

Airpower Pioneers: From Billy Mitchell to David Deptula, ed. John Andreas Olsen. Annapolis: Naval Institute Press, 2022, 431 pp.

During the early years of aviation, the military use of aeroplanes witnessed Great Britain, Germany, France, and Italy leading the way in doctrinal evolution and operational exploitation.¹ Giulio Douhet, Hugh Trenchard, and John Slessor emerged as early military aviation pioneers advocating for independent air forces in the interwar years. Across the Atlantic, the lone figure of William “Billy” Mitchell kept hopes alive for an independent US Air Force (USAF).

While the American air effort in World War I was significant, it was only after World War II, with US airmen demonstrating skill, courage, operational dexterity, and vision under leaders like Billy Mitchell, Henry “Hap” Arnold, Hoyt Vandenberg, and Curtis LeMay, that President Harry S. Truman acquiesced to the idea of an independent USAF. The USAF was eventually carved out of the US Army Air Forces in September 1947. Since then, it is fair to argue that the USAF has been the wellspring of global airpower doctrine and its application, propelled by visionary airmen.

Airpower Pioneers: From Billy Mitchell to David Deptula, an edited volume by John Andreas Olsen, serves as a fitting tribute to the architects of the modern USAF. Professor Olsen, an accomplished airpower historian, has an impressive repertoire covering theory, doctrine, and detailed analyses of almost all air campaigns by Western air forces in the post-WWII era. What sets this volume apart is Olsen’s curation of a remarkable array of “heavyweight” academics and practitioner-scholars who do justice to the legacies of 12 visionary airmen shaping the destiny of the USAF.

The profile-essays in the volume, deeply researched with immaculate references, provide readers the opportunity to delve deeper. Olsen strategically organizes his “pioneers” into three distinct eras: the postwar years of consolidation, the Cold War and the maturing of the USAF into a dominant force with global reach and war-winning capabilities in the post-Vietnam and post-Cold War

¹ The Indian Air Force (IAF) stands as one of the oldest independent air forces globally and has, in recent decades, evolved into a highly proficient and adaptable force of significant influence. As a strategic partner of the USAF since the mid-1990s, this assessment, provided by an accomplished IAF doctrinal expert and military historian, presents a distant yet nuanced summary of the leaders who have played pivotal roles in defining the dimensions of the world’s most powerful aerospace force today.

era, and lastly, the transformation of the USAF into an aerospace power with full-spectrum capability to cope with the changing character of war and conflict.

Richard P. Hallion aptly captures the passion, tenacity, and courage of conviction exhibited by Brig Gen Billy Mitchell as he navigated through deeply entrenched operational mind-sets and “ownership” issues. Mitchell, a true maverick, planted the seeds of an independent air force in the minds of the US strategic community. After plunging into “turf” wars with the US Navy and facing a board of inquiry, Mitchell resigned from the air service in early 1926. However, he remained a vocal advocate for creating a viable military aviation ecosystem centered around an independent air force, innovative research, and a vibrant aviation industrial complex. Mitchell, the inspirational gladiator, provided self-sustaining momentum to the creation of the USAF, influencing key policy makers like Gen George C. Marshall.

If Mitchell embodied the maverick spirit, Gen Hap Arnold brought substance, form, and operational validation, establishing the technological and institutional foundation of the USAF. Dik Alan Daso provides insights into this West Point graduate who transitioned from the infantry to the US Army’s aviation arm in 1911, gaining experience as a military aviation planner during the closing stages of WWI. Under the assiduous mentorship of Billy Mitchell, Arnold’s ascent was steady. He assumed command of the Air Corps as a major general in 1938 and remained at the helm of military aviation affairs in various capacities until 1950.

Arnold’s prowess reached its zenith during the crucible of WWII, seamlessly integrating theory and technology into practice. He actualized President Franklin Roosevelt’s vision of mass aircraft production as the ultimate weapons of war. Recognizing Arnold’s leadership acumen at the onset of the war, Roosevelt entrusted him with the challenging task of persuading the British to recognize and accommodate US airpower as an equal partner—a task Arnold executed brilliantly.

