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AU-3

Air University Press Publications

2011–2012



**Air University Press
Air Force Research Institute
Maxwell Air Force Base, Alabama**

August 2011

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Air University (AU) Press, operating as a division of the Air Force Research Institute, publishes books, monographs, and occasional papers on subjects related to airpower and national security, including Air Force doctrine, strategy, history, leadership, professional military education, and technology. AU Press also provides publishing support to two Air Force–sponsored journals—namely, the *Strategic Studies Quarterly* and the *Air and Space Power Journal* with its unique versions in English, Spanish, French, Portuguese, Arabic, and Chinese. Our publications program is designed primarily to help Air Force and other US war fighters, national leaders and policy makers, academicians, military historians, and other analysts understand and apply airpower in peacetime and conflict. These publications are the result of unique research by military authors and civilian scholars.

Established in 1953, the AU Press has published a significant body of literature that fosters the development of improved understanding about the nature of airpower, warfare, and national security. Most of the studies are not duplicated in academe or any of the other senior service schools. The AU publications program is crucial to the exchange of ideas within the Air Force and the Department of Defense (DOD) and to the cross flow of critical thinking between the military and civilian communities. The views expressed in these publications are those of the authors and do not reflect the official policy or position of the DOD or the United States government.

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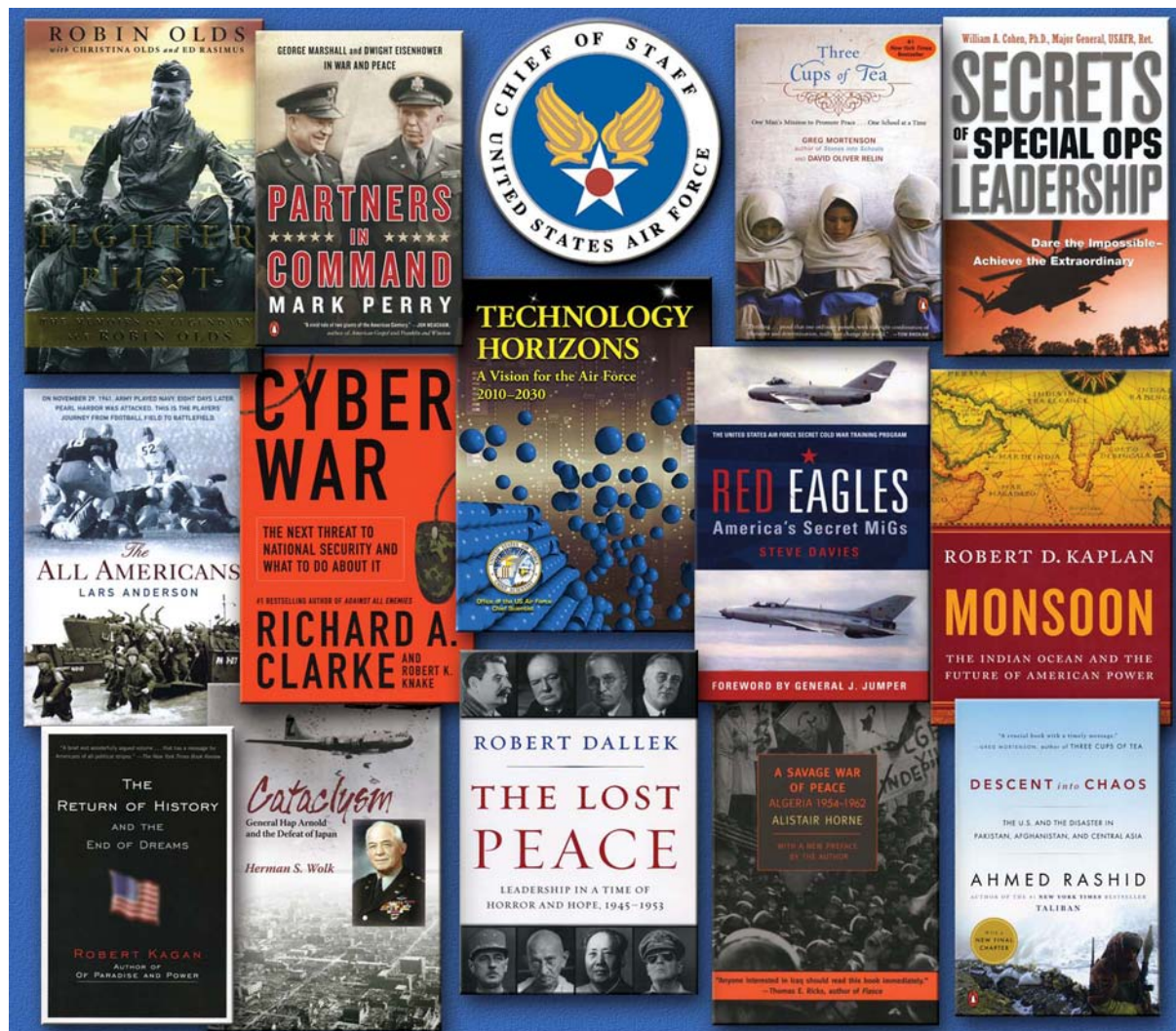




CSAF READING LIST

Gen Ronald Fogleman created the Chief of Staff of the Air Force (CSAF) Professional Reading Program in 1996 to help Air Force members—officers, enlisted, and civilian—become more effective advocates of airpower through a common frame of reference. Gen Norton Schwartz continued the program as a valuable guidepost for lifelong learning when he took office as CSAF in 2008. In his newest reading list, he remarks that “professional reading will continue to be vital as we maintain our initiative today and prepare for the future.” The 2011 list contains 14 books divided into three categories: leadership, strategic context, and military heritage.

The CSAF reading list can be accessed at <http://www.af.mil/library/csafreading/>, complete with links to reading lists from previous years and book reviews. The books are available at Air Force libraries and at public vendors such as Amazon.com.



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Please refer to AU-1, *Air University Style and Author Guide*, page 203, for information on how to publish with us. An electronic copy of AU-1 is available on our website at <http://aupress.au.af.mil/autext.asp>. The “Air University Press Author Guide” begins on page 199 and contains information about the AU Press publication process.

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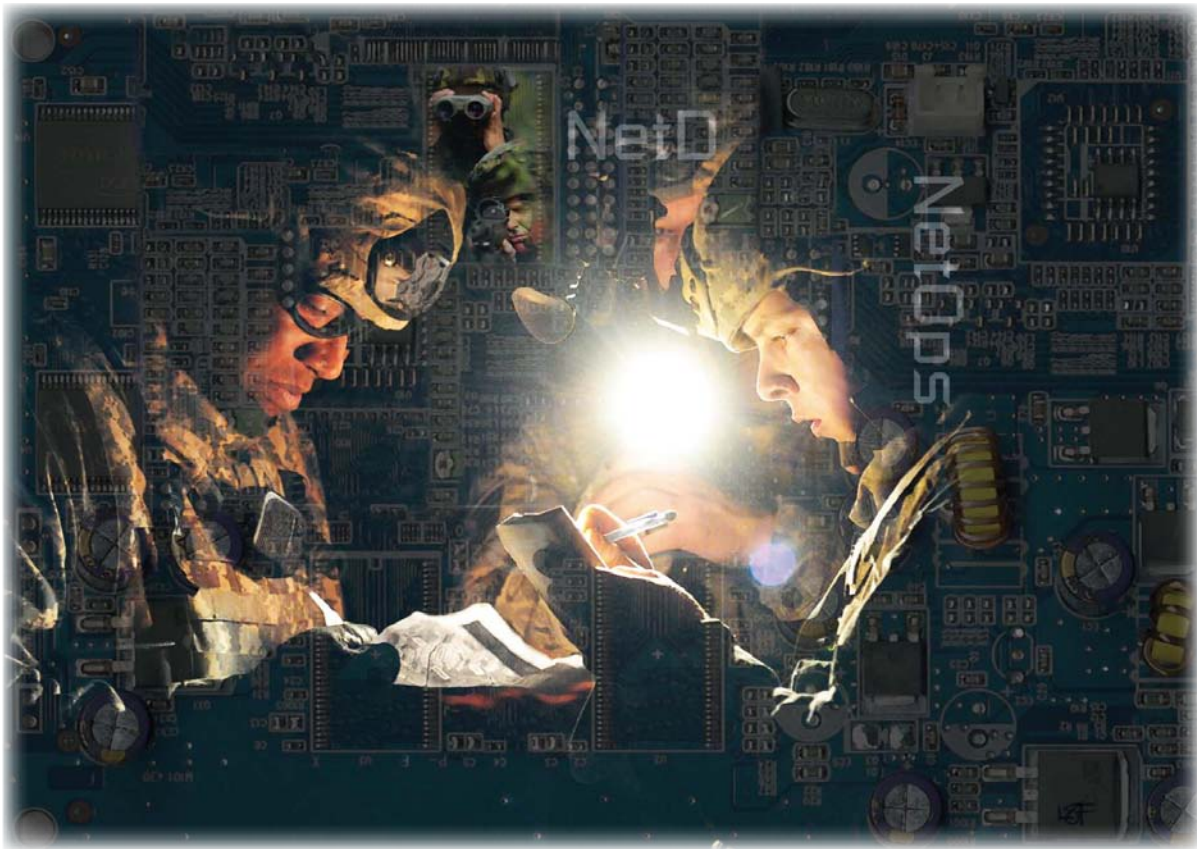
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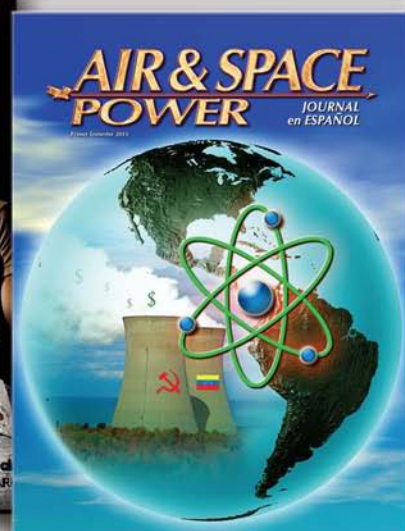
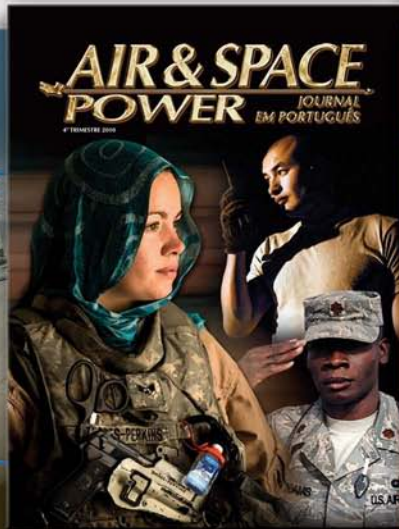
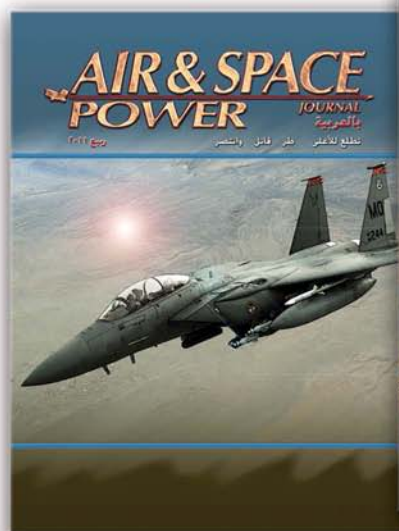
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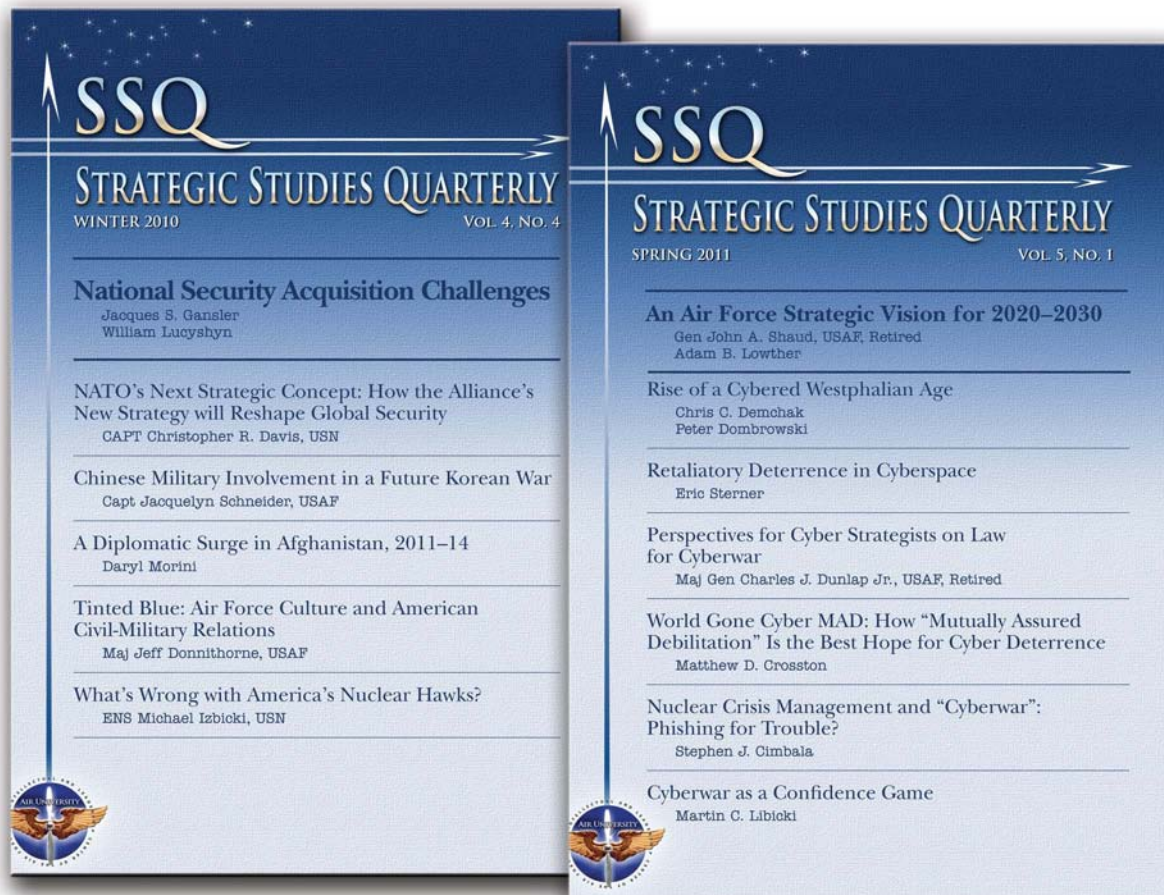
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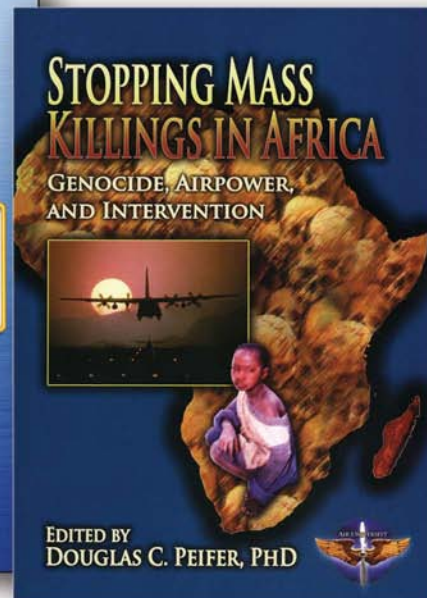
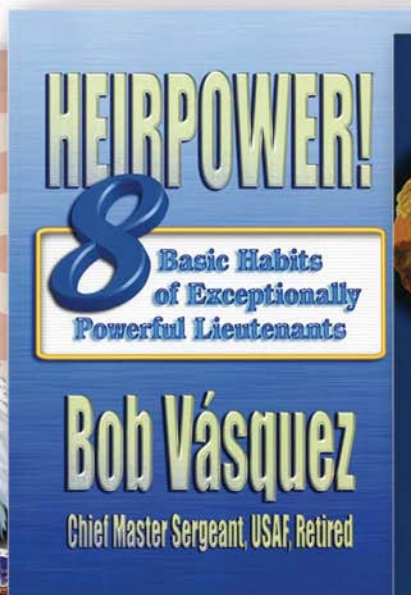
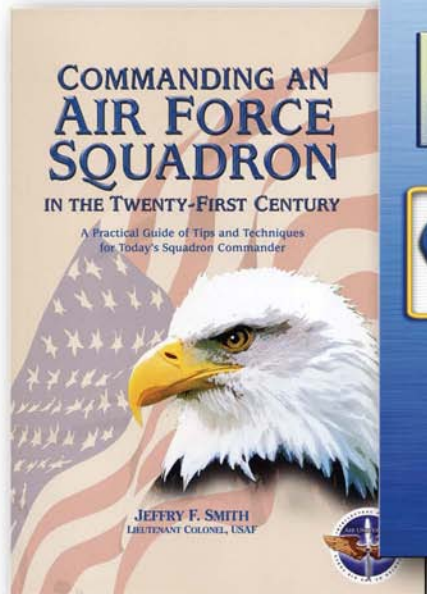
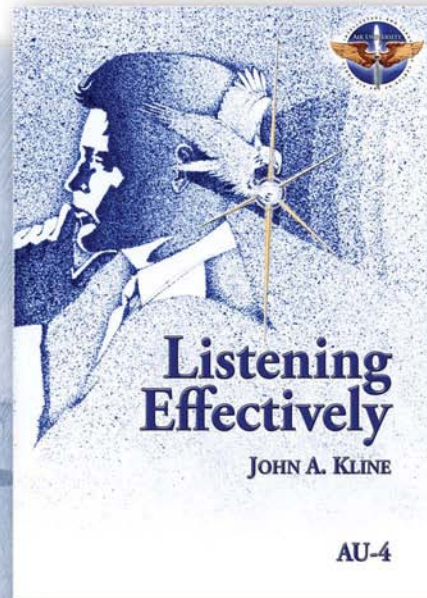
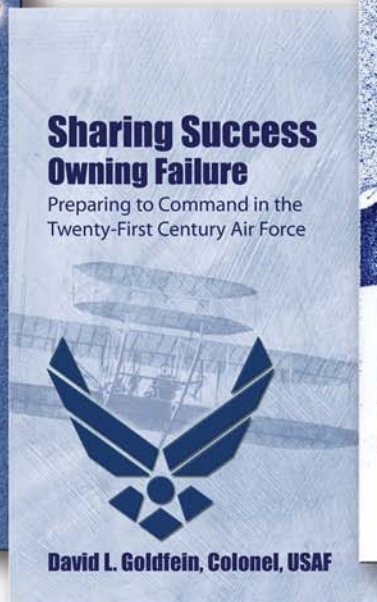
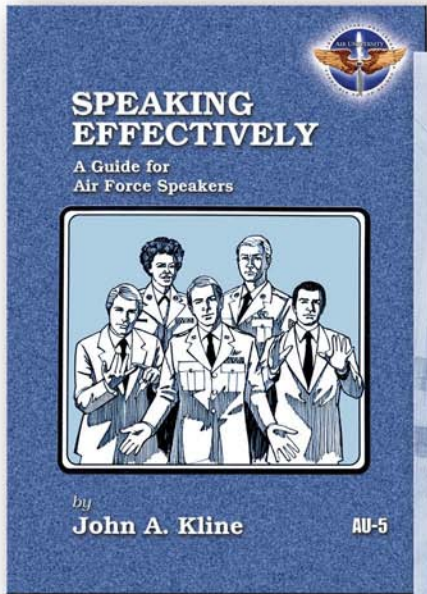


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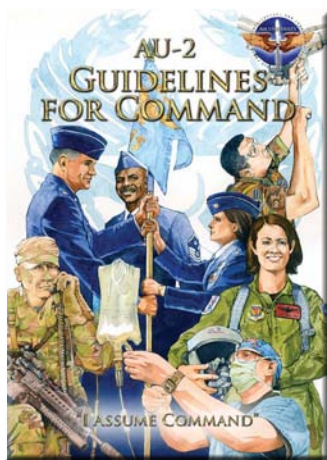
AU-1 **Air University Style and Author Guide**

Bassett, Dr. Marvin, Editor

The *Style Guide*, part 1 of this publication, provides guidance to Air University's community of writers. It offers a coherent, consistent stylistic base for writing and editing. The *Author Guide*, part 2 of this publication, offers simple, concise instructions to writers who wish to submit a manuscript to AU Press for consideration.

