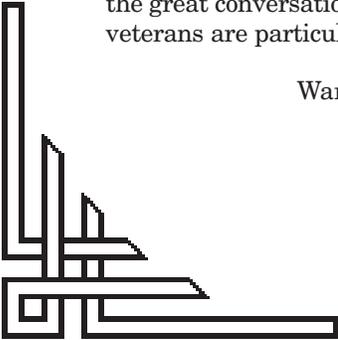
The Office. Due to some building renovations, we have moved twice within the past six months, within the same building that has housed the Foundation offices for more than two decades. Although the moves have disrupted our operations, we hope the turbulence has been transparent. We’re in our final location now and look forward to a more efficient operation for years to come. We are neither a lending library nor an archive, so we have worked hard to determine which books, manuscripts, records, and other items should be retained and which should be donated to others. We have donated appropriate books, manuscripts, and other materials to the Air Force History and Museums Program. We will keep all Foundation records, original and rare books, and other items of interest mainly to the Foundation. We will be happy to show off our office to any who want to visit us in Building 1535, Room C-102, at Andrews AFB.

On the topic of staff, Ms Angela Bear is the Office Manager and Tom Bradley is the Executive Director; that is the total paid staff. Now that our moves are over, we hope that our phone service and voice mail are working correctly and that we will be responsive and timely in answering all your requests.

Thank You to General Nelson—and to Our Members. Lt Gen Mike Nelson has served as President and Chairman of the Board for over five years, and he extended his time in office to give the Board additional time to find a successor. He wrote a farewell page for the Winter 2008 issue in which he outlined the successes of the past five years, but he did not take enough credit personally, in my view, for those successes; he provided a strong voice for changing the bylaws and governance structure in positive ways. Angela Bear and I wish to express our appreciation for his strong guidance, warm mentorship, and kind friendship during his long term in office. We have benefited greatly from his leadership. I also express my appreciation to you, the members of the Foundation, for your service to the nation during war and peace, for your continuing interest in the air power heritage and history of the United States, and for all the great conversations that I’ve enjoyed with you. The phone calls from our World War II and Korean War veterans are particularly memorable, and they make it a joy to go to work.

Warm regards,

Tom Bradley



Letters

Just Cause

Regarding my article in the Winter 2008 issue of *Air Power History* [Vol. 55, No.4] on Operation Just Cause, I unintentionally failed to credit a source: footnotes 5, 11, and 20 should also include reference to the article "Panama, 1989: Operation Just Cause" by Tom Cooper on the Air Combat Information Group website. In addition, there should be footnotes at the end of the section on Tocumen Military Airfield and Omar Torrijos International Airport (p. 41) and the section on the Battle for La Comandancia (p. 42) that credits the same article by Cooper as a source of information on ground combat operations. I apologize for these omissions.

Stetson Siler

Most Important? Says Who?

I must say I agree with Colonel Michel's decision to leave the question mark on the title to his article "The P-51 Mustang: The Most Important Aircraft in History?" [in the Winter 2008 issue of *Air Power History* [Vol. 55, No.4] I don't agree with his conclusions, however, and would answer the question with "Of course not." The enormity and complexity of the Second World War make it impossible to list any single weapon as a "the war winner." The Mustang is without question one of the most popular aircraft in history, but its importance to history was probably accurately gauged by General Kepner's remarks quoted at the beginning of the article

The P-51 did not provide a "major change in the direction of a major war" as the author claims. The Combined Bombing Offensive had been going on for several years and would have continued, with or without the Merlin-engined P-51. The AAF leaders were satisfied with the performance of both the P-47 and P-38, enough to keep them in frontline service and full production until the end of the war. They were good aircraft, but more importantly, they were "good enough" to combat the Luftwaffe on nearly equal terms and were available in large numbers. The readily recognizable P-38 was even selected to fly top cover for the invasion fleet on D-Day, giving some indication of the commanders' faith in its capabilities.

What would have happened had there been no Merlin P-51? World War II would have ended in the same manner as it did

and at approximately the same time. While it is true that many Western Allied leaders would have preferred postponing the invasion of Normandy, Churchill would not have permitted it. He was concerned about the advancing Soviet armies (whose advance would not have been slowed by the absence of a long range escort fighter) capturing all of Europe. It was essential to get an Anglo-American army on the continent in the summer of 1944 regardless of the status or strength of the Luftwaffe. At the same time, Stalin was growing increasingly impatient for his western allies to get their armies into the fight. FDR had managed to delay an invasion for two years, but it was going to happen in 1944. As the author concedes, the Allies had complete air superiority over the beaches and they fully expected enemy air attacks. Amphibious landings in the Mediterranean and Pacific had succeeded despite enemy air attacks and Overlord planners were more concerned about the weather than the Luftwaffe.