Arnold further solidified his strategic and operational acumen during WWII through initiatives like the daring Doolittle Raid over Tokyo in response to the Japanese attacks on Pearl Harbor and the Strategic Bombing Offensive in Europe. Promoted to a five-star Army General after WWII and becoming the first five-star general of the newly formed US Army Air Forces just before its renaming as the USAF, Arnold indisputably deserves the title of the father of the USAF.

Since the end of WWII, the USAF has maintained global leadership not only in the evolution of airpower doctrinal guidance and its strategic employment but also in their translation into viable tactical concepts. Richard R. Muller attri-

butes much of this success to Maj Gen Haywood S. “Possum” Hansell, Jr. Spending formative years in the 1930s at the Air Corps Tactical School (ACTS), Hansell shaped an initial targeting doctrine that has seen several iterations over the past eight decades. A professionally trained engineer-pilot, Hansell brought a pronounced systems approach to intelligence gathering and its utilization in assessing various targets and weapon-to-target matching, now intrinsic to mission planning. Despite not rising beyond a two-star rank, Hansell remained a powerful intellectual voice and advocate of American airpower until the mid-1980s, unique among the pioneers as a detailed planner, proficient combat leader, and airpower historian.

A contemporary of Hansell with similar staff and combat experiences in WWII, Gen Hoyt S. Vandenberg emerged as a rising star by the war’s end, demonstrating a profound understanding of air-land operations that garnered the trust of top surface commanders like generals Dwight D. Eisenhower and Omar Bradley. Selected by President Truman to serve as the first director of the Central Intelligence Agency for a year, Vandenberg returned to the USAF, becoming one of the youngest four-star generals in American history. In 1948, he succeeded Gen Carl A. Spaatz as the second Chief of Staff of the Air Force (CSAF).

Col Phillip S. Meilinger, a widely published contemporary practitioner-scholar in the USAF, meticulously traces Vandenberg’s tenure as CSAF through the early and tumultuous Cold War period. This era witnessed the ascendance of nonkinetic American airpower as the sword arm of diplomacy during the Berlin Blockade. Meilinger lucidly presents Vandenberg’s strategic flexibility as he grappled with the realization that tactical airpower in conventional warfare needed to yield to long-range offensive airpower, or strategic bombers, as the primary element in nuclear deterrence and war avoidance strategies. Vandenberg’s lasting legacy is evident as he shaped and empowered the Strategic Air Command (SAC), positioning the USAF as the frontline deterrent against the Soviet Union. Remarkably, he holds the record for the longest-serving CSAF, serving just over five years.

In Paul J. Springer’s objective profile, the cigar-chomping Gen Curtis E. LeMay emerges as an assertive advocate of airpower as the principal instrument of violence, punishment, and coercion at the disposal of the US strategic establishment. A strong proponent of the bombing campaigns over Germany and Japan during WWII, both as an active combat leader and operational planner, LeMay displayed a ruthless streak, executing without remorse the widespread area bombing of population centers in Japan and the dropping of nuclear bombs over Hiroshima and Nagasaki. Leading the transformation of SAC during the Cold

War, LeMay ensured that the long-range bomber remained the primary nuclear delivery platform until intercontinental ballistic missiles (ICBM) joined the fray.

Disinterested in the intellectual dimension of warfare, LeMay stands out as the most controversial CSAF in history. During the Bay of Pigs incident and the early years of the Vietnam War, he clashed with presidents John F. Kennedy and Lyndon B. Johnson, Secretary of Defense Robert McNamara, fellow service chiefs, and the Chairman of the Joint Chiefs (CJCS) of Staff over the doctrine of calibrated escalation. Instead, he advocated for an unrestricted bombing campaign to achieve operational and strategic objectives. Even after retirement, LeMay remained a controversial figure, leaving an indelible impact on the USAF.