2005. 230 pages.

ISBN 978-1-58566-143-5



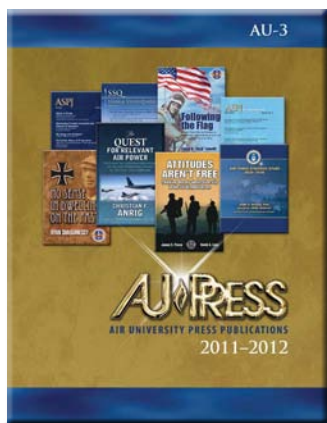
AU-2 **Guidelines for Command**

Prepared by Air Command and Staff College

The intent of this book is to advance the practice of command. The advice and experiences offered by prior commanders will help you become a better, more effective leader.

February 2008. 286 pages.

ISBN 978-1-58566-144-2



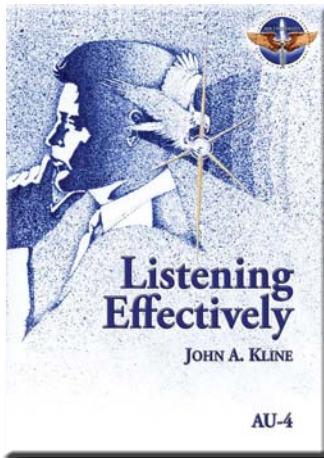
AU-3 **Air University Press Publications**

Prepared by Air University Press

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2011–2012. 134 pages.

ISBN 978-1-58566-171-8



AU-4 Listening Effectively

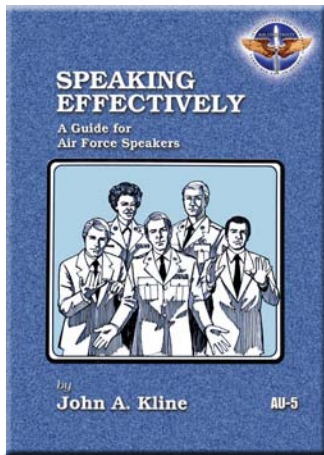
Kline, Dr. John A.

Using the concepts of what we think, feel, and do about listening, Dr. Kline teaches the reader the need for better listening and explains how to do so more effectively.

1996. 70 pages.

ISBN 978-1-58566-009-4, \$4.25

Audio downloadable



AU-5 Speaking Effectively

A Guide for Air Force Speakers

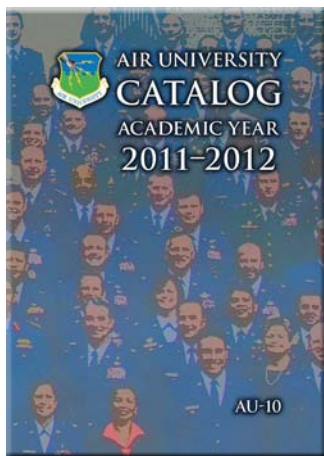
Kline, Dr. John A.

In *Speaking Effectively* Dr. Kline presents techniques on how to speak successfully. He provides examples and pointers for both the novice and the skilled speaker. Dr. Kline leads the reader through the steps a speaker would follow: preparing, organizing, choosing support material, deciding how to begin and end, and presenting the actual talk. This book was previously listed as order number B-33.

1989. 86 pages.

ISBN 978-1-58566-031-5, \$5.00

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AU-10 Air University Catalog

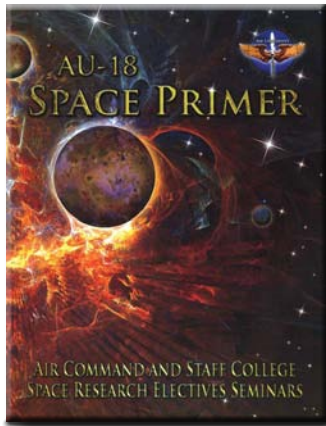
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2011–2012. 340 pages.

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AU-18 Space Primer

**Air Command and Staff College
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September 2009. 335 pages.

ISBN 978-1-58566-194-7



AU-24 Concepts for Air Force Leadership

Lester, Dr. Richard I., Editor

By examining the latest thinking on the art of leadership, this book gives readers a better understanding of the process, allowing them to improve their leadership effectiveness. The text provides a guide for what leaders should be, know, and do.

August 2008. 540 pages.

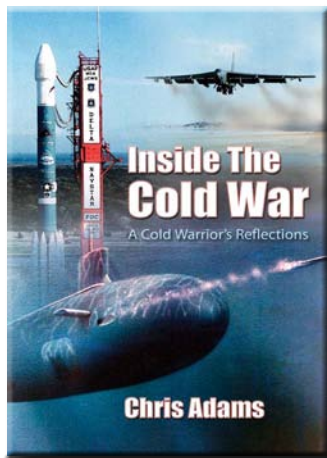
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BOOKS

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Inside the Cold War

A Cold Warrior's Reflections

Adams, Maj Gen Chris, USAF, Retired

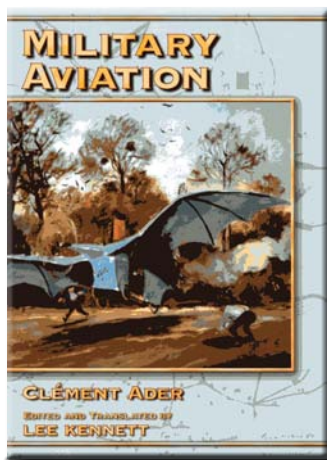
General Adams reflects on his experiences in the Cold War, during which he served in both manned bombers and missile silos. He tells stories of famous and not-so-famous cold warriors, including some from the US Navy. Some stories are humorous; some stories are tragic. Having traveled extensively in Russia and some former Soviet Union states after retirement, General Adams tells us about his former adversaries, the Soviet cold warriors. In the process, he leaves no doubt about his respect for all who served so valiantly in the “Strategic Triad”—the Strategic Command, the intercontinental ballistic missile force, and the Submarine Navy.

1999. 195 pages.

ISBN 978-1-58566-068-1

B-72

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Military Aviation

Ader, Clément

Kennett, Lee, Editor and Translator

This book—the first English translation of Clément Ader's *L'Aviation militaire* published in 1909 in Paris by Berger-Levrault—contains Ader's ideas about flight formed in the last decade of the nineteenth century. The text is reproduced in its entirety, including notes added by Ader and explanatory notes and a bibliographical note by the editor and translator.

Ader explains his ideas about the development of airplanes based on creatures in nature. Chapters detail the design of bases for aircraft, runway construction, naval airplanes, vertical artillery, air lanes, schools of aviation, and strategy for waging war in the air.

2003. 112 pages.

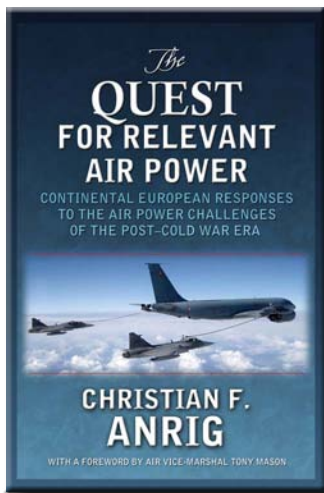
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“Sometimes gems come in small packages. [*Military Aviation*] is a small, perhaps uncut gem that provides an interesting read for students of aviation history.”

ERIC ASH, REVIEWED IN *Journal of Military History* 68, no. 2 (April 2004)



The Quest for Relevant Air Power

Continental European Responses to the Air Power Challenges of the Post-Cold War Era

Anrig, Christian F., Department of War Studies, King's College, London

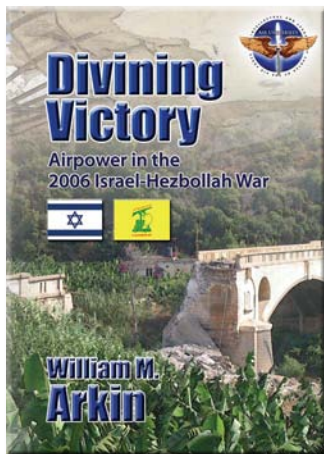
Christian Anrig examines the responses of France, Germany, the Netherlands, and Sweden to the challenges of air power in the last two decades. His examination is both instructive and disheartening. Anyone who is detailed to work alongside these air forces will benefit considerably from understanding how and why they do what they do. Sadly, the author has only too clearly identified the national features which, with one or two exceptions, are likely to inhibit the creation of European air power in the foreseeable future. The author brings deep scholarship to his study, reinforced by his national objectivity. It is a unique and indispensable contribution to international awareness of twenty-first-century air power.

September 2011. 424 pages.

ISBN 978-1-58566-216-6

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No Price



Divining Victory

Airpower in the 2006 Israel-Hezbollah War

Arkin, William M., Military Analyst

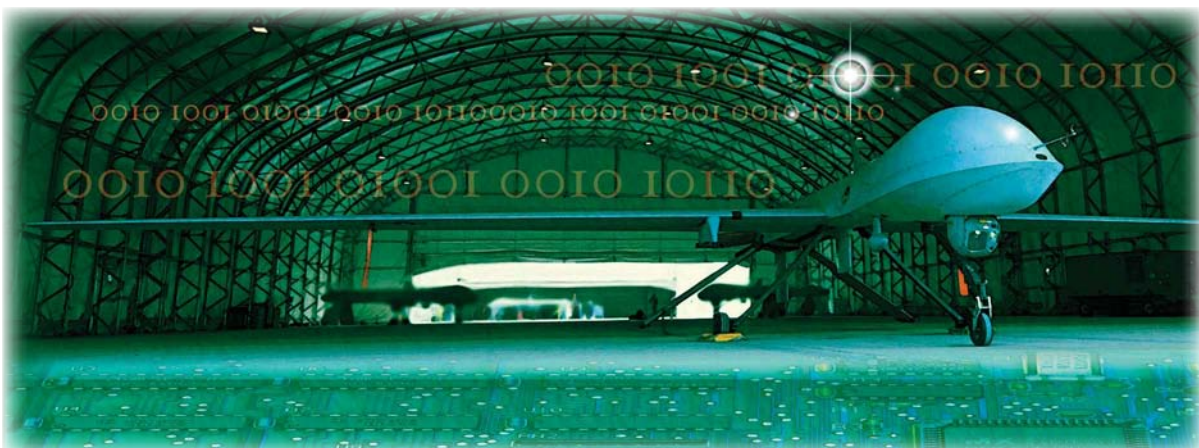
The 2006 Israel-Hezbollah War may well be a paradigm for twenty-first-century warfare. The technically sophisticated Israel Defense Forces (IDF) were confronted by a much smaller but well-armed and highly unconventional "state within a state" opponent. Israel launched an intensive 34-minute air assault designed to essentially disarm Hezbollah; it did not. Hezbollah's interspersed within the civilian population presented major targeting problems for the IDF, setting up condemnation of Israel's "overreaction" in the international press. Airpower became the big loser in the press and after-action reports. *Divining Victory* examines the decisions, the effects, and the lessons learned for those who must confront similar enemies.

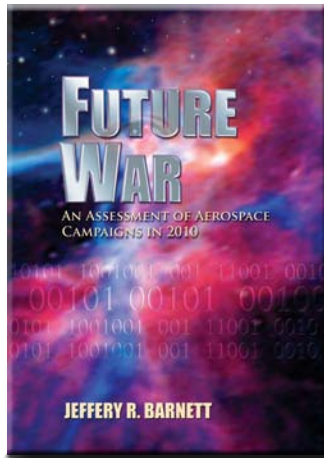
August 2007. 326 pages.

ISBN 978-1-58566-168-8

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\$30.00





Future War

An Assessment of Aerospace Campaigns in 2100

Barnett, Col Jeffery R., USAF

Colonel Barnett compares the next 15 years to the 15 years between World Wars I and II. He concludes that the changes between the two world wars may be dwarfed by those occurring within the next decade and a half. He envisions possible wars with niche competitors and peer competitors, giving theoretical scenarios of each. Colonel Barnett views communications technology and stealth technology as keys to victory in future war.

1996. 196 pages.

ISBN 1-58566-004-3

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"Barnett postulates that . . . future wars will focus on information, both obtaining it and denying it to an adversary. Centralized command, control, coordination, computers, and intelligence (C⁴) is the wave of the future."

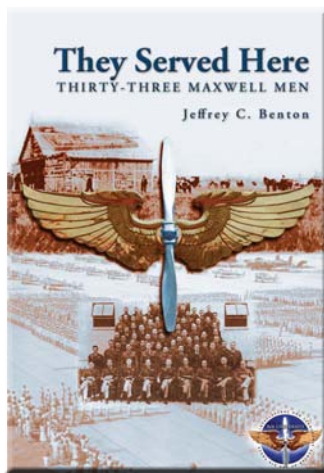
RAYMOND LUTZ, REVIEWED IN *Airpower Journal*, Winter 1997

"This book offers a peek at the little-explored subject of conflict in the twenty-first century. . . . You should read this book. Its real value lies neither in the accuracy of its projections nor in the efficacy of its specific proposals, but in opening the door to serious future debate."

KEVIN E. CURRY, REVIEWED IN *Airpower Journal*, Winter 1997

"Get this book, read it, take lots of notes; then, reread it every year or so. . . . Barnett makes a convincing case for developing a Blitzkrieg for aerospace operations. . . . All this reflects someone who recognizes that we are in a revolution of military affairs."

ROGER F. CAVAZOS, REVIEWED IN *Military Intelligence Professional Bulletin*, April–June 1997



They Served Here

Thirty-Three Maxwell Men

Benton, Col Jeffrey C., USAF, Retired

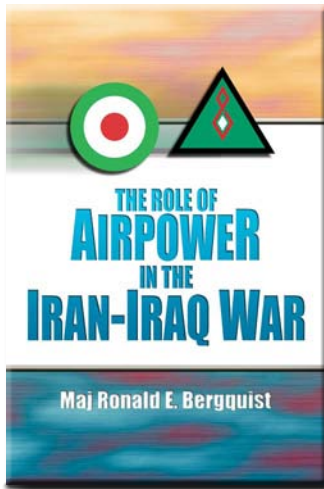
Colonel Benton provides a glimpse of the history of Maxwell Air Force Base by highlighting the careers of 33 Airmen who served at the base at some point in their military careers. Some of the individuals portrayed were pioneers in the development of airpower and provided military leadership from World War II to the present. Others such as Glenn Miller, Clark Gable, and Bill Stribling were notable for their accomplishments in other fields. The stories told here highlight the critical, close interrelationships between the military and local society.

1999. 89 pages.

ISBN 978-1-58566-074-2

B-71

\$7.50



The Role of Airpower in the Iran-Iraq War

Bergquist, Maj Ronald E., USAF

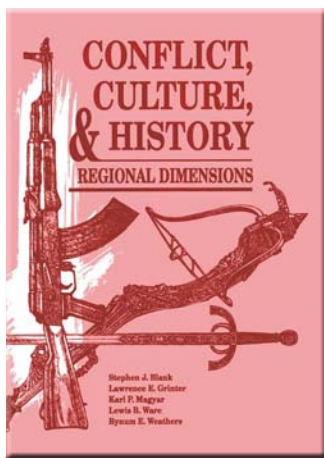
This book examines the air war between Iran and Iraq. Rather than simply describing what happened in the war, it attempts to discern why Iran and Iraq used their airpower as they did. It shows how the combatants value airpower, what aspects of airpower appear most important to Iranian and Iraqi national leaders, and how their values and needs led them to use airpower in ways quite apart from Western professional expectations. The results highlight considerations that affect the use of airpower by third world nations.

1988. 108 pages.