The Merlin Mustang was not "irreplaceable." In October 1943, when the need for bomber escorts was belatedly recognized, Arnold directed that all P-51 and P-38 production for the rest of the year be diverted to the Eighth Air Force. Had there been no P-51, the order to funnel the P-38's to England would likely have continued indefinitely. The Lightning was highly sought after in the Pacific and other theaters, and in this scenario those other theaters would have had to make do with other aircraft, perhaps Allison-engined P-51A's? Or perhaps North American, without Mustangs to build, might have found itself as a second source for P-38J/L's? At the same time external tanks (and an unwieldy internal tank) were being added to the P-51B, external tanks were also being added to the wings of "D" model Thunderbolts. The range of Republic's big fighter gradually increased. Although not in time for Normandy, Republic eventually produced the P-47N with increased internal fuel and longer range than the Mustang. Another unlikely potential escort eclipsed by the success of the Mustang was the Bell P-63. With a turbo-charged Allison for high-altitude operation and a laminar-flow wing similar to the P-51's, the 422 mph Kingcobra with three external tanks had nearly the same range as the P-51. One can only speculate how P-63's would have fared against the Luftwaffe over Germany, but it was one of several options available to the USAAF to meet its need for escorts.

After the Normandy invasion, the Eighth and Ninth Air Forces standardized their equipment, with P-47s going to the Ninth, because of their greater firepower

and resistance to ground fire, and the P-51s going to the Eighth to continue with bomber escort duty even after the Luftwaffe was supposedly "decimated." It should be noted that over 10,000 Mustangs, nearly two-thirds of the total produced, were delivered to the AAF *after* the Normandy invasion took place. Losses may have reduced to an acceptable level, but losses continued, and the bombing of Germany continued for fully eleven months after D-Day. In fact, the Germans managed a Thousand Plane Raid of their own, Operation *Bodenplatte*, fully six months after D-Day. They inflicted heavy losses on the Allies (quickly replaced) but sustained heavy losses themselves, which they could not make good. What mattered in the end was not "what" we produced, but "how many" and "how quickly?"

Maj. Anthony Wessel, USAF (Ret.)

More of Most Important.....

The subject article by Marshall L. Michel is full of half truths and unfounded biased statements. I would think that the author, a well educated and experienced person, would have more sense than using such a definitive expression.

The two highest scoring pilots in air-to-air battles over Europe in World War II were Gabby Gabreski and Bob Johnson and they achieved all their victories in P-47 aircraft. Most P-51 pilot aces scored some of their first victories in P-47s. The 56th Fighter Group, flying P-47 aircraft, was highest scoring group in the Eighth Air Force in Europe in air-to-air combat flying.

The P-47 could do everything the P-51 did in the war but the P-51 couldn't do the ground support missions that the P-47 excelled in. Why? Because the 51 was too vulnerable to ground fire since one rifle round in the radiator gave the pilot 5 minutes of power before the engine froze up.

The P-47N was a long range fighter and escorted B-29s to Japan that was way beyond the capability of the P-51. Ask the soldiers who did the ground fighting in Europe what was the most important aircraft and they will undoubtedly name the Thunderbolt P-47. It wasn't unusual that soldiers on leave in Paris bought P-47 pilots drinks for the help we gave them. Ask a German soldier what they hated most and you will get the same answer, "the damn Jabos" (P-47s). Ask the German High command and they also complain about the allied ground support aircraft smothering all their movements. You show a P-47 wing mounting pylon and



claim it has a high drag. The P-51 external tank is mounted close to the wing, and as a retired aerodynamic engineer I'll bet that the interference drag between the tank and wing is greater than the P-47 pylon installation. There are also many factors to consider besides drag in mounting tanks, not the least is wing flutter and dynamic considerations. The interdiction performed by P-47s dive bombing bridges over the Seine and Loire, significantly delayed German reinforcements being rushed to the Normandy battle area. This helped secure the Normandy beach lodgment.

My comments do not imply that the P-47 was the most important in lieu of the P-51, since it is my belief that that there is no most important implement in a war machine except the brave men who use them. Why didn't P-47s survive after the war like the P-51 did? The P-47 was a gas guzzler. Our long range cruise setting, 1,400 rpm and enough manifold pressure to maintain about 160 mph indicated airspeed, we used about 50 gallons/hour. A comparable setting for the P-51 used about 35 gallons/hour.

Robert V. Brulle: pilot; aeronautical engineer; engineering professor; entrepreneur; inventor; two patents; author of two books, Angels Zero (Smithsonian Institution Press) and Engineering the Space Age (Air University Press)

All of You Are Wrong!

Ace (not identified by letter's author) sent me this. He flew the F4U-4B. It was one of the limited production Hogs with four 20 mms. He recently sent me an

newspaper article about a strike on a heavily flak surrounded North Korean target. When he got back aboard the Phil Sea, and gave a thumbs up to indicate his aircraft was up, he got a vigorous thumbs down from the brown shirt. His plane had 168 bullet holes in it— no hits on anything vital. Ace was the CAG LSO when I was aboard the Midway, and was on the platform when I had to come aboard with an emergency during a driving, no visibility rain squall. This is an interesting comparison with some great aircraft.

Since the end of the Second World War, there has raged a continuous debate over which was the best overall fighter aircraft to emerge from the conflict. This debate shows no sign of abating to this day. From the school boys of the mid nineteen forties to the aviation scholars of the 1990s, P-51 advocates argue their case with Spitfire men and Lightning defenders.