In contrast to LeMay and his predecessors, often labeled the “bomber mafia,” Gen Bernard E. Shriever stood out as an aviator outlier from the same era. According to RAND’s Karl P. Mueller, Shriever made significant contributions to the growth of American airpower in three key domains: ballistic missile development, the military exploitation of space, and initiatives focused on future technologies. Frequently at odds with LeMay regarding the vulnerabilities of long-range bombers against an improving Soviet air defense network, Shriever successfully brought the Atlas and Titan rocket programs to fruition with explicit presidential approval as launch platforms for nuclear warheads, reaching deep into the heart of the Soviet Union. This accomplishment completed the triad of air-, sea-, and land-based second-strike nuclear delivery systems well before the Soviets achieved a similar capability.

Shriever’s foresight regarding the potential of space for intelligence, surveillance, and reconnaissance (ISR) led to the launch of the initial set of Corona satellites. These satellites provided the first detailed images of the Russian hinterland, laying the groundwork for subsequent programs. Additionally, Shriever’s intellectual humility and agility kept him connected with operational practitioners as he spearheaded programs such as the search for optimum aerial refueling technologies, stand-off weapons, and heavy-lift long-range transporters. Notably, Shriever stands out as one of the few highly impactful airmen who did not ascend to the position of CSAF.

A noteworthy addition to the volume is an aviator-turned-engineer who played a crucial role as an influential voice of the USAF in areas related to the development of national security strategy and military power during the peak of the Cold War in the 1960s and 1970s. The ascent of Lt Gen Glenn A. Kent to the highest echelons of the USAF reflects the cultivation of multidisciplinary intellectual expertise within the service. In a piece by David A. Ochmanek, a senior defense analyst at RAND, Kent’s legacy is explored, highlighting the USAF’s leadership among the three services in leveraging current and future tech-

nologies. Beyond Kent's groundbreaking initiatives at RAND and the Pentagon, following academic stints at prominent US institutions such as Caltech, UCLA, Berkeley, and Harvard, his ability to transcend single-service turf wars over the control of nuclear weapons deserves attention in an era where integration is a central theme across militaries. Kent's initial work played a pivotal role in transforming the SAC into a joint combatant command in the 1990s.

Evolving from a force primarily centered around bombers and missiles, dedicated to policies of deterrence and retaliation, the Korean and Vietnam Wars played a pivotal role in reshaping tactical fighter operations as the forefront of a rejuvenated USAF. The Vietnam conflict and the failed Iran hostage rescue mission "Eagle Claw" compelled the US military to undergo reform and transformation, spurred by the Goldwater–Nichols Act of 1986. At the helm of this transformation was Gen David C. Jones, who served as both CSAF and later as the CJCS. As a bomber pilot himself, Jones initiated reforms during his tenure as CSAF, altering the way aircrew trained in realistic conditions. His era witnessed the introduction of Exercise Red Flag and several new aircraft programs, including the F-15, F-16, and E-3 programs. Brian Laslie portrays Jones as a "skilled administrator and strategist—the driving force behind the most fundamental reorganization and reallocation of command and control of the U.S. military in the post-World War II era."

Gen Wilbur L. "Bill" Creech, akin to General Shriever, made a lasting impact on the USAF despite not ascending to the position of CSAF. In a comprehensive analysis, Benjamin S. Lambeth, a prolific air historian, examines the legacy of Creech, one of the finest fighter leaders produced by the USAF. A protege of General Jones, Creech orchestrated the complete transformation of Tactical Air Command (TAC) between 1978 and 1984. Transitioning it from a stagnant, hierarchical, and inefficient combat force to a well-oiled machine that excelled in actual combat during Operation Desert Storm, six years after he relinquished command. At the tactical and operational levels, Creech significantly enhanced training regimens, expanded the Red Flag series, improved electronic warfare (EW) capabilities, elevated flight safety, and increased aircraft availability and sortie generation rates, among other initiatives. However, Creech's legacy extends beyond the operational realm, as he will be remembered for transforming leadership paradigms and organizational efficiency through a decentralized and empowering approach. This approach dismantled the prevailing toxic environment that "strangled motivation, leadership and creativity."