ISBN 978-1-58566-023-0

B-25

\$3.75



Conflict, Culture, and History

Regional Dimensions

**Blank, Dr. Stephen J., Dr. Lawrence E. Grinter, Dr. Karl P. Magyar,
Dr. Lewis B. Ware, and Dr. Bynum E. Weathers**

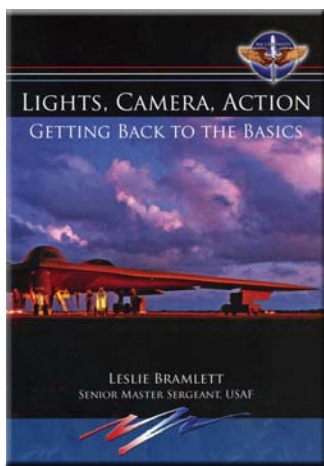
Five specialists examine the historical relationship of culture and conflict in various regional societies. The authors use Adda B. Bozeman's theories on conflict and culture as the basis for their analyses of the causes, nature, and conduct of war and conflict in the Soviet Union, the Middle East, Sinic Asia (China, Japan, and Vietnam), Latin America, and Africa. Drs. Stephen Blank, Lawrence Grinter, Karl P. Magyar, Lewis B. Ware, and Bynum E. Weathers conclude that non-Western cultures and societies do not reject war but look at violence and conflict as a normal and legitimate aspect of sociopolitical behavior.

1992. 370 pages.

ISBN 978-1-58566-043-8

B-45

\$17.00



Lights, Camera, Action

Getting Back to the Basics

Bramlett, SMSgt Leslie, USAF

SMSgt Leslie Bramlett offers a call to the USAF enlisted corps to return to the basics of leadership, traditions, and discipline that are taught in basic military training (BMT). He delineates how the Air Force's senior corps of noncommissioned officers recognizes discipline problems among the enlisted Airmen which have caused degradation in mission support and adherence to standards. Sergeant Bramlett identifies how failure to maintain the attitudes and behaviors learned in BMT has contributed to these problems. He argues that Airmen leave basic training and then enter the "real" Air Force and find a culture which does not reinforce the lessons taught in BMT. In this exposition, the author constructs a case for reinvigorating these lessons to help remedy this situation.

February 2009. 52 pages.

ISBN 978-1-58566-191-6

B-116

\$6.00



Space Power Integration

Perspectives from Space Weapons Officers

Brown, Lt Col Kendall K., USAFR, PhD, Editor

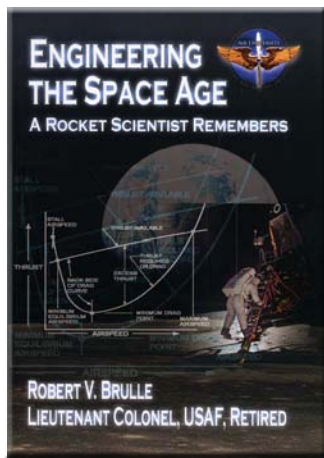
This book is the culmination of Gen Lance Lord's vision to initiate vigorous discussion about how best to integrate space to support the war fighter. From the first Space Weapons Officer Air and Space Integration Conference in 2005 come nine research papers that form the basis for this publication and fulfillment of General Lord's vision. The papers address issues across a spectrum of air- and space-integration topics at the operational level of war.

2006. 234 pages.

ISBN 978-1-58566-158-9

B-105

\$19.00



Engineering the Space Age

A Rocket Scientist Remembers

Brulle, Lt Col Robert V., USAF, Retired

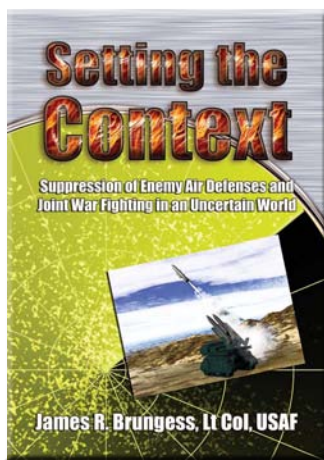
Few people have experienced as much air and space history as Bob Brulle, and fewer still possess his meticulous recall and research skills. The P-47 fighter pilot-turned-engineer, inventor, educator, and author found himself immersed in the Cold War race to the moon, developing cutting-edge technology, instructing future astronauts in aerodynamics and orbital mechanics, perfecting high-performance fighter aircraft to meet the Soviet challenge, overseeing the procurement of new weapon systems, and exploring alternative energy sources. In *Engineering the Space Age*, he shares his unique personal insights into the triumphs and tragedies of one of the most exciting eras in American history.

July 2008. 290 pages.

ISBN 978-1-58566-184-8

B-113

\$24.00



Setting the Context

Suppression of Enemy Air Defenses and Joint War Fighting in an Uncertain World

Brungess, Lt Col James R., USAF

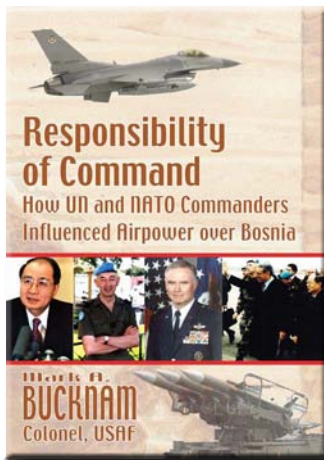
Colonel Brungess proposes using joint suppression of enemy air defenses (JSEAD) to address the problem of reduced SEAD resources available to individual services. He contends that the demise of the Soviet Union presents the perfect transitional period for SEAD planners to create new approaches to countering the information-based integrated air defense system nets. He looks at the foundations and evolution of SEAD, identifies pertinent variables, and shows how they have changed. Colonel Brungess concludes that fiscal reality demands that the services forge JSEAD tactics and doctrine.

1994. 244 pages.

ISBN 978-1-58566-051-3

B-54

\$15.00



Responsibility of Command

How UN and NATO Commanders Influenced Airpower over Bosnia

Bucknam, Col Mark A., USAF

In this study Colonel Bucknam examines the role that theater-level commanders in the UN and NATO played in influencing airpower over Bosnia between April 1993 and September 1995. He presents it in a chronological order that offers a coherent account of Operation Deny Flight. This study challenges assumptions about military leaders, their motivations, and the state of civil-military relations during the Bosnia conflict.

2003. 428 pages.

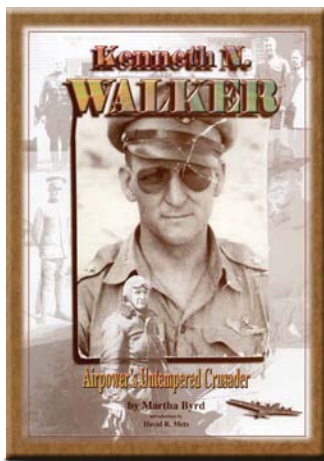
ISBN 978-1-58566-115-2

B-88

\$40.00

"He [Colonel Bucknam] succeeds admirably in explaining the conflicting requirements of mission accomplishment and force protection imposed on both the UN ground commanders and the NATO air commanders in Bosnia between April 1993 and September 1995 and how those conflicting requirements brought UN and NATO commanders into paralyzing disagreement. . . . It is sometimes heavy going, but is well worth the effort."

CHARLES R. SHRADER, Carlisle, Pennsylvania



Kenneth N. Walker

Airpower's Untempered Crusader

Byrd, Martha

This biography of Brig Gen Kenneth N. Walker provides an in-depth look at the career of one of airpower's pioneer thinkers. Martha Byrd traces Walker's emergence from one of the early converts to airpower to his role as a key player in the formation of strategic bombardment doctrine. Her look at his performance in the Southwest Pacific theater during World War II gives us a deep insight into Walker's place in history as an innovator in the employment of airpower. Byrd not only highlights Walker's accomplishments but also provides a look at his often stormy relationships with fellow officers and in his personal life.

1997. 242 pages.

ISBN 978-1-58566-020-9

B-22

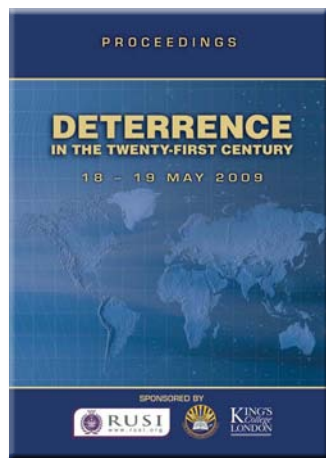
\$15.00

"An intriguing look at the life and accomplishments of a man [Walker] who had direct and significant impact on the development of [US] airpower theory in the interwar period . . . engaging and highly readable."

GOLDA ELDRIDGE, REVIEWED IN *Airpower Journal*, Spring 1999

"The late Martha Byrd, author of *Chennault: Giving Wings to the Tiger*, the finest biography [of] an Air Force leader, was able, prior to her death, to complete this succinct work on BG Kenneth N. Walker. . . . Walker's obsession with the evolution of bombardment doctrine enabled him to make a significant contribution to the Army's air arm."

HERMAN S. WOLK, REVIEWED IN *Air Power History*, Winter 1997



Deterrence in the Twenty-First Century

Proceedings

Cain, Dr. Anthony C., Deputy Director, Air Force Research Institute; Dr. John Gearson, Director, Centre for Defence Studies, King's College, London; and Dr. Lee Willett, Royal United Services Institute for Defence and Security Studies, General Editors

Sponsored by the Air Force Research Institute (AFRI) and the Royal United Services Institute, the conference was held in London on 18–19 May 2009 and focused on deterrence “to help understand and begin to develop policy frameworks that fit the current and emerging security context.” Assembling some of the best minds on deterrence, the conference afforded speakers an opportunity to “invigorate this essential tool for today’s policy community.”

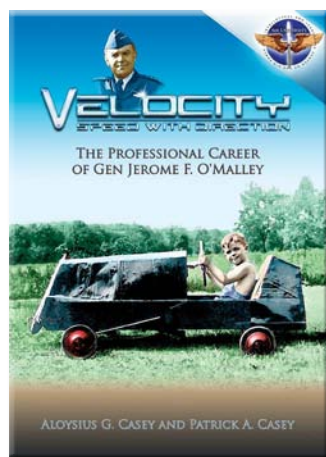
In addition, the conference included two preconference “thought pieces” and two “Quick Looks” by AFRI personnel.

September 2010. 327 pages.

ISBN 978-1-58566-202-9

B-118

\$37.00



Velocity, Speed with Direction

The Professional Career of Gen Jerome F. O'Malley

Casey, Aloysius G., and Patrick A. Casey

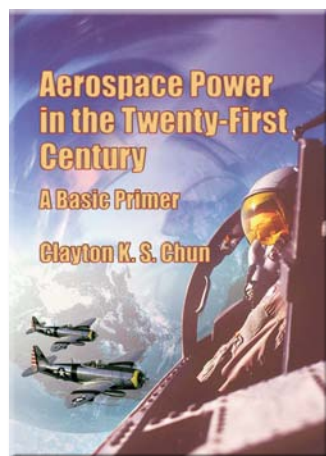
This story line addresses the only question mark on O'Malley's career—the Lavelle raids of February 1972. Using appropriate Nixon White House audio recordings and top secret messages (sent by the Joint Chiefs of Staff to Vietnam) that were acquired through the Freedom of Information Act, Aloysius and Patrick Casey rescued from character assassination the reputation not only of Jerry O'Malley but also of Gen John D. Lavelle. They reveal the real culprit in the matter—the Nixon White House.

September 2007. 294 pages.

ISBN 978-1-58566-169-5

B-110

\$28.00



Aerospace Power in the Twenty-First Century

A Basic Primer

Chun, Dr. Clayton K. S.

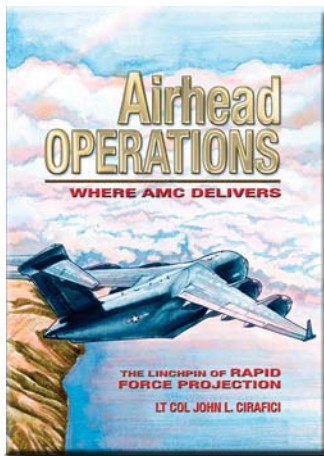
In *Aerospace Power in the Twenty-First Century: A Basic Primer*, Dr. Clayton K. S. Chun exposes readers to relevant aerospace capabilities, theories, uses, elements of operational planning, and key issues. After introducing basic definitions and concepts, Dr. Chun uses case studies of both successful and unsuccessful applications of aerospace power to illustrate its functions and abilities. Designed primarily for readers new to the subject, *Aerospace Power in the Twenty-First Century* also serves as a useful source of information about the strengths and weaknesses of air and space forces.

2001. 356 pages.

ISBN 978-1-58566-091-9

B-80

\$29.00



Airhead Operations

Where AMC Delivers: The Linchpin of Rapid Force Projection

Cirafici, Lt Col John L., USAF

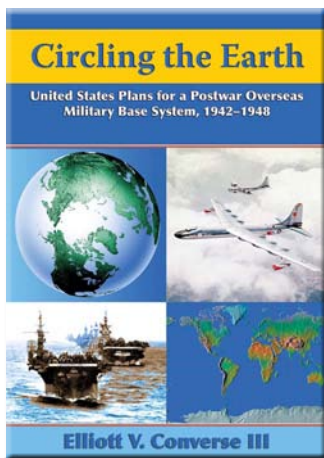
Colonel Cirafici reviews airhead activity in contingencies during World War II and in Operations Urgent Fury, Just Cause, Desert Shield/Storm, and Restore Hope. He examines the newly activated Air Mobility Command (AMC) structure within the theater and discusses the Somali civil war to illustrate how airhead's air mobility forces fit into the overall scheme of force deployment, reassembly, employment, and sustainment. Colonel Cirafici identifies some problems and needed improvements and recommends that AMC look beyond past successes and provide greater effort toward training and exercises to promote jointness at all operational levels.

1995. 109 pages.

ISBN 978-1-58566-057-5

B-60

\$6.50



Circling the Earth

United States Plans for a Postwar Overseas Military Base System, 1942-1948

Converse, Col Elliott V., III, USAF, Retired

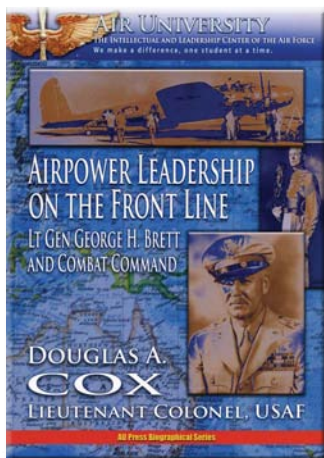
In December 1942, barely a year after the United States had entered World War II, the American military establishment was already planning a postwar overseas base network. Although initially designed to support an international police force, the plans increasingly assumed a national character as the Grand Alliance dissolved into the confrontations of the Cold War. Dr. Converse illustrates how planners went about their work and analyzes the numerous factors influencing the nature, extent, and location of the projected base system. These included requirements for postwar US physical and economic security, rapidly changing technology, interservice rivalries, civil-military conflicts, and reactions by other nations to the prospect of American bases near or on their soil.

2005. 265 pages.

ISBN 978-1-58566-141-1

B-97

\$22.00



Airpower Leadership on the Front Line

Lt Gen George H. Brett and Combat Command

Cox, Lt Col Douglas A., USAF

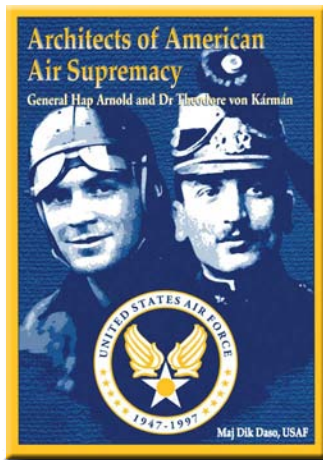
Colonel Cox examines the command of Lt Gen George H. Brett in his wartime assignments. Cox looks at the reasons why he was not promoted to full general even though he began his wartime service second in command to Gen Henry "Hap" Arnold. In his examination, Cox shows the reader Brett's outstanding leadership and his limitations, delving into the interplay of broader factors that ultimately affected General Brett's career. This book provides insight toward becoming an effective commander and leader.

2006. 114 pages.

ISBN 978-1-58566-157-2

B-103

\$10.50



Architects of American Air Supremacy

Gen Hap Arnold and Dr. Theodore von Kármán

Daso, Maj Dik A., USAF

Major Daso tells the story of the founding of the scientific and technological base of today's US Air Force. He explains how Henry H. "Hap" Arnold and Theodore von Kármán ensured that theoretical science rather than empiricism grew to dominate the Air Force research and development infrastructure. This story shows how personalities drive actions, how institutions reflect personalities, and how the interaction of these factors influenced, and continues to mold, the evolution of American air supremacy.

1997. 487 pages.

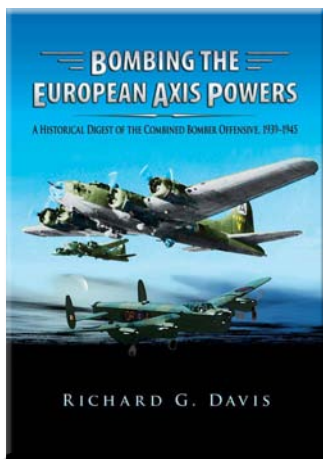
ISBN 978-1-58566-042-1

B-44

\$28.00

"The author has a sharp eye for interpersonal relationships, knows the literature, uses various sources, and thus tells the story of the impact made by these personalities."

KENNETH P. WERRELL, REVIEWED IN *Journal of Military History*, September 1998



Bombing the European Axis Powers

A Historical Digest of the Combined Bomber Offensive, 1939–1945

Davis, Dr. Richard G.

In *Bombing the European Axis Powers* Dr. Richard G. Davis, currently a division chief for the US Army Center for Military History, provides a detailed chronological narrative of the Anglo-American strategic bomber offensive against Hitler's Germany, his European allies, and German-occupied territory. Davis also includes several in-depth discussions covering such topics as the evacuation of Sicily, Allied airpower and the Holocaust, the bombing of Dresden, and overall Anglo-American policy concerning city-area bombing. A CD-ROM on the inside back cover contains a spreadsheet key and seven Excel worksheets that chronicle bombing data from 1939 through 1945.