While these debates certainly do not lack for passion, they frequently lack accurate analysis of the aircraft in question. There is some solid evidence that strongly supports the argument that the Chance Vought F4U-4 Corsair was the finest all around fighter of the war. Certainly it qualifies as the best fighter/bomber.

The F4U-4 arrived in combat early in 1945. Therefore, it had only about six months to establish its combat record against the Japanese. However, the big fighter remained in service throughout the Korean War, where along with the F4U-5, it gained a sterling reputation for delivering ordnance with great accuracy. Indeed, the Corsair earned the respect of

enemy pilots flying the MiG-15. Vought's Corsair was a fighter that could not be treated lightly. In a turning fight below 350 knots, the MiG pilot could find himself in big trouble very quickly.

Chance Vought's F4U-4 came about as a development of the F4U-4XA, which was first flown in early April 1944. It was fitted with an up-rated Pratt & Whitney R2800-18W or -42W engine. This power-plant developed 2,450 bhp with water injection. It was also fitted with a four blade hydromatic propeller which provided the necessary efficiency to utilize the greater power. The carburetor inlet was moved from the wing root leading edge to a duct located under the engine. The exhaust stacks had to be rerouted, as a result. Armament remained the same as the F4U-1, with six .50 caliber Browning machineguns. The limited production F4U-4B was armed with four M3 20mm cannon. Under-wing load capability was substantial. Up to three 1,000 lb. bombs along with eight 5 inch rockets could be carried. Reportedly, it was not unusual to rig the F4U-4 with as much as 6,000 lbs of ordnance. Apparently the robust structure of the Corsair could bear these loads without undue wear and tear on the airframe. Almost certainly, such overloaded Corsairs did not operate from carrier decks, but exclusively from shore bases. Let's compare the F4U-4 to its earlier sibling, the F4U-1 so that we can clearly see the improvements made.

Maximum speed

F4U-1: 417 mph @ 19,900 ft.

F4U-4: 446 mph @ 26,200 ft.

The -4 displays a 29 mph speed advantage, but more importantly, does it at a considerably greater altitude. The F4U-4 is actually 10 mph faster than the P-51D at the Mustang's best altitude.

Rate of climb

F4U-1: 3,250 ft/min.

F4U-4: 4,170 ft/min.

While the -4 has a more powerful engine, it also weighs more than the F4U-1. This marked increase in climb rate can be attributed to the more efficient four-blade propeller as well as the higher power of the up-rated power-plant. The increase moves the Corsair into stellar company with fighters such as the P-38L and the F7F Tigercat. The F4U-4 climbs at a rate 20 percent better than the P-51D.

There is little doubt that the Corsair was likely the greatest load carrying fighter of its era. There is little to compare to it except perhaps late-war models of the

F4U-4



P-47, which still fall somewhat short in maximum load.

We now get to the more subjective aspects of the -4's performance. Rating a fighter's flight characteristics is never without pitfalls. What one pilot feels is too stiff, another might describe as firm or secure. As a result, opinions may vary. However, empirical data is certainly the most valuable in determining a fighter's overall performance. The tangible things such as cockpit layout and visibility are also important, as are the intangible things such as confidence in the airframe to get the pilot home. I will do my best to present the subjective data in an unbiased manner.

In terms of maneuverability, all models of the Corsair were first rate. The F4U-4 was better than the F4U-1 series. Why? More power and better performance in the vertical regime. Very few fighters, even pure fighters such as the Yak-3 could hang with an -4 maneuvering in the vertical. Its terrific climbing ability combined with very light and sensitive controls made for a hard fighter to beat anytime the fight went vertical.

Ease of flight. The Corsair was much less a handful than the P-51 when flown into an accelerated stall, although it was by no means as forgiving as the F6F Hellcat. Torque roll was no worse than most of its high power contemporaries.

The F4U also rolled well. When rolling in conjunction with powerplant torque, in other words, rolling left, it was among the very fastest rolling fighters of the war. In the inventory of American fighters, only the P-47N rolled faster, and only by 6 degrees/second.

In level flight acceleration the F4U-4 gained speed at about 2.4 mph/sec, the P-51D accelerated at about 2.2 mph/sec. The F4U-1 could not keep up with either, accelerating at only 1.5 mph/sec. The real drag racer of American WWII fighters was the P-38L. It gained speed at 2.8 mph/sec. All acceleration data was compiled at between 10,000 and 15,000 ft at Mil. power settings.

Turning to dive acceleration, we find the F4U-4 and Mustang in a near dead heat. Both the P-47D and P-38L easily out distance the Corsair and P-51D in a dive. Still, these two accelerate better than the opposition from Japan and Germany. Moreover, both the Corsair and the Mustang have relatively high critical Mach numbers allowing them to attain very high speeds in prolonged dives before running into compressibility difficulty. With the exception of early model P-38's, it was almost always a mistake to attempt to evade American fighters by trying to dive away. This goes for early war fighters as well, such as the P-40 and F4F Wildcat. There is one story recorded by a Luftwaffe pilot who, while flying a Bf 109F over North Africa tangled with several FAA Martlets (the British name for the F4F). Finding himself alone with a Martlet on his tail, he elected to half roll into a steep dive to shake off the slow flying carrier fighter. Hurling down in a screaming dive, the German looked over his shoulder and was stunned to see the Martlet (Wildcat) closing with guns blazing. Pulling back on the stick, under heavy G loading, the German eased into a zoom climb. The F4F was still with him firing bursts. As the speed bled down, the Bf 109 began to pull away in a steady rate climb. Had the Brit been a better shot, the

German was certain he would have been shot down. He had underestimated the diving ability of the American fighter. Indeed, many of his comrades would do the same over Europe and not be as fortunate as he.