While all the pioneers featured in the book championed ideas, innovation, and initiative, none exhibited the level of commitment to intellectualizing aerial warfare as Col John A. Warden did in the 1980s. John Andreas Olsen, an ad-

mirer of Warden and an educator for the past decade, persuasively argues that Warden's most significant achievement was bridging the gap between theory, doctrine, strategy, and practice. This approach allowed air planners to formulate war-winning campaign plans, exemplified by Instant Thunder, the decisive aerial campaign during Operation Desert Storm. Despite facing opposition from several senior leaders of the USAF, including Gen Charles A. "Chuck" Horner, Joint Force Air Component Commander during Desert Storm, Warden established "Checkmate" in the Pentagon. This initiative aimed to advise, inform, and interface with policy makers in Washington, DC, contributing not only to the strategic air campaign over Iraq but also to the aerial campaign over the Kuwaiti Theatre of Operations (KTO). An outspoken advocate of airpower as the lead element of US power projection with his "Global Reach and Global Power" concept, Warden approached his role as the commandant of the Air Command and Staff College after Operation Desert Storm with the same fervor he demonstrated during campaign planning. After being overlooked twice for promotion to one-star rank, Warden retired in 1994, leaving an enduring legacy that will be challenging to match.

The last CSAF profiled in the book, Gen Merrill A. McPeak, also emerges as a highly controversial figure, akin to Curtis LeMay. Heather P. Venable provides an objective assessment, acknowledging McPeak as a "disruptor" and "innovator" who transformed the USAF to meet its future challenges in a post-Cold War era. Whether it was the consolidation of TAC and SAC into an Air Combat Command, the reformation of the Military Airlift Command into an Air Mobility Command, or the promotion of close air support as a mission set without compromising control or ownership of aerial assets, McPeak fearlessly implemented unpopular decisions that were taken in the national interest.

The selection of Lt Gen David A. "Dave" Deptula as the concluding figure in this volume underscores the intellectual focus of this compilation. Christopher J. Bowie, in his examination of Deptula's career, presents a unique contemporary American USAF leader. Deptula started as a specialist fighter pilot in his early career, evolved into an adept joint planner and campaign manager during his middle years, became an inspiring combat leader, and ultimately assumed the roles of strategist and futuristic innovator in his final leadership assignment as the Deputy Chief of Staff for ISR. Following his retirement in 2010, Deptula transitioned to the role of a mentor and educator, serving as a senior scholar at the Air Force Academy's Leadership Center and later as the Dean of the Mitchell Institute of Aerospace Studies since 2013, where he has consistently pushed the boundaries of contemporary aerospace thought.

In conclusion, this excellently compiled and edited volume serves as a fitting tribute to the architects of the USAF since its formation 76 years ago. It is a must-read for those seeking to comprehend the evolution, growth, and transformation of the USAF. 📖

Air Vice Marshal Arjun Subramaniam, Indian Air Force, Retired

Air Vice Marshal Subramaniam is an accomplished fighter pilot with a wealth of experience spanning various command, staff, and instructional roles. Renowned internationally as an airpower doctrinal expert and military historian, he has authored five books, including *India's Wars: A Military History 1947–1971* (Naval Institute Press, 2017) and *A Military History of India since 1972: Full Spectrum Operations and the Changing Contours of Modern Conflict* (University Press of Kansas, 2021). His expertise has been recognized through visiting fellowships at The Harvard Asia Center and the Changing Character of War Programme at Oxford University, as well as a visiting professorship at the Fletcher School of Law and Diplomacy and Ashoka University. Until recently, he held the prestigious position of the President's Chair of Excellence in National Security Affairs at the National Defence College, New Delhi. Currently, he serves as a non-resident fellow at the Mitchell Institute of Aerospace Studies in Washington, DC.