2006. 610 pages.

ISBN 978-1-58566-148-0

B-99

\$55.00



The Air Force Role in Low-Intensity Conflict

Dean, Lt Col David J., USAF

Colonel Dean examines the increasing importance of third world countries in global affairs. Their vital natural resources and geostrategic locations make them the object of intense competition between the superpowers and a ripe target for a new category of conflict. Because of the high probability of US involvement in third world conflicts, we must adapt our resources to acquire the flexibility demanded by low-intensity conflict.

1986. 143 pages.

ISBN 978-1-58566-014-8

B-16

\$4.00



Beyond the Paths of Heaven

The Emergence of Space Power Thought

DeBlois, Lt Col Bruce M., USAF, Editor

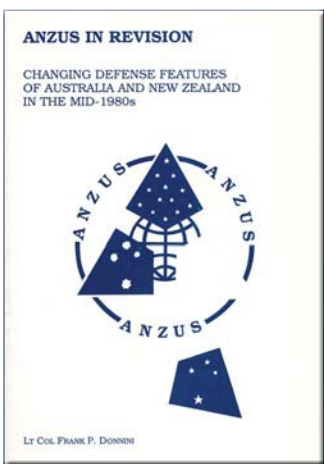
Major issues have plagued the US military space community for years. Foremost among these is the relationship between air and space. This work is a comprehensive examination of space power. Military space-lift vehicle requirements, space architectures, and ground support infrastructure are major topics. Graduate students at the School of Advanced Airpower Studies researched and discussed a variety of these issues, and their efforts are brought together here as a collection of master's degree research theses.

1999. 572 pages.

ISBN 978-1-58566-067-4

B-70

\$40.00



ANZUS in Revision

Changing Defense Features of Australia and New Zealand in the Mid-1980s

Donnini, Lt Col Frank P., USAF

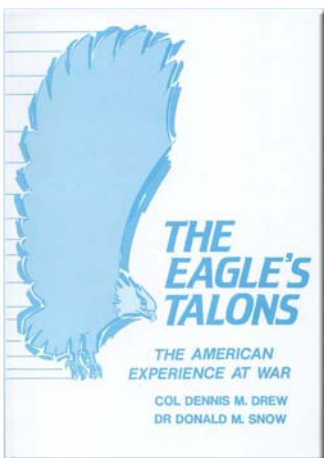
Colonel Donnini provides analysis and commentary on the demise of the ANZUS (Australia, New Zealand, and the United States) alliance and on shifts in Australian and New Zealand defense features. He addresses many questions and issues dealing with changing the political situation and the impact of those changes on defense and security conditions in the South and Southwest Pacific regions.

1991. 219 pages.

ISBN 978-1-58566-037-7

B-39

\$14.00



The Eagle's Talons

The American Experience at War

Drew, Col Dennis M., USAF, and Dr. Donald M. Snow

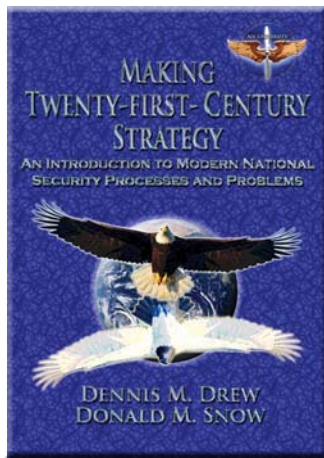
This volume surveys the American experience in war with emphasis on the complex interactions between political and military affairs. Colonel Drew and Dr. Snow provide a key to understanding how and why the United States might employ its military power in the future.

1988. 445 pages.

ISBN 978-1-58566-025-4

B-27

\$16.00



Making Twenty-First-Century Strategy

An Introduction to Modern National Security Processes and Problems

Drew, Col Dennis M., USAF, Retired, and Dr. Donald M. Snow

This work defines national security strategy, its objectives, the problems it confronts, and the influences that constrain and facilitate its development and implementation in a post–Cold War, post-9/11 environment.

2006. 290 pages.

ISBN 978-1-58566-160-2

B-104

\$24.00

Making Twenty-First-Century Strategy was on the 2009 Air Force Chief of Staff Reading List.



Into the Unknown Together

The DOD, NASA, and Early Spaceflight

Erickson, Col Mark, USAF

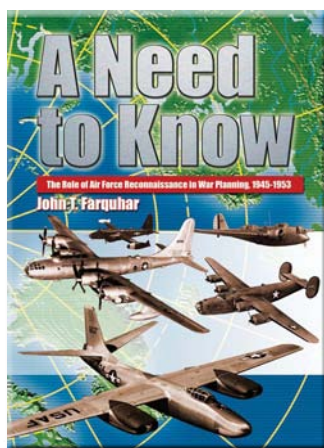
Colonel Erickson examines the use of space exploration as a tool to secure international prestige and national pride as part of the Cold War struggle with the Soviet Union during the Eisenhower, Kennedy, and Johnson administrations. He looks at the creation of the National Aeronautical and Space Administration (NASA), the evolving NASA-DOD relationship, and the larger context in which this relationship was forged. He focuses on the human-spaceflight projects—Mercury, Gemini, Apollo, Dynasoar, and the Manned Orbiting Laboratory—by examining the geopolitical, domestic political, and bureaucratic environments in which decisions concerning these projects were made.

2005. 665 pages.

ISBN 978-1-58566-140-4

B-98

\$50.00



A Need to Know

The Role of Air Force Reconnaissance in War Planning, 1945–1953

Farquhar, Dr. John T.

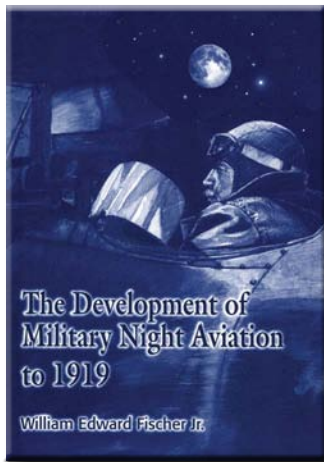
More than a tool of policy makers to gather intelligence, Air Force reconnaissance efforts shaped early Cold War doctrine and war planning. Dr. Farquhar argues that a lack of information on Soviet strategic capabilities dominated the organization, operational planning, and equipment of the postwar Air Force. To support his assertion, Farquhar traces the development of aerial reconnaissance from the first balloon ascents through World War II as a prelude and examines early Cold War peripheral reconnaissance and overflights of the Soviet Union.

2004. 233 pages.

ISBN 978-1-58566-124-4

B-34

\$12.00



The Development of Military Night Aviation to 1919

Fischer, Maj William Edward, Jr., USAF

Major Fischer examines the development of military night aviation from its origins through the First World War. Emphasis is on the evolution of night flying in those countries that fought on the Western Front—namely, France, Germany, Great Britain, and the United States.

1998. 172 pages.

ISBN 978-1-58566-064-3

B-66

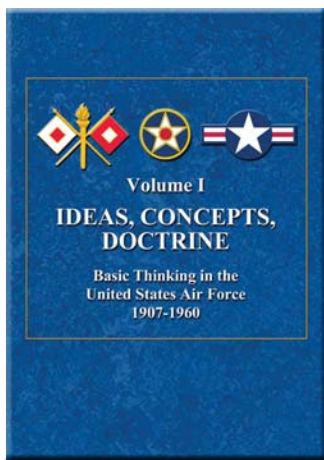
\$11.00

“This book illustrates that like its effect on other aspects of aviation, World War I spurred innovation in night flying. . . . Fischer’s book contributes to the scant literature on World War I aerial operations at night.”

JEREMY R. KINNEY, REVIEWED IN *Air Power History*, Spring 2000

“Painstakingly researched and referenced, this book is highly readable and of considerable interest. . . . Fischer’s analysis is as germane today as it was to a time when strategic military night flying bordered upon science fiction fantasy.”

DAVID HANNA, REVIEWED IN *Air Power History*, Spring 2000



Ideas, Concepts, Doctrine

Basic Thinking in the United States Air Force, 1907–1960, Volume I

Futrell, Dr. Robert Frank

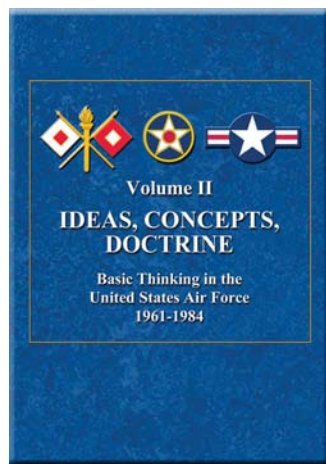
In this first of a two-volume study, Dr. Futrell presents a chronological survey of the development of Air Force doctrine and thinking from the beginnings of powered flight to the onset of the space age. He outlines the struggle of early aviation enthusiasts to gain acceptance of the airplane as a weapon and win combat-arm status for the Army Air Service. He surveys the development of airpower doctrine during the 1930s and World War II and outlines the emergence of the autonomous US Air Force in the postwar period.

1989. 683 pages.

ISBN 978-1-58566-029-2

B-31

\$31.00



Ideas, Concepts, Doctrine

Basic Thinking in the United States Air Force, 1961–1984, Volume II

Futrell, Dr. Robert Frank

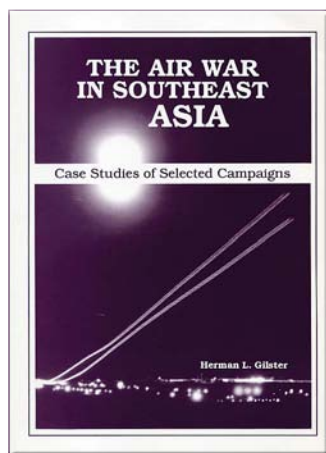
In this volume the author traces the new directions that Air Force strategy, policies, and thinking took during the Kennedy administration, the Vietnam War, and the post-Vietnam period. Futrell outlines how the Air Force struggled with President Kennedy's redefinition of national security policy and Robert S. McNamara's managerial style as secretary of defense. He describes how the Air Force argued that airpower should be used during the war in Southeast Asia. He chronicles the evolution of doctrine and organization regarding strategic, tactical, and airlift capabilities and the impact that the air and space environment and technology had on Air Force thinking and doctrine.

1989. 803 pages.

ISBN 978-1-58566-030-8

B-32

\$37.00



The Air War in Southeast Asia

Case Studies of Selected Campaigns

Gilster, Dr. Herman L.

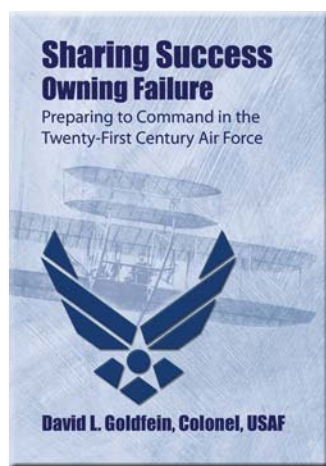
The author rigidly analyzes five case studies of interdiction, close air support, and strategic bombardment, showing the relationship between the strike effort and target damage of several air campaigns during the Vietnam War.

1993. 152 pages.

ISBN 978-1-58566-049-0

B-52

\$8.50



Sharing Success—Owning Failure

Preparing to Command in the Twenty-First Century Air Force

Goldfein, Col David L., USAF

In *Sharing Success—Owning Failure* Colonel Goldfein discusses several themes central to a successful command tour. He expresses ideas and puts forth questions to spark an officer's imagination as he or she begins preparing for the task—squadron commander. He shares stories from other squadron commanders that include both success and failure. As Colonel Goldfein states, "It is from studying our failures that we learn, grow, and improve as officers and leaders."

2001. 130 pages.

ISBN 978-1-58566-098-8

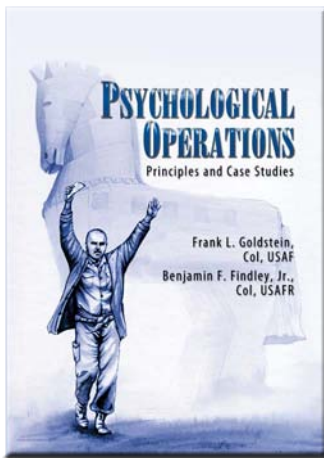
B-81

Audio downloadable

\$8.50

"This book is a must-read, not only for those selected to command a squadron but for all our young officers."

MAJ GEN CHARLES D. LINK, USAF, Retired, "Foreword," *Sharing Success—Owning Failure*



Psychological Operations

Principles and Case Studies

Goldstein, Col Frank L., USAF, and Col Benjamin F. Findley Jr., USAFR

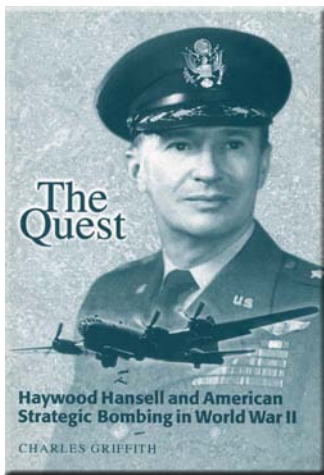
This volume comprises 25 independent essays on military psychological operations arranged in four sections: (1) Nature and Scope; (2) Policy and Planning; (3) Strategy, Tactics, and Operations; and (4) Case Studies. The authors make a strong case for the strengthening of psychological operations (PSYOP) in all aspects of US military operations. Among their recommendations is that PSYOP should be included in all phases of military training and professional military education.

1996. 376 pages.

ISBN 978-1-58566-016-2

B-18

\$21.00



The Quest

Haywood Hansell and American Strategic Bombing in World War II

Griffith, Charles

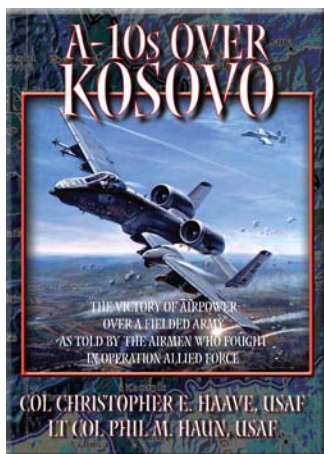
This biography of Maj Gen Haywood S. Hansell Jr. provides an in-depth look at the life and career of one of airpower's pioneer thinkers. Hansell's professional life was devoted to the theory and practice of strategic airpower—the single most controversial military debate of the twentieth century.

1999. 238 pages.

ISBN 978-1-58566-069-8

B-73

\$16.00



A-10s over Kosovo

The Victory of Airpower over a Fielded Army As Told by the Airmen Who Fought in Operation Allied Force

Haave, Col Christopher E., USAF, and Lt Col Phil M. Haun, USAF

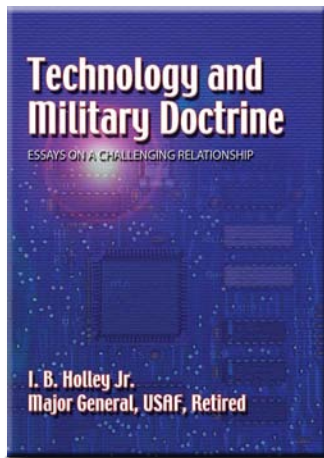
The NATO-led Operation Allied Force was fought in 1999 to stop Serb atrocities against ethnic Albanians in Kosovo. This war, as noted by the distinguished military historian John Keegan, “marked a real turning point . . . and proved that a war can be won by airpower alone.” Colonels Haave and Haun have organized firsthand accounts of some of the people who provided that airpower—the members of the 40th Expeditionary Operations Group.

2003. 367 pages.

ISBN 978-1-58566-122-0

B-90

\$33.00



Technology and Military Doctrine

Essays on a Challenging Relationship

Holley, Maj Gen I. B., Jr., USAF, Retired

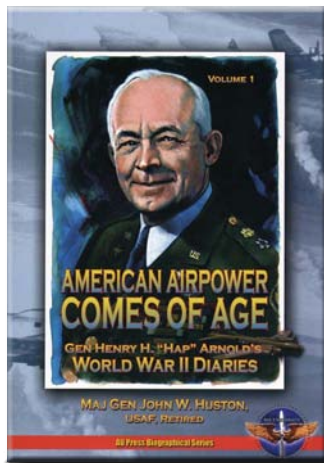
This compilation of essays includes copies of speeches and articles that Dr. Holley has delivered and written throughout his career as a military officer and scholar of military history and thought. In these essays, Holley primarily addresses the need for the Air Force to adapt its doctrine and the processes of formulating and disseminating that guidance as the technology of air and space warfare improves. Dr. Holley’s common message throughout is that the process of how the Air Force develops its doctrine and preaches and teaches that doctrine to its Airmen is as important as its content—or perhaps more so.

2004. 176 pages.

ISBN 978-1-58566-127-5

B-93

\$15.00



American Airpower Comes of Age

Gen Henry H. “Hap” Arnold’s World War II Diaries, Volume 1

Huston, Maj Gen John W., USAF, Retired

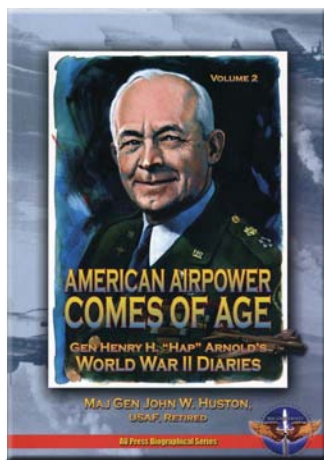
Gen Henry H. “Hap” Arnold, US Army Air Forces chief of staff during World War II, maintained diaries for his journeys to various meetings and conferences throughout the conflict. Volume 1 introduces Hap Arnold, the setting for five of his journeys, and the diaries he kept.

2002. 592 pages.

ISBN 978-1-58566-093-3

B-84

\$47.00



American Airpower Comes of Age

Gen Henry H. “Hap” Arnold’s World War II Diaries, Volume 2

Huston, Maj Gen John W., USAF, Retired

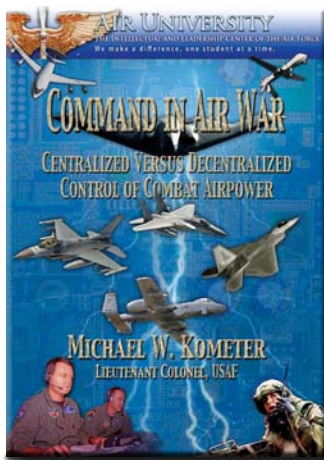
This volume encompasses General Arnold’s final seven journeys and the diaries he kept during World War II as he attended various meetings and conferences.