When we look at the turn rates of World War II fighters, we stumble upon several factors that determine how well a fighter can turn. Aside from the technical aspects such as wing area and wing loading, we find that some fighters are far more maneuverable at low speeds than at higher velocities. This was very common with Japanese designs. At speeds above 250 mph, the A6M (Zero) and the Ki-43 Hayabusa (Oscar) could not roll worth a nickel. But at 150 mph, they were two of the most dangerous fighters ever to take wing. It did not take long for Allied pilots to learn to avoid low speed turning duels with the Japanese. Once this rule was established, the light weight dogfighters were hopelessly outclassed by the much faster opposition.

Over Europe, things were somewhat different. The Luftwaffe flew fast, heavily armed aircraft that were not especially suited to low speed turning fights. The Allies had in their inventory the Spitfire, which was very adept at turning fights. The Americans had the P-47, P-38 and P-51. All of which were very fast and at least a match for the German fighters in maneuverability. Especially the P-38 which could out-turn anything the Luftwaffe had and could give the Spitfire pilot pause to consider his own mortality. With the exception of these last two, there was nothing in western Europe that could hang with the F4U-4. Even when including the Soviets, only the Yak-3 could hope to survive a one on one with the Corsair. To do so, the Yak would have to expertly flown. Furthermore, the Yak-3 was strictly a low to medium altitude fighter. Above 20,000 ft its power dropped off rapidly, as did its maneuverability. The Yak-3 in question had better be powered by the Klimov M107A engine and not the low output M105. Otherwise, the speed difference is too great to overcome.

So, perhaps now is a good time to summarize the performance of the F4U-4. Let's compare it to the aircraft generally believed to be the best all-around fighter of World War II, the North American P-51D Mustang.

Speed

The -4 was about 10 mph faster than the P-51D at the altitude where the Mustang developed its greatest speed.

Advantage: F4U-4



Climb

The -4 Corsair was a remarkable climber despite its size and weight. It could out-climb the Mustang by nearly 800 fpm.

Advantage: F4U-4

Maneuverability

According to Jeffrey Ethell: "Of all World War II fighters, the Corsair was probably the finest in air-to-air combat for a balance of maneuverability and responsiveness. The -4, the last wartime version is considered by many pilots who have flown the entire line to be the best of them all. Indeed, the F4U-4 had few, if any equals at the business of ACM (air combat maneuvering).

Advantage: F4U-4

Armament

Equipped with either six .50 caliber machine guns or four 20mm cannons, the -4 had more than adequate firepower to destroy any aircraft. It was the premier load carrying single engine fighter of the war. It could get airborne with bomb loads exceeding that of some twin engine medium bombers.

Advantage: F4U-4

Survivability

No other single engine fighter flown during the war could absorb greater battle damage than the Corsair and still get home. Even the USAAF admitted that the F4U was a more rugged airframe than the tank-like P-47 Thunderbolt. That is a remarkable admission. The big Pratt & Whitney radial engine would continue to run and make power despite have one or

more cylinders shot off. The P-51D, on the other hand, could be brought down by a single rifle bullet anywhere in the cooling system.

Advantage: F4U-4

Useful range

The F4U-4 had roughly the same radius of action as the Republic P-47D-25-RE, which flew escort missions deep into Germany as far as Berlin (the P-47D-25-RE had 100 gallons of additional internal fuel capacity). Yet, the P-51D still maintained a big edge in endurance.

Advantage: P-51D

Ease of flight

Despite gaining the nickname of "Ensign Eliminator", the F4U series tendency to roll under torque was no more difficult to handle than any other high powered fighter of the era. Some who have flown both the Corsair and the Mustang state without hesitation that the P-51 exhibited a greater propensity to roll on its back than did the F4U. Moreover, the Corsair was a far more forgiving aircraft when entering a stall. Although it would drop its right wing abruptly, the aircraft gave plenty of advanced warning of an impending stall by entering a pronounced buffeting about 6-7 mph before the wing dropped. The P-51, however, gave no warning of an impending stall. When it did stall, it was with a total loss of pilot control, rolling inverted with a severe aileron snatch. Recovery usually used up 500 ft or more of altitude. It was not uncommon for Mustangs to spin out of tight turns during dogfights. The F4U could also be flown at speeds more than 30 mph slower than that

at which the Mustang stalled. In other words, the P-51 could not hope to follow a Corsair in a low speed turning fight.

Advantage: F4U-4

Outward Visibility

The Corsair provided for very good visibility from the cockpit. However, few if any World War II fighters offered the pilot a better view than the P-51D. The earlier P-51B was inferior to the F4U. Nonetheless, it was the D model that made up the bulk of Mustang production.

Advantage: P-51D

Finally

There is one area in which the P-51 cannot compete at all. The F4U was designed to operate from an aircraft carrier. What this provides for is a utility that is unmatched by the better land based fighters of World War II. The ability to operate at sea or from shore can never be over-valued.

Advantage: F4U-4

In conclusion, it would be hard, no, impossible to dismiss the F4U-4 as the leading candidate for the "best fighter/bomber of World War II". Furthermore, there is strong evidence that it very well may be the best piston engine fighter (to see combat) period. Certainly, everyone can agree on this: The F4U-4 Corsair was at the pinnacle of WWII piston engine technology and performance. When people debate the relative merits of the great fighter aircraft of World War II, they would be remiss in not acknowledging the F4U-4 as one of the very best, and in the educated opinion of many, "the best" fighter aircraft to fly into combat in World War II.

Anonymous

And You Are Also Wrong!

Reference the claim the P-51 Mustang was not only the best fighter but the greatest plane ever and the rebuttal that the Corsair was the greatest, of course, that's also wrong. It's not the P-51 or the F4U-4. It's the P-47 Thunderbolt.

The P-47N model that entered combat in mid-1945, was superior to the F4U-4 in every category cited by the writer and in some categories the writer didn't mention, like survivability. Even earlier versions were more heavily armed than any version of the Corsair, despite the writer's fondness for six machineguns.

When I think of the comparison

between the F4U-4 and the P-47N, I am reminded of the conversation that took place between a British Spitfire pilot and an American P-51D Mustang pilot:

Brit: I'll prove to you that my Spitfire is the best fighter of World War II. I'll meet you anywhere and fight you at any altitude and I'll win.

Yank: Great. I'll meet you this afternoon over Malta.

Brit: Malta? You know my Spit doesn't have the range to meet you over Malta!

Yank: I rest my case.

And here is my case. The best fighter of World War II was the P-47 Thunderbolt. For proof, contact me about my book.

Robert F. Dorr

News

Donald J. M. Blakeslee (1917-2008)

Col. Donald J.M. Blakeslee, USAF (Ret.), commander of the first American fighter squadrons to reach Berlin during World War II and one of the most successful combat fighter commanders in air Force history, died of congestive heart failure at this home in Miami. He was ninety

Born on September 11, 1917, in Fairport Harbor, Ohio, he fell in loves with airplanes after watching the National Air Races in Cleveland. In 1938 he joined the Army Air Corps Reserve.

While America sat on the sidelines, the war raging in Europe, he resigned his commission and joined the Royal Canadian Air Force. He later commanded the 133d RAF Eagle Squadron and joined the U.S. Army Air Forces in September 1942 and commanded the 335th Fighter Squadron. On January 1, 1944 Colonel Blakeslee became commander of the 4th Fighter Group, which was equipped with the P-47 Thunderbolt. Blakeslee pushed to switch to the P-51 Mustang and on March 6, 1944, led the first escort mission into Berlin, protecting a fleet of B-17s and B-24s. He was credited with 15.5 victories during the war.

In *1,000 Destroyed: The Life and Times of the 4th Fighter Group* (1976), Historian Grover C. Hall, Jr. stressed Blakeslee's leadership abilities. Colonel Blakeslee remained in the Air Force and led the 27th Fighter Wing in Korea and

served in Vietnam before retiring in 1965. His wife of 61 years, Leola Blakeslee, died in 2005.

Richard S. Heyser (1927-2008)

Lt. Col. Richard S. Heyser, USAF (Ret.), the U-2 pilot who snapped the first photos of ballistic missile sites during the October 1962 missile crisis, died on October 6, 2008, in Port St. Joe, Florida. He was eighty-one.

In a 2005 interview with the Associated Press, he said he was relieved that the crisis ended peacefully. Heyser feared he might go down in history as the man who started World War III.

CIA pilots had earlier photographed antiaircraft sites in Cuba. The Air then was assigned to find offensive missile sites. On October 22, 1962, President John F. Kennedy announced that the U.S. had photographic proof of the offending missiles. The crisis ended six days later when

Soviet Premier Nikita Khrushchev agreed to withdraw the weapons.

Colonel Heyser joined the Army Air Forces in 1944, but began pilot training in 1952 and flew combat missions in the Korean War. He served two combat tours in Vietnam and retired in 1974, after thirty years service.

He is survived by his wife of fifty-four years, Jacquelyn; three sons; eight grandchildren; and a sister.

Henry O. Malone, Jr. (1934-2008)

Henry O. Malone, Jr., former Historian of the U.S. Army Training and Doctrine Command (TRADOC) and a former U.S. Air Force fighter pilot and civilian Air Force historian, died on 27 October 2008 in Hampton, Virginia. He was 74. He was reportedly in line for early voting when he collapsed.