2002. 458 pages.

ISBN 978-1-58566-094-0

B-85

\$39.00



Command in Air War

Centralized versus Decentralized Control of Combat Airpower

Kometer, Lt Col Michael W., USAF

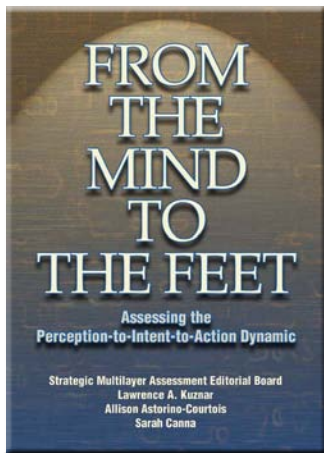
This work examines whether “centralized control and decentralized execution” is a valid doctrinal tenet, given the technological advances in the information age. Fascinating scenarios from recent operations, set in the context of a “complex air operations system,” show the dilemmas presented by participants’ increased access to information—and the resulting consequences of their decisions. With the uncertainty of war and the blending of diverse organizations, the author illustrates that commanders must balance empowerment with accountability by developing depth in command relationships among their subordinates.

June 2007. 345 pages.

ISBN 978-1-58566-164-3

B-107

\$29.00



From the Mind to the Feet

Assessing the Perception-to-Intent-to-Action Dynamic

Kuznar, Lawrence A., Allison Astorino-Courtois, and Sarah Canna

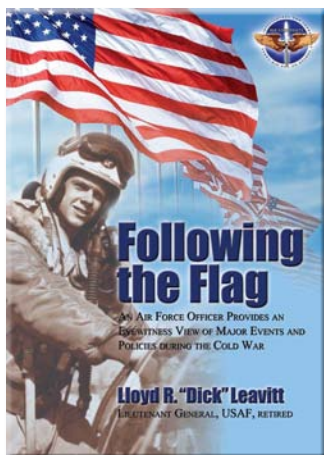
Twelve essays examine the concept of intent in defense, security, and foreign-policy contexts. They provide operational and academic perspectives on measuring the intent of adversaries, including nation-states and nonstate actors, and understanding the relationship of intent to behavior. The essays apply the insights and methods of multiple disciplines—anthropology, psychology, political science, neuroscience, and others—to the study of intent, for which there is currently no coherent body of research. To influence an adversary’s behavior, we must understand the perception-to-intent-to-action dynamic that underlies his behavior.

February 2011. 194 pages.

ISBN 978-1-58566-212-8

B-123

\$42.00



Following the Flag

An Air Force Officer Provides an Eyewitness View of Major Events and Policies during the Cold War

Leavitt, Lt Gen Lloyd R. “Dick,” USAF, Retired

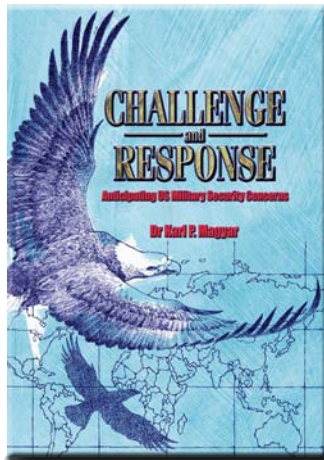
General Leavitt’s career coincided exactly with much of the period comprising the Cold War era. The path he took through the military provides a rare behind-the-scenes view of events that are in turn startling, unpredictable, sobering, and entertaining. These accounts weave together a unique chronicle of the decades from the mid-1940s until the early 1980s. He had a front seat not only to the people and incidents that made headlines but also to conversations and episodes to which only a few were privy. His accounts will enlarge the perception of this distinctive time span in our military-political history. General Leavitt’s flying assignments included fighters, bombers, and the U-2. His final assignment was vice-commander in chief, Strategic Air Command.

March 2010. 660 pages.

ISBN 978-1-58566-205-0

B-114

\$12.00



Challenge and Response

Anticipating US Military Security Concerns

Magyar, Dr. Karl P., Editor
McCabb, Lt Col Maris, USAF; Lt Col Albert Mitchum, USAF; and
Dr. Lewis B. Ware, Associate Editors

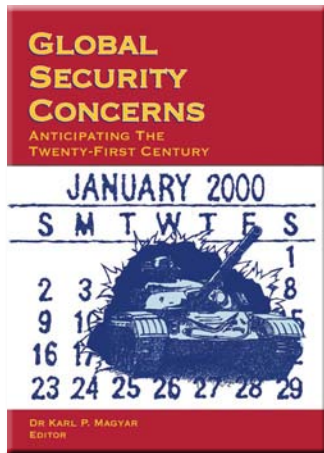
In this collection of essays the contributors examine the implications of the formal dissolution of the Soviet Union and the Warsaw Pact on planning for future military threats. They attempt to identify the nature and source of the most likely future threats to global security. Part 1 contains a broad review of the major determinants of international change. Part 2 analyzes specific situations, the changing nature of warfare, and potential responses to emerging challenges.

1994. 444 pages.

ISBN 978-1-58566-053-7

B-56

\$27.00



Global Security Concerns

Anticipating the Twenty-First Century

Magyar, Dr. Karl P., Editor

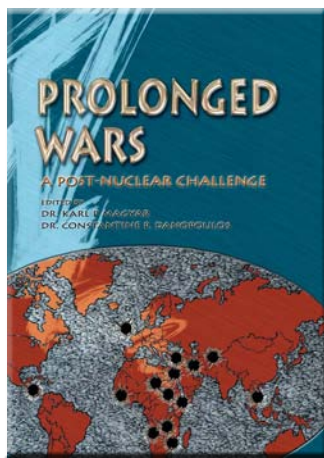
Dr. Magyar has assembled a group of experts on military issues to ponder global security concerns for the twenty-first century. The writers of this study use the lessons of the past to identify what issues will propel states to rely on violent means instead of peaceful procedures to achieve their objectives. This work also offers background on each topic, identifies areas where conflicts likely will occur, and measures the possibility of a peaceful resolution of issues.

1996. 336 pages.

ISBN 978-1-58566-006-3

B-7

\$20.00



Prolonged Wars

A Post-Nuclear Challenge

Magyar, Dr. Karl P., and Dr. Constantine P. Danopoulos, Editors

The authors examine the underlying impact of the cold war on protracted conflict in Africa and Asia. These area specialists address the factors that produced prolonged conflict and the possible cause(s) of these struggles. They analyze the reasons for "success" and "failure" in each of these regional conflicts.

1994. 475 pages.

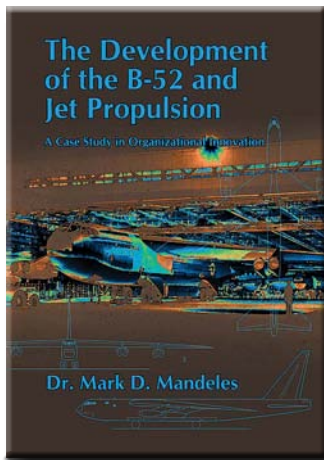
ISBN 978-1-58566-056-8

B-59

\$27.00

"The value of this text is in its excellent case studies and its reflection on how the international community should deal with the dominant conflicts of the latter part of the twentieth century."

WILLIE CURTIS, REVIEWED IN *Naval War College Review*



The Development of the B-52 and Jet Propulsion

A Case Study in Organizational Innovation

Mandeles, Dr. Mark D.

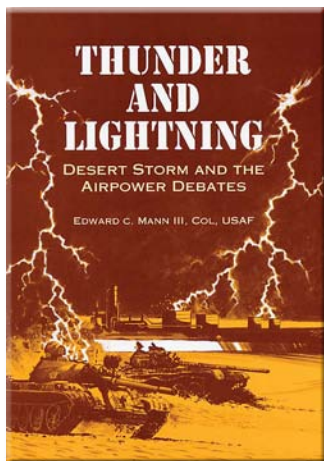
National security decision makers face an uncertain world where the accelerated growth of knowledge has changed the character of technological advance and destabilized long-standing relations within and among the military services. This book separates the principles that guide decision making from the proverbs through a case study of decision making in the early post–World War II period and examines the impact of organization on the invention and development of jet propulsion—in the form of the B-52.

1998. 208 pages.

ISBN 978-1-58566-036-0

B-38

\$13.00



Thunder and Lightning

Desert Storm and the Airpower Debates

Mann, Col Edward C., III, USAF

Colonel Mann undertakes a critical analysis of air and space warfare as planned and waged in Operation Desert Storm. He explores debates about airpower and its uses as they played themselves out before, during, and after the successes of the Gulf War. He compares the debates of the 1970s–1990s with those of the 1920s–1940s. Colonel Mann explores the underpinnings of successful warfare and observes that the warriors of the future must have a strong knowledge of principles and concepts of war to apply information, training, and technological resources with the acumen needed to win future conflicts. *Thunder and Lightning* is a companion volume to Reynolds's *Heart of the Storm* (B-55).

1995. 240 pages.

ISBN 978-1-58566-001-8

B-2

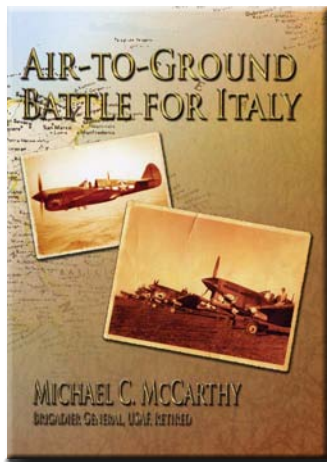
\$14.00

"Mann's book is . . . for military professionals who wish to gain profound knowledge of the issues underlying air doctrine and the air campaign in the Gulf war. [He] chooses his words with . . . care and precision."

PERRY M. SMITH, REVIEWED IN *Marine Corps Gazette*, November 1995

"In many ways, the book is an indictment of the Air Force in two areas: first, loss of doctrinal direction at all levels . . . and second, lack of interest in the profession of arms versus stovepiped career paths."

SCOTT A. WILEY, REVIEWED IN *Air Power History*, Summer 1997



Air-to-Ground Battle for Italy

McCarthy, Brig Gen Michael C., USAF, Retired

Brig Gen Michael C. McCarthy wrote this World War II memoir from his perspective as a fighter pilot who flew two years with one squadron, first in the P-40 and then in the P-47. During the war, he progressed to major and acting squadron commander. He began training after Pearl Harbor in the Army Aviation Cadet program and continued with P-40 training in Florida. With some of his classmates, he traveled through equatorial Africa, ferrying P-40s to Cairo and Cape Bon to join the 57th Fighter Group. This three-part story, set primarily in Italy, captures fears, uncertainties, and accomplishments of ordinary Americans involved in extraordinary events.

2004. 116 pages.

ISBN 978-1-58566-128-2

B-94

\$10.25



Joint Training for Night Air Warfare

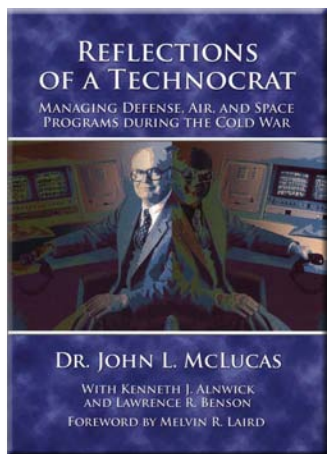
McLean, Lt Col Brian W., USAF

This book examines the history of joint air operations and night air operations from World War II through Operation Desert Storm. Colonel McLean focuses on the need for increased training for joint operations at night. He describes a hypothetical contingency in Korea to illustrate some of the challenges of conducting joint night operations. He offers recommendations for a building-block approach to improve training in joint night air warfare capability.

1992. 122 pages.

ISBN 978-1-58566-044-5

Available online only



Reflections of a Technocrat

Managing Defense, Air, and Space Programs during the Cold War

McLucas, Dr. John L., with Kenneth J. Alnwick and Lawrence R. Benson

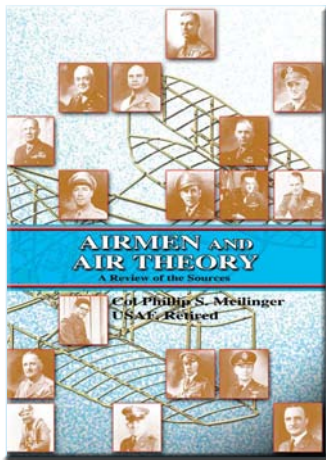
In documenting his wide-ranging career in science and technology, Dr. McLucas offers new information on and insights into the history of key private-sector and government agencies during the Cold War era—most prominently, the US Air Force. The coauthors completed this book after Dr. McLucas's death in December 2002.

2006. 390 pages.

ISBN 978-1-58566-156-5

B-101

\$33.00



Airmen and Air Theory

A Review of the Sources

Meilinger, Col Phillip S., USAF, Retired

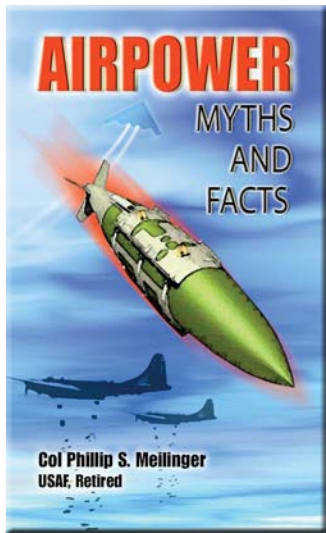
Originally published in 1995 as *American Airpower Biography: A Survey of the Field* and revised in 1997, *Airmen and Air Theory* updates the original material, reviewing new studies of prominent American Airmen and adding sketches of five subjects: James V. Hartinger, Charles A. Horner, Lauris Norstad, Dale O. Smith, and George E. Stratemeier. Colonel Meilinger has also included a substantial section, "The Historiography of Airpower Theory and Doctrine," originally published in the *Journal of Military History*. This new version will prove valuable to researchers in their quest for good sources on people who have shaped airpower and airpower theory.

2001. 176 pages.

ISBN 978-1-58566-101-5

B-13

\$15.00



Airpower

Myths and Facts

Meilinger, Col Phillip S., USAF, Retired

Ever since the US Army bought its first "aeroplane" in 1909, debates have raged over the utility, effectiveness, efficiency, legality, and even the morality of airpower and strategic bombing. Unfortunately, much of this controversy has been colored by accusations, misconceptions, inaccuracies, myths, and simple untruths. In *Airpower: Myths and Facts*, Colonel Meilinger raises points and counterpoints that attempt to clear away some of the detritus that obscures the subject, thus allowing more informed debate on the real issues concerning airpower and strategic bombing and giving our political and military leaders a better basis on which to form decisions in future conflicts.

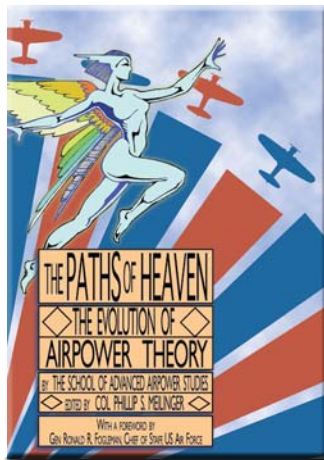
2003. 147 pages.

ISBN 978-1-58566-124-4

B-91

\$5.00





The Paths of Heaven

The Evolution of Airpower Theory

Meilinger, Col Phillip S., USAF, Retired, Editor

By giving airpower thinkers their due, *The Paths of Heaven* counterbalances the Air Force's tendency to emphasize operational concerns at the expense of theory. Most of the 15 essays are contributed by current or former faculty of the School of Advanced Airpower Studies (now the School of Advanced Air and Space Studies) at Maxwell Air Force Base, Alabama. Collectively, the authors trace the development of airpower theory from its origins with Giulio Douhet, through the formulation of airpower doctrine during the interwar years at the Air Corps Tactical School, to current efforts to codify a cogent theory of space power.

1997. 680 pages.

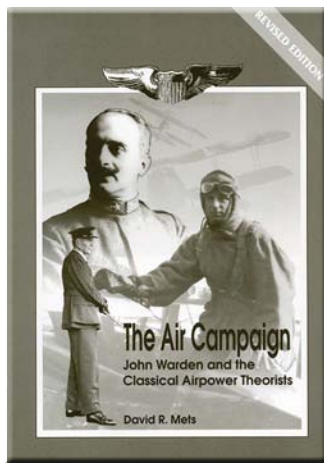
ISBN 978-1-58566-027-8

B-29

\$39.00

"*The Paths of Heaven* is a valuable means of increasing our expertise in the employment of airpower."

GEN RONALD R. FOGLEMAN, Chief of Staff, USAF, "Foreword," *The Paths of Heaven*



The Air Campaign

John Warden and the Classical Airpower Theorists

Mets, Dr. David R.

In light of the age-old belief of Confucius that no idea is new, Mets examines the role of Col John Warden in the Gulf War to determine if a revolution in military affairs had occurred. He relies on several twentieth-century antecedents to Warden, including Giulio Douhet, Hugh Trenchard, and Billy Mitchell to distill a pattern. Mets also addresses "the argument that antedated the Gulf War to the effect that such conflicts between states using conventional weapons and methods are a passing phenomenon." The concluding chapter provides a summary of Mets's discussion.

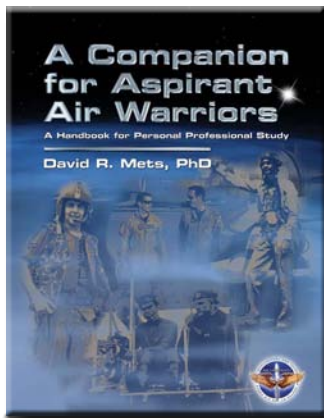
1999. Revised edition. 98 pages.