Dr. Malone, known as "H.O.," was Historian of TRADOC at Ft. Monroe,

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Virginia, from 1981 to 1994. Enlisting in the Air Force as an Aviation Cadet in 1954, he received his wings and subsequently joined the 50th Fighter-Bomber Wing at Hahn Air Base, Germany, in 1956. The wing soon moved to Toul-Rosieres Air Base, France. He flew the F-86 Sabrejet with the wing until 1958. He earned a B. A. from Baylor University in 1960 and an M.A. from the University of Texas in 1963, as well as a Bachelor of Divinity degree from the International Baptist Theological Seminary in Ruschlikon, Switzerland. He received the Ph.D. from the University of Texas in 1980.

His doctoral dissertation on a figure in the German opposition to Hitler, Adam von Trott zu Solz, was translated and published in Germany in 1986.

Dr. Malone was born in Shreveport, Louisiana, and grew up in Texas. He served as a staff officer in the U.S. Army at Fort Hood, Texas, in the 1960's and taught at Texas Christian University from 1965 to 1973. He became the Historian of Ninth Air Force at Shaw Air Force Base, South Carolina, in 1973. He subsequently served in the historical office of U. S. Air Forces, Europe, from 1975 to 1978, and at the Office of Air Force History in Washington, D. C., until taking the post of Chief Historian of TRADOC in 1981. He took a leave of absence in 1979 to complete his dissertation. At TRADOC Headquarters at Fort Monroe, Virginia, he supervised research and writing programs, museums, and professional military education programs.

Following his retirement as Historian of TRADOC, Dr. Malone took an interest in the career of Gen. Frank Andrews, one of the pioneers of the Army Air Forces. He worked as a consultant under the name Classic Aero Enterprises, and kept up with flying. At the time of his death he was president of Citizens for a Fort Monroe National Park and was active in the effort to preserve the historic fort. He was an active member of the Hampton Baptist Church.

Although his wife, Monika, was German, they actually met in France during his service with the 50th. They were married in the Chapel at Toul-Rosieres. He is survived by his wife, two daughters: Ingrid Cleaver and Susan Maxwell, two sons: Capt. Victor S. Malone, USN, and Michael A. Malone, a sister, Marilyn

Sanders, and ten grandchildren.

William T. Bowers (1946-2008)

Col. William T. Bowers, USA (Ret.), a military historian and writer, died of cancer on September 18, 2008 at the National Naval Medical Center, Bethesda, Maryland. He was sixty-two.

Colonel Bowers served in the Army for twenty-six years and was chief of the histories division at the Center of Military History in Washington, D.C. from 1992 to 1995, when he retired.

His book, *The Line: Combat in Korea, January-February 1951*, the first in a three-volume series was issued a few days before he died.

Colonel Bowers was born in Fort Worth, Texas and earned BA and MA degrees in history from Texas Christian University. He served in Vietnam with the 1st Cavalry Division and later as an adviser. He commanded field artillery units in the U.S. and Germany. He also served as an operations officer on the Army General Staff and in the Joint Headquarters of Central Army Group and the 4th Allied Tactical Air Force at NATO in Heidelberg, Germany.

He taught history at the U.S. Naval Academy from 1976 to 1979 and was a guest lecturer at the Army War College, and at the NATO School in Oberammergau, Germany.

He was a freelance historian and writer for the George C. Marshall Foundation, the First Division Museum at Cantigny, Illinois, and the Association U.S. Army.

Colonel Bowers is survived by his wife, Ingrid Johnson Bowers; two daughters, Katherine Ann Bowers and Elisabeth Kathleen Bowers; two brothers; and a sister.

Maj. Gen. Jack E. Thomas (1931-2008)

Maj. Gen. Jack E. Thomas, USAF (Ret.), ninety-eight, died on December 11, 2008.

General Thomas earned a BA in political Science from the University of Utah, an MS in public administration and PhD in political science from the University of California, Berkley. His career in military intelligence spanned more than sixty years, capped by his appointment as

Assistant Chief of Staff, Intelligence under Generals, Curtis LeMay and Jon McConnell.

Following his retirement from the Air Force in 1969, General Thomas served on the staff of the Director of Central Intelligence and as a consultant in the Office of the Secretary of Defense. He served on several intelligence boards, including the Association of Former Intelligence Officers and the National Military Intelligence Association. The latter named an award in his honor. General Thomas's decorations include the USAF DSM, CIA DSM, the Legion of Merit for his World War II service in Italy and several foreign medals. In 1998, he received the Baker Award.

General Thomas is survived by his wife, Margaret Rohrer; four nephews, and three grandnieces.

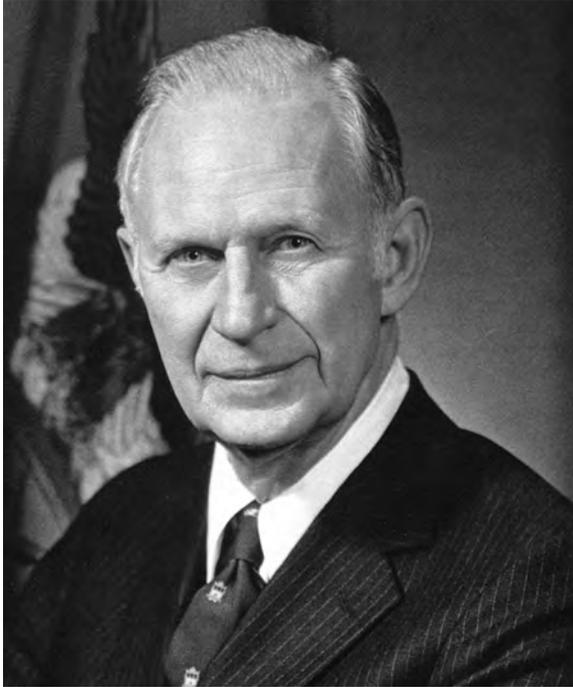
Note

Finding Unexploded Bombs in Germany

Those reading the *Wall Street Journal* or visiting its web site on November 21, 2008, perhaps seeking the latest news on the world economic crisis, would have also seen a first-page article with this headline: "Looking for Bombs in Germany? Start Your Search in Alabama." The story, by reporter Michael Phillips, was about how a German engineering consultant is using the Air Force Historical Research Agency t Maxwell AFB, Alabama, and other archives to find documents and photographs needed to analyze former targets and locate unexploded (but still dangerous) ordnance from among the 1.5 million tons of bombs dropped on that nation during World War II. The article included one of the *Wall Street Journal's* distinctive stippled portrait drawings of Air Force archivist Archie DiFante and some examples of how he has helped the German researcher. In addition to this drawing, the *Journal's* web site featured a interactive display of how aerial photos of targets are used to locate unexploded bombs.

Lawrence L. Benson

Verne Orr 1916-2008



Verne Orr, a former Secretary of the Air Force died on November 27, 2008. He was ninety-two.

Born on November 12, 1916, in Des Moines, Iowa, he grew up in the Midwest and moved to California with his family at about the time he entered high school. Mr. Orr earned a BA degree from Pomona College in 1937 and an MBA from the Stanford University in 1939.

In April 1942, he entered military service as an ensign in the Supply Corps of the United States Naval Reserve. During the war, he served in the United States and in the Pacific theater. He was released from active duty as a lieutenant in November 1945 and honorably discharged from the Naval Reserve as a lieutenant commander in 1951.

Mr. Orr became a partner in his father's Chrysler dealership in Pasadena, California, and remained there until 1960, when he began a two-year affiliation with a family investment business. From 1963 to 1966 he was president of Investors Savings and Loan in Pasadena. He married Joan Perk of Des Moines and they had two children.

Governor Ronald Reagan of California appointed Orr as the state's director of motor vehicles, a position Orr held

until 1969. He then served briefly as the state's director of general services and in January 1970 began a five-year term as California's director of finance.

From 1975 to 1980 Orr taught graduate finance courses at the University of Southern California. In 1977 he established a small real estate partnership with his son. Mr. Orr served on Governor Reagan's presidential campaign committee and was deputy director of the office of the president-elect during the autumn 1980 transition period. He also served as comptroller for the Reagan presidential campaign and as deputy director and comptroller for the Reagan-Bush campaign.

Prior to becoming secretary of the Air Force, Orr was involved in many civic activities, including the Pasadena Merchants Association, the Kiwanis Club of Pasadena, the Family's Services Association of Pasadena, and the United Way of Los Angeles County; and as foremen of the Los Angeles County Grand Jury. In 1977 California governor Jerry Brown named him a regent of the University of California.

Orr anticipated that he would be offered the directorship of the Office of Management and Budget when Reagan was inaugurated, because the responsibilities of that office paralleled those that he had carried as director of finance for the state of California. Instead, he was appointed Secretary of the Air Force. According to Orr, his appointment was met with some skepticism: "What is a used car salesman and a former Navy officer doing running the Air Force? Barry Goldwater, a family friend said, "I don't think Verne knew which end of the airplane went down the runway first."

The Reagan administration marked a sharp turnabout from its predecessor's approach to defense spending. "We are going after more military and civilian authorizations, higher force levels, and more airplanes and equipment. Riding the crest of the Reagan defense spending wave, Orr could concentrate on issues other than weapon system procurement. He chose to focus on the quality of life for Air Force personnel. He sincerely believed that women had more opportunities because of his initiatives; he helped to enhance the promotion opportunities of nonrated officers; and he tried to attain better living conditions for service members—better dormitories, better gymnasiums, and family service centers. Both Mrs. Orr and the wife of Air

Force Chief of Staff Charles A. Gabriel, were ardent advocates of family support centers. Two substantial pay raises in 1981 and 1982 kept Air Force salaries even with the rate of inflation. All of those activities enhanced retention rates.

During Orr's tenure, he and his wife visited nearly 250 bases, including ones so small that they housed only a Guard or Reserve unit with a hangar and maintenance shop. For three Christmases in a row, the Orrs visited remote air bases, such as Thule and Sondrestrom in Greenland and four remote sites in Alaska and Iceland. Not averse to public speaking, Orr gave more than 700 speeches and interviews while in office.

When he left office, Orr could point positively to an Air Force that was better equipped than it had been at any moment in the previous decade. It had the B-1B bomber, the ground-launched cruise missile, and 650 more fighter aircraft and 30 more KC-10s than it had when his tenure began. The Air Force Space Command had been established and ground had been broken for the Consolidated Space Operations Center in Colorado and for the Air Force Shuttle Launch Facility in California.