ISBN 978-1-58566-063-6

B-65

\$10.00





A Companion for Aspirant Air Warriors

A Handbook for Personal Professional Study

Mets, Dr. David R.

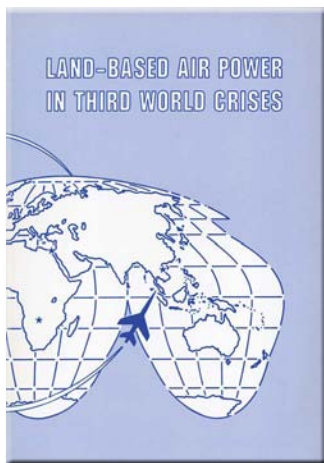
A Companion for Aspirant Air Warriors: A Handbook for Personal Professional Study traces the evolution of military airpower from its infancy through Operations Enduring Freedom and Iraqi Freedom. Designed to introduce company-grade Airmen to the ideas, people, and materiel associated with military airpower, this volume and its suggestions for further reading can aid a lifetime study of the knowledge and expertise that define the profession of an Airman. The *Companion for Aspirant Air Warriors* discusses the role of airpower in each major conflict of the twentieth century, including the Cold War, and twenty-first-century operations in Iraq and Afghanistan. It also examines topics such as diversity in American airpower, remotely piloted vehicles, and expeditionary airpower. A foldout timeline provides a helpful chronological overview of important airpower concepts, events, and texts.

May 2010. 181 pages.

ISBN 978-1-58566-206-7

B-119

\$39.00



Land-Based Air Power in Third World Crises

Mets, Dr. David R.

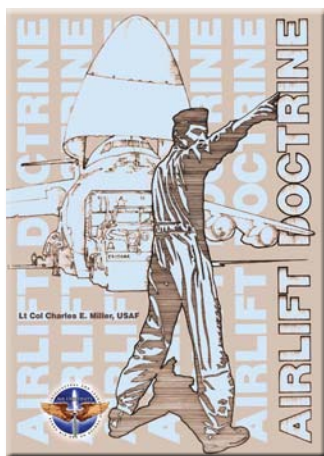
Dr. Mets examines the utility and limitations of land-based aircraft in third world crises over two decades. He offers several conclusions regarding the most effective use of airpower in crisis situations.

1986. 171 pages.

ISBN 978-1-58566-000-1

B-1

\$5.00



Airlift Doctrine

Miller, Lt Col Charles E., USAF

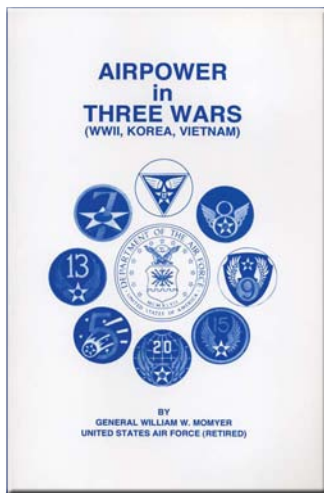
Colonel Miller shows how the worldwide orientation of American foreign policy, the numerous threats to free-world interests, and the speed and complexity of modern warfare have combined with political and resource constraints to produce today's airlift doctrine and force structure.

1988. 447 pages.

ISBN 978-1-58566-019-3

B-21

\$17.00



Airpower in Three Wars

Momyer, Gen William W., USAF, Retired

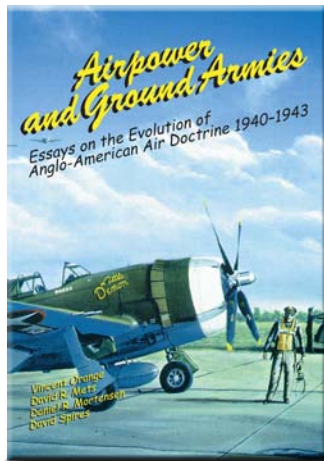
This publication is a reprint of General Momyer's book originally published in 1978. The book offers the general's observations, many from personal experience, of airpower in World War II, Korea, and Vietnam. It is an account of the evolution of practical airpower through strategies and campaigns. The book examines strategy, command and control of airpower prior to and during the Vietnam War, air superiority, interdiction in all three wars, airpower and the ground battle, and experiences in using airpower to blunt an attack.

2003. 426 pages.

ISBN 978-1-58566-116-9

B-89

\$34.00



Airpower and Ground Armies

Essays on the Evolution of Anglo-American Air Doctrine, 1940–1943

Mortensen, Dr. Daniel R., Editor

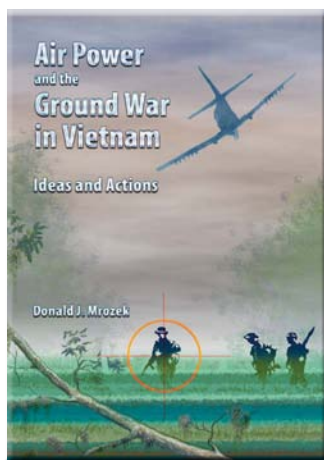
These four independent essays provide a perspective on airpower doctrine development that varies somewhat from the usual view. Essay one describes the organization, doctrine, operational practices, and personality of the air forces in the western desert from 1940 to 1943. Essay two describes and analyzes the events in northwest Africa during Operation Torch, while essay three analyzes the machinations in policy development in Washington. Essay four analyzes the great tactical aviation exercise in northwest Europe, emphasizing the famous cooperation between George S. Patton and Otto P. Weyland.

1998. 224 pages.

ISBN 978-1-58566-047-6

B-50

\$13.00



Air Power and the Ground War in Vietnam

Ideas and Actions

Mrozek, Dr. Donald J.

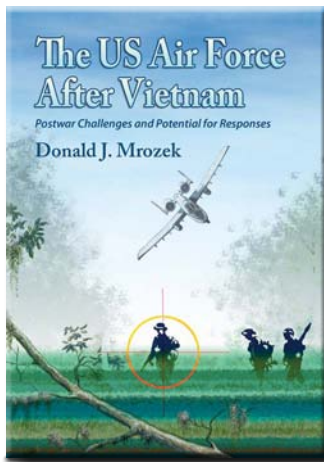
Dr. Mrozek focuses on expectations concerning the impact of airpower on the ground war. He describes some of the actual effects but avoids treatment of some of the most dramatic air actions of the war, such as the bombing of Hanoi. He observes that the application of airpower is influenced by factors far beyond the battlefield.

1988. 204 pages.

ISBN 978-1-58566-015-5

B-17

\$9.00



The US Air Force after Vietnam

Postwar Challenges and Potential for Responses

Mrozek, Dr. Donald J.

This book probes various groups of Americans as they come to grips with the consequences of the Vietnam War. Dr. Mrozek examines several areas of concern facing the United States Air Force, and the other services to varying degrees, after Vietnam.

1988. 133 pages.

ISBN 978-1-58566-024-7

B-26

\$6.50



Strategy for Defeat

The Luftwaffe, 1933–1945

Murray, Dr. Williamson

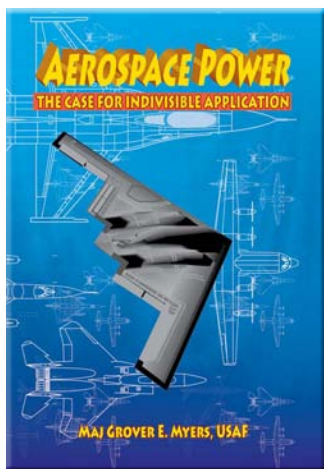
Dr. Murray's book provides a detailed analytical study of the development of the Luftwaffe. The author takes an in-depth look at the "easy war" (1939–40) and the turn toward Russia in Operation Barbarossa. Dr. Murray investigates the war of attrition from 1942 through early 1944 and the reasons for the final demise of the Luftwaffe from April through September 1944.

1983. 391 pages.

ISBN 978-1-58566-010-0

B-12

\$12.00



Aerospace Power

The Case for Indivisible Application

Myers, Maj Grover E., USAF

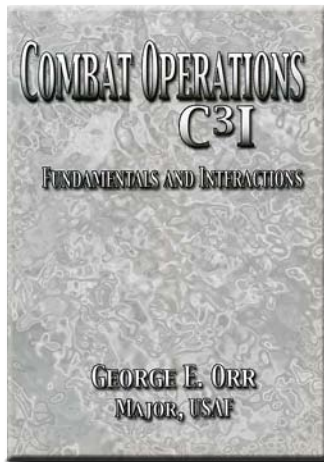
Major Myers offers a serious alternative to "aerospace folklore." He proposes an indivisible air-power concept and argues that it would result in a far more flexible aerospace force structure—one that gets the most from our increasingly expensive and limited assets and that applies the right force at the right place at the right time.

1986. 96 pages.

ISBN 978-1-58566-013-1

B-15

\$4.75



Combat Operations C³I

Fundamentals and Interactions

Orr, Maj George E., USAF

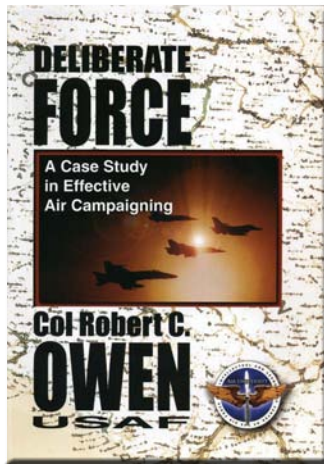
The author introduces basic definitions, functions, and processes of command, control, communications, and intelligence (C³I). He develops a conceptual model of the combat operations process based on the American approach to war. The study investigates the stochastic nature of combat operations and develops a guide to effective command. Major Orr concludes that a distributed C³I architecture designed to exploit the unpredictability of combat is best suited to the true nature of combat and the strengths of American fighting units. (Air University Press originally published this book in 1983 as Research Report No. AU-ARI-82-5.)

2001. 122 pages.

ISBN 978-1-58566-102-2

B-82

\$12.00



Deliberate Force

A Case Study in Effective Air Campaigning

Owen, Col Robert C., USAF, Editor

Operation Deliberate Force, conducted between 30 August and 20 September 1995, was the North Atlantic Treaty Organization's air campaign to advance the cause of peace in the Balkans region. This study of that campaign examines how and with what considerations the planners and executors of Deliberate Force linked military operations with the goals they were charged to attain. In 16 essays, 11 contributors discuss the geopolitical, sociological, diplomatic, technological, and operational factors that shaped the characteristics and outcome of Deliberate Force and, in so doing, identify the implications of this air campaign for future conflicts.

1999. 560 pages.

ISBN 978-1-58566-076-6

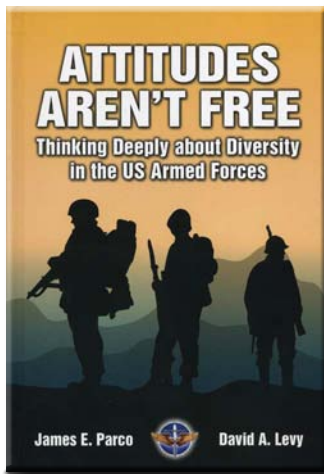
B-74

\$37.00

"This . . . special study at the US Air Force's chief graduate educational institute, Air University, focuses on the three weeks of air operations conducted by NATO in September 1995 against Serbian forces. The officers who wrote these chapters . . . have produced a study of considerable utility and interest."

REVIEWED IN *Almanac of Seapower* 2001





Attitudes Aren't Free

Thinking Deeply about Diversity in the US Armed Forces

Parco, James E., and David A. Levy

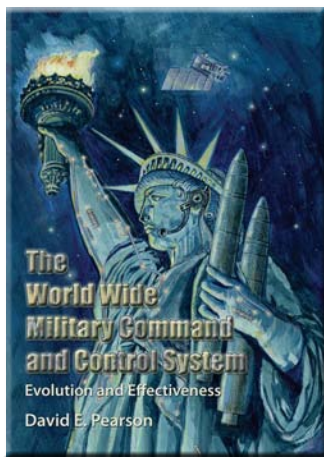
Attitudes Aren't Free: Thinking Deeply about Diversity in the US Armed Forces is a collection of essays (and a few speeches), most of them written for this volume, on the themes of religious expression, homosexuality, gender, race, and ethics in the military. The contributors include activists, military members, academics, and other experts. *Attitudes Aren't Free* does not promote one view on these contentious issues but allows the writers to advocate for their diverse positions with thoughtful, well-reasoned arguments. This volume offers a framework for critical thought and candid discussions about important social policy issues in the military.

February 2010. 560 pages.

ISBN 978-1-58566-204-3

B-120

\$52.00



The World Wide Military Command and Control System

Evolution and Effectiveness

Pearson, David E.

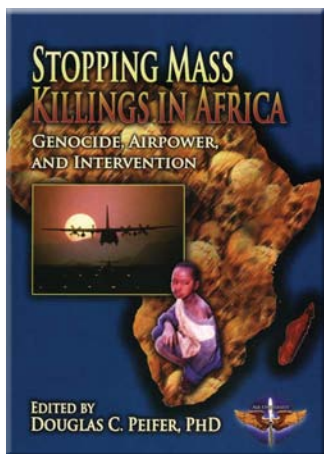
In this comprehensive analysis of the World Wide Military Command and Control System (WWMCCS), the author takes three distinct themes—organization, technology, and ideology—and examines how each contributed to the development of WWMCCS. He explains how and why it developed the way it did, focusing on the system's computers and communications networks and using a number of illustrations. An interview with the chief technical officer of the system that replaced WWMCCS brings a contemporary flavor to the study.

2000. 414 pages.

ISBN 978-1-58566-078-0

B-76

\$37.00



Stopping Mass Killings in Africa

Genocide, Airpower, and Intervention

Peifer, Dr. Douglas C., Editor

This is a compendium of case studies that seeks to describe the best uses of military power, particularly airpower, in response to genocide. The writers examine recent instances of genocide in Somalia, Rwanda, and Côte d'Ivoire to draw out useful generalizations concerning the nature of genocide, international reactions to genocide, and effective responses to genocide and the possibility of genocide.

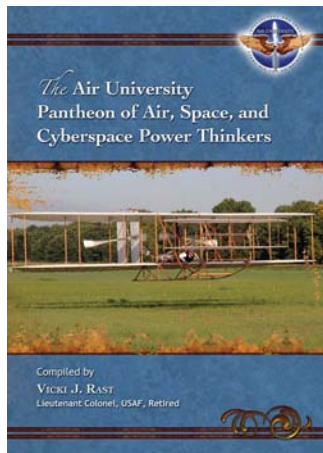
July 2008, 188 pages.

ISBN 978-1-58566-182-4

B-112

Audio downloadable

\$17.00



The Air University Pantheon of Air, Space, and Cyberspace Power Thinkers

Rast, Lt Col Vicki J., USAF, Retired

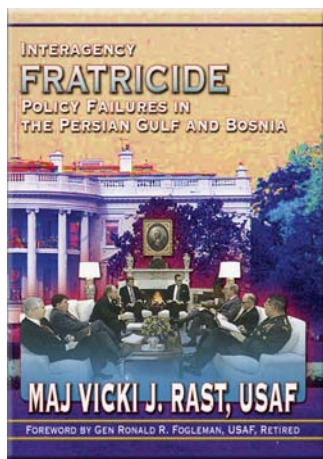
An initiative of Gen Stephen R. Lorenz, USAF, retired, former commander of both Air University and Air Education and Training Command, *The Air University Pantheon of Air, Space, and Cyberspace Power Thinkers* is an effort to identify the intellectual roots of Air University. Together, these biographies provide a framework for understanding the evolution of Air University and its powerful legacy in offering a forum for academic discourse and contributing to dramatic changes in the employment of airpower. Air University has been graced with individuals possessing imagination and keen intellect and the fortitude to bring their vision to reality. Their examples inspire future generations to add their fresh ideas and unconventional viewpoints so that the Air Force can continue to preserve America's peace and security. In part because Air University serves as a forum for innovative thought and discussion, the United States continues to be the preeminent air, space, and cyberspace power.

August 2009. 126 pages.

ISBN 978-1-58566-192-3

B-117

\$12.00



Interagency Fratricide

Policy Failures in the Persian Gulf and Bosnia

Rast, Maj Vicki J., USAF

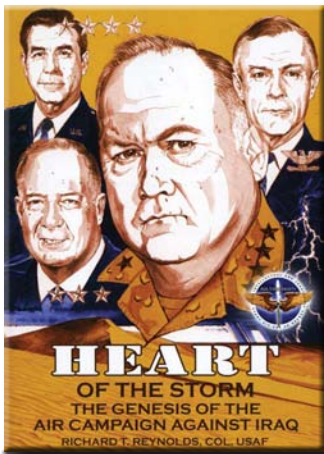
The United States government promulgates national security policy through a complex, recursive negotiation process across multiple interagency players. When coercive intervention requires the use of force, it is imperative to understand the ways in which interagency conflict within the US government influences policies regarding conflict termination and withdrawal. Drawing upon the experiences of 135 interagency participants, Major Rast examines the processes for developing policy on conflict termination for the second Persian Gulf War (1990–91) and the Bosnia Conflict (1993–95).

2004. 466 pages.

ISBN 978-1-58566-126-8

B-92

\$42.00



Heart of the Storm

The Genesis of the Air Campaign against Iraq

Reynolds, Col Richard T., USAF

Colonel Reynolds presents a firsthand account of the struggle to design and implement the air campaign that proved instrumental in defeating Iraq in the Gulf War. Through documentary research and dialogue from interviews with key players, he traces the evolution of the air campaign plan known as Instant Thunder from its origins in the mind of Col John A. Warden III to the decision by General Schwarzkopf to employ airpower as his weapon of choice against Saddam Hussein. *Heart of the Storm* provides behind-the-scenes insights into how future decisions to use airpower will likely be made. It is a companion volume to Mann's *Thunder and Lightning* (B-2).

1995. 169 pages.

ISBN 978-1-58566-052-0

B-55

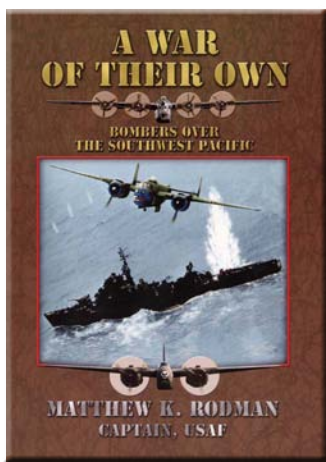
\$11.00

"[*Heart of the Storm*] is a blow-by-blow account of the effort undertaken to plan the strategic air war against Iraq. . . . Conflicts of competing egos, behind-the-scenes deals, unholy alliances are told with the gloves off."

SCOTT A. WILEY, REVIEWED IN *Air Power History*, Summer 1997

"Once in a great while there appears on the scene a book on military affairs that is so well written and so fast paced that it cries out to be read by a wide audience. . . . What is intriguing about this short book . . . is how candid it is about the sharp differences of view, personality clashes, and mistakes made . . . during three critical weeks in August 1990."

PERRY SMITH, REVIEWED IN *Marine Corps Gazette*



A War of Their Own

Bombers over the Southwest Pacific

Rodman, Capt Matthew K., USAF

Captain Rodman examines the distinctive nature of Fifth Air Force's role in the air war over the Southwest Pacific Area during World War II. Especially notable is Gen George Kenney's innovative use of light attack aircraft as well as both medium and heavy bombardment aircraft, characterized by theater-specific tactics, ordnance, and structural modifications. *A War of Their Own* also considers the free exchange of aircraft and missions in the Southwest Pacific—a hallmark of that theater—in terms of the conflict between doctrine and tactics that underlay Fifth Air Force's relationship to the prewar Army Air Corps and the postwar Air Force. The author also notes the relevance of the Fifth's experiences to modern airpower.

2005. 182 pages.

ISBN 978-1-58566-135-0

B-96

\$14.00



Introduction to the United States Air Force

Saltzman, Capt B. Chance, USAF, and Thomas R. Searle, Editors

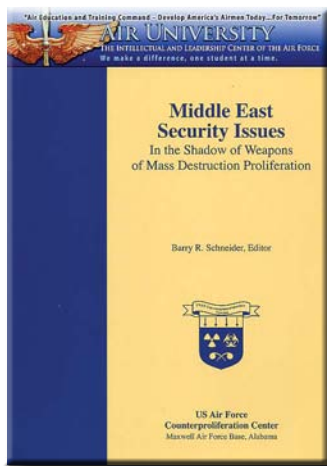
Captain Saltzman and Dr. Searle provide fascinating stories of the people, equipment, and operations of the Air Force. Organized chronologically, the first part groups significant operations and personalities into critical periods during the development of the US Air Force. The second part covers air and space craft by type (fighters, bombers, missiles, and so forth), showing the development of each over time. Five appendices follow, listing the senior leaders of the early air forces, the Air Force chiefs of staff, the chief master sergeants of the Air Force, fighter aces, and Medal of Honor recipients.

2001. 190 pages.

ISBN 978-1-58566-092-6

B-79

\$24.00



Middle East Security Issues

In the Shadow of Weapons of Mass Destruction Proliferation

Schneider, Barry R., Editor

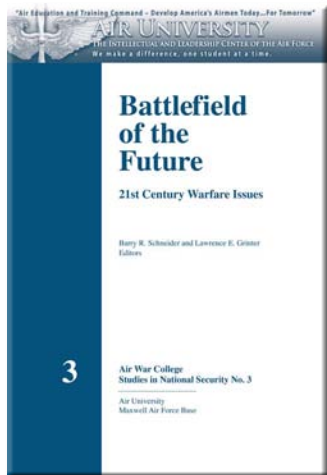
This book originated as a symposium at the US Air War College in August 1998. The authors address questions that demand answers if US national security policy is to be well informed.

1999. 146 pages.

ISBN 978-1-58566-077-3

B-75

\$12.00



Battlefield of the Future

21st Century Warfare Issues

Schneider, Barry R., and Dr. Lawrence E. Grinter, Editors

Composed of 10 essays, this book examines strategy and war fighting in the midst of a revolution in military affairs as the world moves into the twenty-first century.

1998. 286 pages.

ISBN 978-1-58566-061-2

B-64

\$19.00



Democracy and Deterrence Foundations for an Enduring World Peace

Sharp, Dr. Walter Gary, Sr.

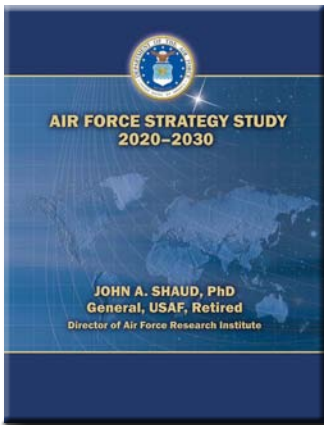
Dr. Sharp argues that two fundamental strategies are necessary to create lasting peace in the world: facilitating the spread of democracy and maintaining comprehensive deterrence mechanisms targeted at individual world leaders. He surveys conventional approaches to avoiding war and presents evidence to validate the democratic peace principle (the notion that democracies are inherently more peaceful than nondemocracies) and the incentive theory of war avoidance formulated by John Norton Moore. Dr. Sharp proposes a mathematical formula that can be used to predict the probability of peace for a given nation. Comprehensive tables collate data from multiple sources on freedom and human development in nations around the world.

May 2008. 290 pages.

ISBN 978-1-58566-180-0

B-111

\$24.00



Air Force Strategy Study, 2020–2030

Shaud, Gen John A., PhD, USAF, Retired

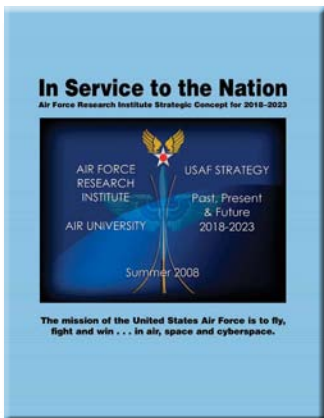
In November 2009, Gen Norton A. Schwartz, the Air Force chief of staff, tasked the Air Force Research Institute (AFRI) to answer the following question: What critical capabilities—implemented by the combatant commanders—will the nation require of the Air Force by 2030? The AFRI team identified the nation's vital interests: commerce; secure energy supplies; freedom of action at sea, in space, in cyberspace, and in the skies; nuclear deterrence; and regional stability. The team analyzed four future world scenarios—a peer competitor, resurgent power, failed state, and jihadist insurgency—in relation to the nation's vital interests and the 12 Air Force core functions. The resulting analysis led to a synthesis of the core functions into five critical capabilities designed to meet the Air Force's strategic challenges in 2030: power projection; freedom of action in air, space, and cyberspace; global situational awareness; air diplomacy; and military support to civil authorities.

January 2011. 138 pages.

ISBN 978-1-58566-210-4

B-124

No Price



In Service to the Nation

Air Force Research Institute Strategic Concept for 2018–2023

Shaud, Gen John A., PhD, USAF, Retired

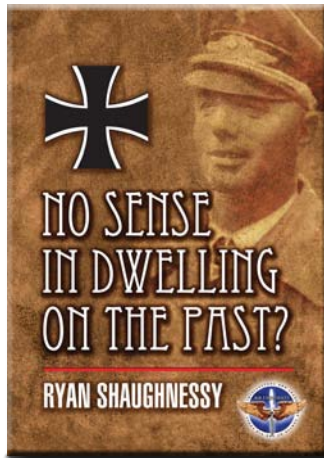
In this study the Air Force Research Institute provides its perspective on what the United States Air Force should look like in 2018–23. It offers a detailed discussion of the attributes of the Air Force today in order to develop a framework for understanding how the USAF will serve the nation in the future. The USAF will remain the world's preeminent air force, prepared to fly, fight, and win in service to the nation.

January 2009. 124 pages.

ISBN 978-1-58566-189-3

B-115

No Price



No Sense in Dwelling on the Past?

Shaughnessy, 2d Lt Ryan, USAF

This book examines the German air force monograph effort known as the Karlsruhe project, which involved the US Air Force's employing former Luftwaffe generals to record the history of World War II from the German perspective. The Air Force monographs have proven useful to historians because of their high quality.

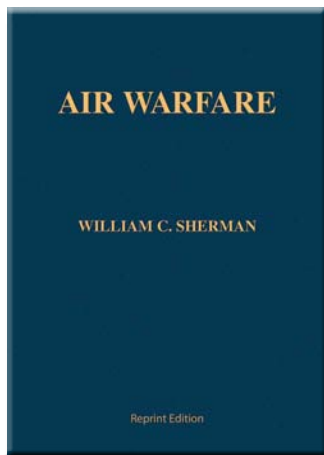
The cooperative historical work proved to be an inexpensive and unexpected way of cementing the critical West German–American military alliance, and both air forces came to value this aspect of the project more than the historical studies it produced.

April 2011. 166 pages.

ISBN 978-1-58566-207-4

B-121

\$40.00



Air Warfare

Sherman, William C.

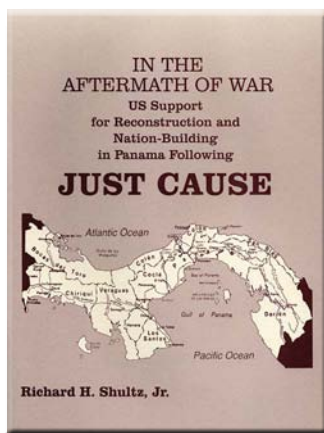
Since this study was published initially in 1926, designers, engineers, pilots, and students of aviation have had an opportunity to discern its merits and to analyze its shortcomings. Still, in that historic year, with the public reeling from the outcome of the Scopes Monkey Trial, Charles Lindbergh's solo transcontinental flight, and the Billy Mitchell trial and verdict, William C. Sherman advanced a need for aerial navigation and cogently told us of the merits of flying. Coming at a time when flying was in its infancy, the book ushered in a new era in airpower historiography.

2002. 306 pages.

ISBN 978-1-58566-104-6

B-86

\$27.00



In the Aftermath of War

US Support for Reconstruction and Nation-Building in Panama Following Just Cause

Shultz, Dr. Richard H., Jr.

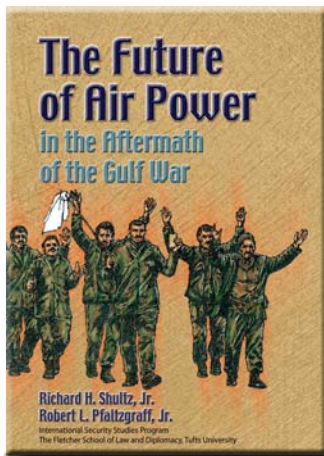
Dr. Shultz discusses the December 1989 invasion of Panama and assesses the effectiveness of American foreign policy implemented afterward. He focuses on reconstruction, nation-building, and democratization following Operation Just Cause. He reviews contemporary Panamanian politics and comments on what went wrong with our contingency planning. Dr. Shultz examines the origins and future applications of the Military Support Group and concludes that future postconflict situations will require the Department of Defense to create an interagency mechanism that can respond in an effective way to both civilian and military concerns.

1993. 88 pages.

ISBN 978-1-58566-058-2

B-61

\$10.00



The Future of Air Power in the Aftermath of the Gulf War

Shultz, Dr. Richard H., Jr., and Dr. Robert L. Pfaltzgraff Jr.

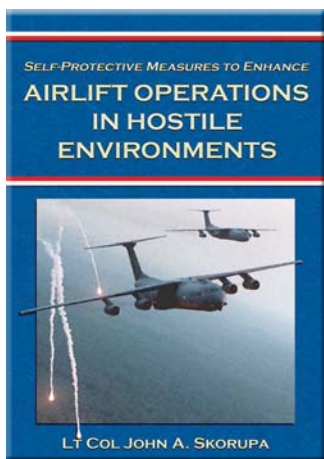
This collection of essays reflects the proceedings of “The United States Air Force: Aerospace Challenges and Missions in the 1990s,” a conference sponsored by the USAF and Tufts University in 1991. The 20 contributors comment on the pivotal role of airpower in the war with Iraq and address issues and choices facing the USAF, such as factors that are reshaping strategies and missions, the future role and structure of airpower as an element of US power projection, and the air and space industry’s views on what the Air Force of the future will set as its acquisition priorities and strategies.

1992. 386 pages.

ISBN 978-1-58566-046-9

B-48

\$23.00



Self-Protective Measures to Enhance Airlift Operations in Hostile Environments

Skorupa, Lt Col John A., USAF

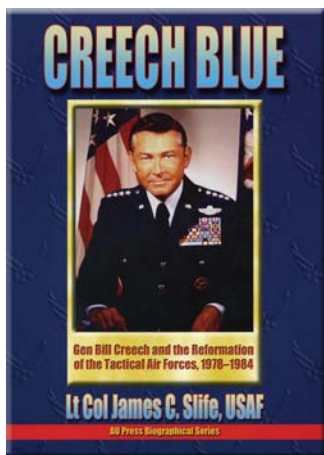
Colonel Skorupa examines strategy, doctrine, forces, threats, and technological issues relating to airlift operations. He blends military art with industrial science, explaining threats to airlift and how electronic warfare and other technological applications would counter such threats.

1989. 201 pages.

ISBN 978-1-58566-028-5

B-30

\$8.50



Creech Blue

Gen Bill Creech and the Reformation of the Tactical Air Forces, 1978–1984

Slife, Lt Col James C., USAF

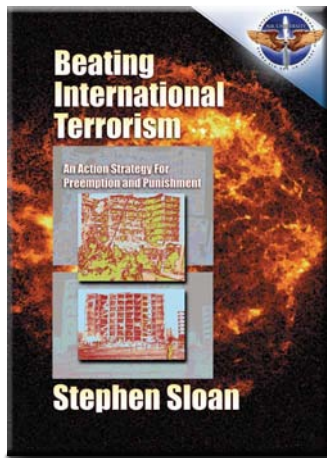
Colonel Slife chronicles the influence of the late Gen Wilbur L. “Bill” Creech—a leader, visionary, warrior, and mentor—in the areas of equipment and tactics, training, organization, and leader development. His study serves both to explain the context of a turbulent time in our Air Force’s history and to reveal where tomorrow’s Airmen may find answers to some of the difficult challenges facing them today. Slife, who addresses such controversial topics as the development of the Army’s AirLand Battle doctrine and what it meant to Airmen, also describes what historians will surely see in years to come as the revolutionary developments of the late 1970s/early 1980s and General Creech’s central role.

2004. 162 pages.

ISBN 978-1-58566-125-1

B-95

\$13.00



Beating International Terrorism

An Action Strategy for Preemption and Punishment

Sloan, Dr. Stephen

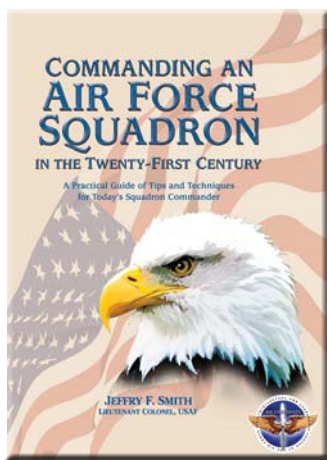
Dr. Sloan writes this book primarily for senior- and middle-level officials and officers who will be responsible for conducting war against terrorism. He examines several definitional problems, analyzes the factors involved in developing approaches to counter and preempt terrorism, and looks at the policy issues regarding the use of force.

2000. Revised edition. 110 pages.

ISBN 978-1-58566-079-7

B-3

\$8.00



Commanding an Air Force Squadron in the Twenty-First Century

A Practical Guide of Tips and Techniques for Today's Squadron Commander

Smith, Lt Col Jeffrey F., USAF

Lt Col Jeffrey Smith updates the earlier release of Col Timothy T. Timmons's *Commanding an Air Force Squadron* (1993). In this book, which includes a foreword by Gen John P. Jumper and an introduction by Colonel Timmons (USAF, retired), Colonel Smith relies on the vast "insights, experiences, and recommendations" of former and current commanders to identify the attributes of a successful commander at multiple levels. He identifies some issues commanders face regardless of the level of command, including personnel counseling, dorm inspections, commander's calls, money management, and the roles of spouses and families.

2003. 194 pages.

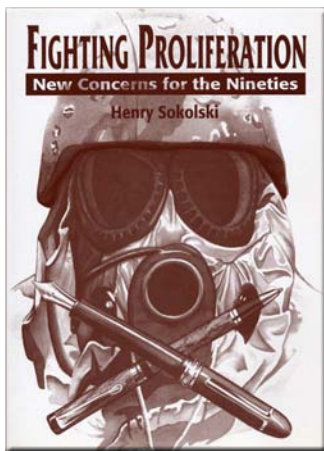
ISBN 978-1-58566-119-0

B-9

Audio downloadable

\$18.00





Fighting Proliferation New Concerns for the Nineties

Sokolski, Henry, Editor

This publication examines such issues as devising effective strategy against the proliferation of nuclear weapons, coping with the spread of space technology, and curbing Iran's and North Korea's strategic programs. Seventeen contributors address these challenges and their implications for US policy.

1996. 396 pages.

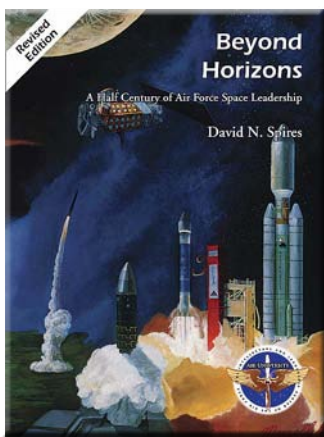
ISBN 978-1-58566-017-9

B-19

\$23.00

"This book advances the antiproliferation literature, focusing on new threats and proposing alternative approaches to thinking about proliferation. The message is clear: new dangers . . . require comprehensive solutions and long-term perspectives."

PHILIP L. RITCHESON, REVIEWED IN *Naval War College Review*, Summer 1998



Beyond Horizons

A Half-Century of Air Force Space Leadership

**Spires, David N. ; George W. Bradley III, Senior Editor;
Rick W. Sturdevant and Richard S. Eckert, Associate Editors**

This book is a study of the Air Force's long involvement in initiating, developing, and applying the technology of space-based systems in support of the nation's security. It ranges from America's space and missile efforts prior to the launch of the Soviet sputniks in 1957, right up to the coming of age of military space employment in the Persian Gulf War of 1991. This is a slightly revised edition of a book originally published by Air Force Space Command in 1997.