When he left office after nearly five years, Verne Orr had surpassed by two months Eugene M. Zuckert's record as the longest-tenured Air Force secretary. Orr would have stayed longer but left because of his wife's ill health. He returned to his private life and to his business interests in Pasadena, California. His wife died in 1988.

In 1989, Orr married the former Sarah Smith, after meeting her at a United Way fundraiser. The couple established a planning and management consulting firm, and he began working on his doctorate in Politics and Public Planning at the Claremont Graduate University in the 1990s. He put off his studies to become dean of the University of La Verne's School of Business and Global Studies in 1999, but after he retired from the position in 2002 renewed his studies again. His 164-page microfilm edition of his dissertation focused on the B-1 bomber. One of his professors told him not to spend too much time in the library. He said: "You don't need to do any more research, you are the research, you were there." As his second wife recalled, Mr. Orr left an intensive-care unit only three days before the degree ceremony. Supported by others, he made his way across the stage to claim his PhD at the age of 88.

Survivors include his wife, Sarah, two children from his first marriage, two stepchildren, and two grandchildren.

George M. Watson, Jr., Senior Historian, Office of Air Force History

Guidelines for Contributors

We seek quality articles—based on sound scholarship, perceptive analysis, and/or firsthand experience—which are well-written and attractively illustrated. The primary criterion is that the manuscript contributes to knowledge. Articles submitted to *Air Power History* must be original contributions and not be under consideration by any other publication at the same time. If a manuscript is under consideration by another publication, the author should clearly indicate this at the time of submission. Each submission must include an abstract—a statement of the article's theme, its historical context, major subsidiary issues, and research sources. Abstracts should not be longer than one page.

Manuscripts should be submitted in triplicate, double-spaced throughout, and prepared according to the *Chicago Manual of Style* (University of Chicago Press). Use civilian dates and endnotes. Because submissions are evaluated anonymously, the author's name should appear only on the title page. Authors should provide on a separate page brief biographical details, to include institutional or professional affiliation and recent publications, for inclusion in the printed article. Pages, including those containing illustrations, diagrams or tables, should be numbered consecutively. Any figures and tables must be clearly produced ready for photographic reproduction. The source should be given below the table. Endnotes should be numbered consecutively through the article with a raised numeral corresponding to the list of notes placed at the end.

If an article is typed on a computer, the disk should be in IBM-PC compatible format and should accompany the manuscript. Preferred disk size is a 3 1/2-inch floppy, but any disk size can be utilized. Disks should be labelled with the name of the author, title of the article, and the software used. Most Word processors can be accommodated including WordPerfect and Microsoft Word. As a last resort, an ASCII text file can be used.

There is no standard length for articles, but 4,500-5,500 words is a general guide.

Manuscripts and editorial correspondence should be sent to Jacob Neufeld, Editor, *c/o Air Power History*, 11908 Gainsborough Rd., Potomac, MD 20854, e-mail: jneufeld@comcast.net.



Our Winter 2008 mystery aircraft was a Curtiss O-1E Falcon observation plane (serial number 29-307) assigned to Bolling Field in Washington, D.C.

The Falcon was very much a product of the Roaring Twenties, which experienced social excesses and sparse Army budgets. It offered few technical advances or innovations.

Curtiss manufactured export and civilian Falcons, including one custom-built for Charles Lindbergh. The planemaker also produced 107 O-1s and 76 A-3s for the Army, in several versions. Typical was the O-1E, powered by the 435-horsepower Curtiss V-1150-5 piston engine and was capable of reaching 145 miles per hour. With an observer in the back seat having excellent outside visibility, it must have been very effective as an eye in the

sky, but it was even more important as the progenitor of the more heavily armed attack version.

In the 1920s, the Army wanted not merely to scout the foe but to attack him. Modification of the existing O-1 was a quick way to gain ground attack capability. In July 1926, an official document recommended the A-3 Falcon "as a substitute until a more satisfactory type can be developed." Several versions appeared: Our follow-up photo depicts the A-3B, which entered service in 1930.

All 31 readers who submitted entries in the History Mystery contest identified the "what is it?" aircraft correctly. Our winner chosen at random, Thomas Hegre of Carmichael, Calif., will receive as his prize a copy of the book "Hell Hawks," a history of an American fighter group in combat in World War II.

Once more, we present the challenge for our ever-astute readers. See if you can identify this month's "mystery" aircraft.

But remember the rules, please:

1. Submit your entry on a postcard. Mail the postcard to Robert F. Dorr, 3411 Valewood Drive, Oakton VA 22124. Entries may also be submitted via e-mail to robert.f.dorr@cox.net.

2. Correctly name the aircraft shown here. Also include your address and telephone number. Please note: Entries not accompanied by both an address and a phone number will be disqualified. This has happened.

3. A winner will be chosen at random and will receive an aviation book.

This feature needs your help. Do you have a

photo of a rare or little-known aircraft? We'll return any photos provided for use here.



This Issue's Mystery Plane