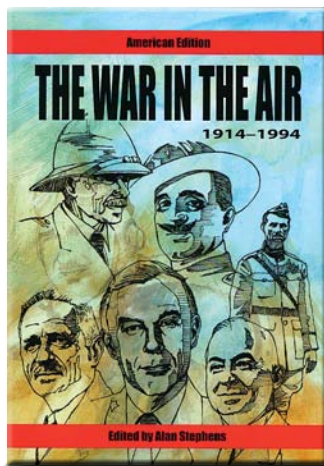
1998. 406 pages.

ISBN 978-1-58566-060-5

B-63

\$25.00

Beyond Horizons was on the 2007 Air Force Chief of Staff Reading List.



The War in the Air, 1914–1994

Stephens, Alan, Editor

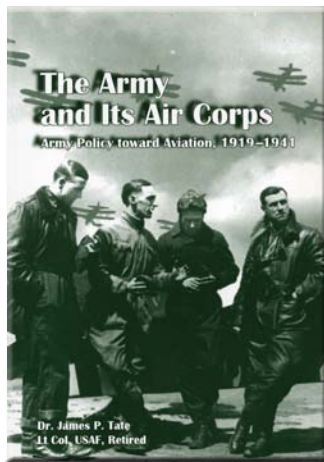
This book contains the proceedings of a conference held by the Royal Australian Air Force (RAAF) in Canberra in 1994. Since its publication by the RAAF's Air Power Studies Centre in that year, the book has become a widely used reference at universities, military academies, and other educational institutions around the world. This American edition is a somewhat shortened version with minor editorial changes.

2000. 438 pages.

ISBN 978-1-58566-087-2

B-78

\$36.00



The Army and Its Air Corps

Army Policy toward Aviation, 1919–1941

Tate, Dr. James P., Lieutenant Colonel, USAF, Retired

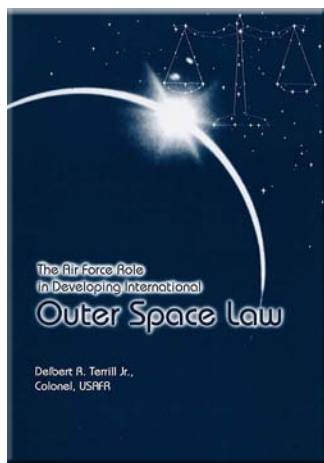
From the armistice in 1918 to the late 1930s, there was continuous controversy over the place of aviation in the military establishment. This book details how airpower visionaries, with varying degrees of tact, often risked charges of insubordination in preaching the gospel of airpower. As aviation technology advanced and as Army leaders were “educated” in the capabilities of aircraft, they showed genuine interest in the potential of airpower. The author contends that their decisions often favored the Air Corps and that the air arm received a lion’s share of the Army budget during a period of extreme austerity.

1998. 217 pages.

ISBN 978-1-58566-059-9

B-62

\$14.00



The Air Force Role in Developing International Outer Space Law

Terrill, Col Delbert R., Jr., USAFR

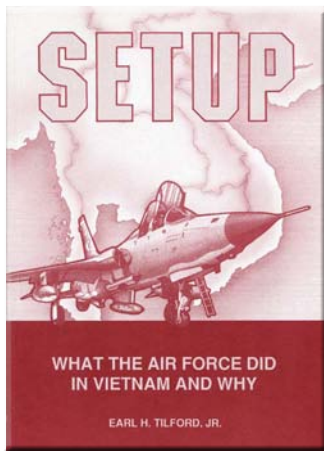
Colonel Terrill provides an in-depth examination of the historical evolution of Air Force thinking and action on the development of international law as it applies to outer space. He traces the Air Force’s continual resistance to treaties and other conventions that would have defined the demarcation of the “boundary” between airspace and outer space. He shows that the Air Force position was grounded in the unwillingness to define outer space narrowly before the military had thoroughly researched and tested technological capabilities that could be employed in space.

1999. 155 pages.

ISBN 978-1-58566-066-7

B-69

\$12.00



Setup

What the Air Force Did in Vietnam and Why

Tilford, Dr. Earl H., Jr.

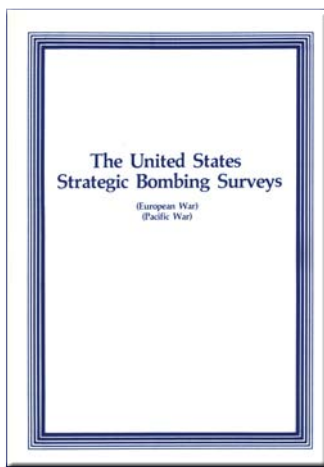
American military professionals, especially those in the US Air Force, have had a difficult time understanding their role in this nation's defeat in Vietnam. Dr. Tilford provides a critical self-analysis and questions the underlying assumptions of the Air Force's strategy in Southeast Asia. He argues that we must understand what went wrong in Vietnam and why—and that we must not manipulate the record by painting failure as victory. He explains what led to the “setup,” which not only resulted in a failure for airpower but also contributed to the fall of South Vietnam, Laos, and Cambodia to Communist forces in 1975.

1991. 328 pages.

ISBN 978-1-58566-038-4

B-40

\$12.00



The United States Strategic Bombing Surveys

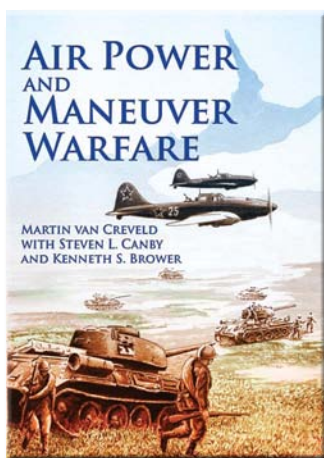
This publication contains reprints of the summary reports—30 September 1945 (European War) and 1 July 1946 (Pacific War)—of the strategic bombing surveys conducted as World War II was coming to a close.

1987. 124 pages.

ISBN 978-1-58566-018-6

B-20

\$7.50



Air Power and Maneuver Warfare

van Creveld, Dr. Martin, with Kenneth S. Brower and Dr. Steven L. Canby

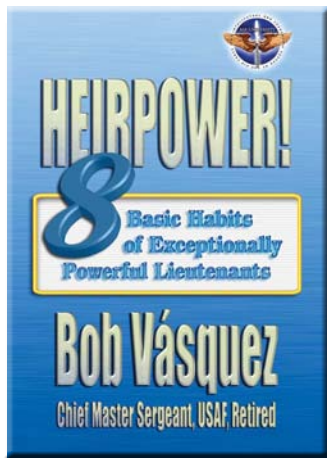
The authors identify and discuss the fundamental concepts and principles of maneuver warfare, compare and contrast it to attrition-style warfare, and trace its origins and history. They examine the role of airpower in enhancing maneuver during the early German campaigns of World War II, in Germany's 1941 Russian campaigns, and in the Soviet version of maneuver warfare in World War II. They analyze the importance of airpower in the maneuver warfare employed by Israel in the 1967 and 1973 wars and by the coalition forces in the Gulf War.

1994. 284 pages.

ISBN 978-1-58566-050-6

B-53

\$17.00



Heirpower!

Eight Basic Habits of Exceptionally Powerful Lieutenants

Vásquez, CMSgt Bob, USAF, Retired

In *Heirpower! Eight Basic Habits of Exceptionally Powerful Lieutenants*, Chief Vásquez, an Air Force veteran of more than 30 years, now serving as director of a freshman seminar at the US Air Force Academy's Center for Character Development, shares the views of the enlisted force in a powerful, humorous, anecdotal way that will educate and entertain. His eight habits will empower young officers to become Exceptionally Powerful Lieutenants!

2006. 93 pages.

ISBN 978-1-58566-154-1

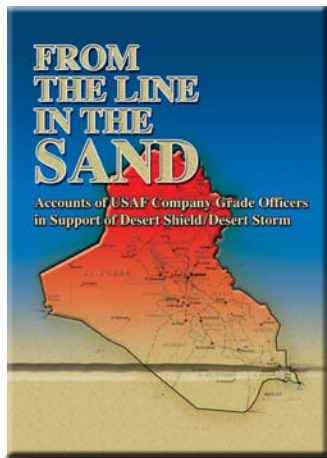
B-100

Audio downloadable

\$8.50

"Chief Bob Vásquez has found an innovative and effective way to share some basic principles that every new lieutenant should know . . . how to succeed as a leader. . . I'm convinced that any lieutenant who reads this book will be better prepared to lead at every level."

GEN RONALD R. FOGLEMAN, USAF, Retired, "Foreword," *Heirpower!*



From the Line in the Sand

Accounts of USAF Company Grade Officers in Support of Desert Shield/Desert Storm

Vriesenga, Capt Michael P., USAF, Editor

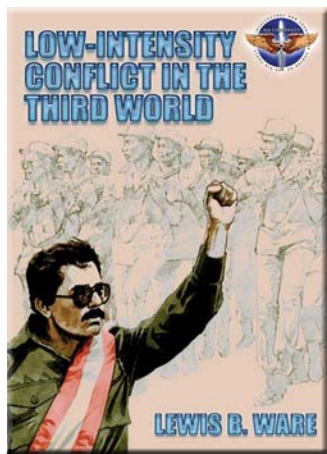
Captain Vriesenga presents a compilation of essays by 34 participants below the rank of major who contributed to the Gulf War. Their stories focus on such topics as deployment, organizational patterns of units, delegation of authority and responsibility, emotions and psychology of combat, the impact of combat losses, airfield construction, medical care, and aircraft preparations.

1994. 289 pages.

ISBN 978-1-58566-012-4

B-14

\$20.00



Low-Intensity Conflict in the Third World

Ware, Dr. Lewis B., Dr. Stephen Blank, Dr. Lawrence E. Grinter, Jerome W. Klingaman, Dr. Thomas P. Ofcansky, and Dr. Bynum E. Weathers

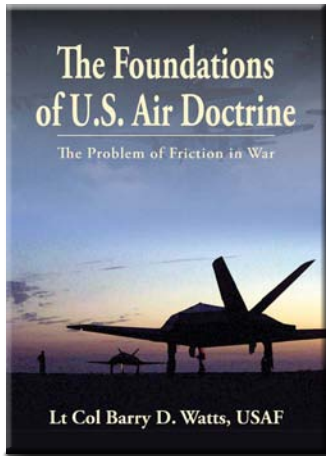
A common thread ties together the five case studies of this book: the persistence with which the bilateral relationship between the United States and the Soviet Union continues to dominate American foreign and regional policies. These essays analyze the low-intensity conflict environment in Central Asia, the Middle East, Southeast Asia, Latin America, and sub-Saharan Africa.

1988. 189 pages.

ISBN 978-1-58566-022-3

B-24

\$7.50



The Foundations of U.S. Air Doctrine

The Problem of Friction in War

Watts, Lt Col Barry D., USAF

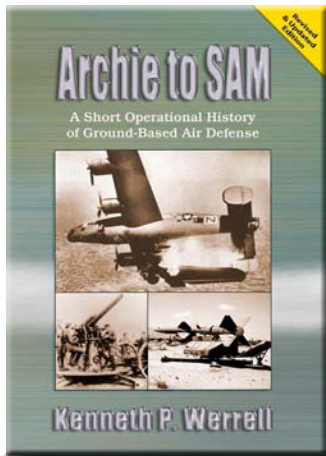
This study analyzes airpower doctrine from the viewpoint of Clausewitzian friction. The study concludes that American airpower doctrine has changed very little since the 1930s and that it is fundamentally flawed.

1984. 159 pages.

ISBN 978-1-58566-007-0

B-8

\$4.00



Archie to SAM

A Short Operational History of Ground-Based Air Defense

Werrell, Dr. Kenneth P.

Archie to SAM is an update to Kenneth Werrell's *Archie, Flak, AAA, and SAM*, published in 1988. He continues to study ground-based air defense systems, showing new events that include the Gulf War. In rescuing ground-based air defense systems from long neglect, Werrell delves into such topics as tactics, leadership, change, and innovation.

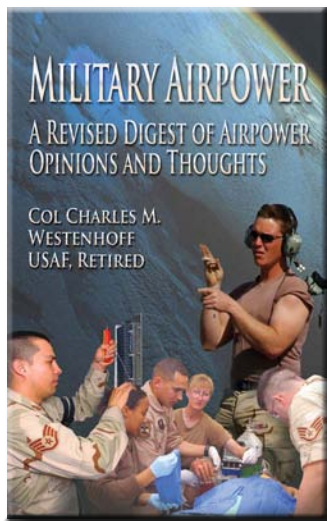
2005. Revised edition. 302 pages.

ISBN 978-1-58566-136-7

B-28

\$29.00





Military Airpower

A Revised Digest of Airpower Opinions and Thoughts

Westenhoff, Col Charles M., USAF, Retired

This collection of quotations supplies Airmen with useful thoughts to help them meet their responsibilities and challenges. The quotations are arranged by subject matter to show different views of each topic.

2007. 277 pages.

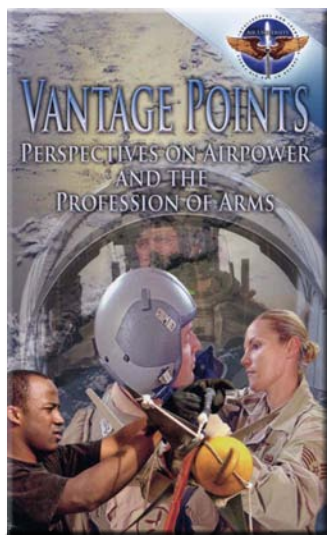
ISBN 978-1-58566-163-3

B-106

\$23.00

“Understanding the way our predecessors handled challenges can equip us to better serve our nation.”

GEN T. MICHAEL MOSELEY, Chief of Staff, USAF, “Foreword,” *Military Airpower*



Vantage Points

Perspectives on Airpower and the Profession of Arms

Westenhoff, Col Charles M., USAF, Retired; Col Michael D. Davis, USAF;
Dr. Daniel R. Mortensen; and Col John L. Conway, USAF, Retired

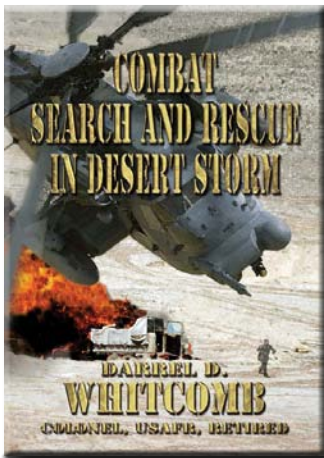
The aim of this pocket-size and shorter version of *Military Airpower: A Revised Digest of Airpower Opinions and Thoughts* is to supply Airmen with useful thought that might help them meet their known responsibilities and the unknown challenges their service will bring.

August 2007. 68 pages.

ISBN 978-1-58566-165-7

B-108

\$3.25



Combat Search and Rescue in Desert Storm

Whitcomb, Col Darrel D. ,USAFR, Retired

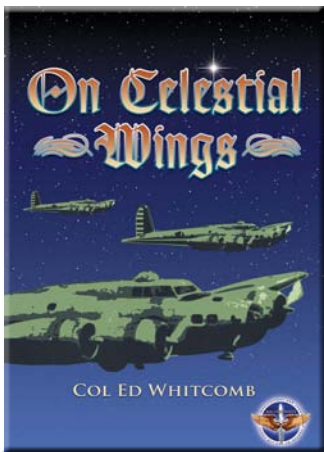
Budgetary, political, and organizational changes left the USAF unprepared for the combat search and rescue (CSAR) mission going into Desert Storm. Colonel Whitcomb relates his and others' experiences from CSAR in Southeast Asia and examines the organization that was established to provide CSAR services in the Iraq-Kuwait theater of operations. He traces each incident from beginning to end along with the tactical and sometimes strategic implications. Scores of interviews, e-mails, and published works provide a compendium of lessons learned and recommendations gleaned from those who flew the missions and made the decisions in Iraq.

2006. 328 pages.

ISBN 978-1-58566-153-4

B-102

\$26.00



On Celestial Wings

Whitcomb, Col Ed, USAF, Retired

The first Army Air Corps navigational class at Miami University graduated in November 1940. In this book, Colonel Whitcomb follows these first celestial navigators through their World War II trials. Twenty-five personal stories and a series of photographs paint the stories of these men as they fought. Combining the ancient art of navigating by the stars with the equipment on their B-17s, they became prisoners of war, lived through the Bataan Death March, escaped from Japanese captors, survived primitive conditions in the Philippines, died for their country, or later served the United States as navigators on the aircraft of presidents and dignitaries.

1995. 227 pages.

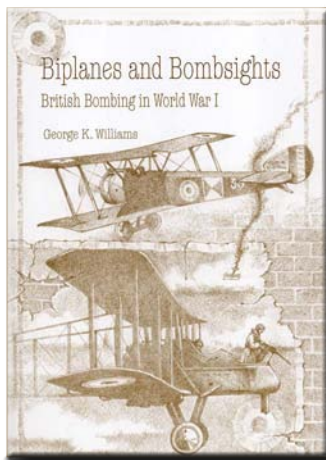
ISBN 978-1-58566-003-2

B-4

\$14.00

"This easy-to-read book is a 'must have' for those wanting details and fascinating tales of the early days of the war."

SCOTT A. WILEY, REVIEWED IN *Air Power History*, Summer 2000



Biplanes and Bombsights

British Bombing in World War I

Williams, Col George K., USAF, Retired

Colonel Williams presents a comprehensive study of British bombing efforts in the Great War. He contends that the official version of costs and results underplays the costs while overplaying the results. Supported by the postwar findings of both US and British evaluation teams, he argues that British bombing efforts were significantly less effective than heretofore believed. Colonel Williams also presents a strong argument that German air defenses caused considerably less damage to British forces than pilot error, malfunctioning aircraft, and bad weather.

1999. 330 pages.

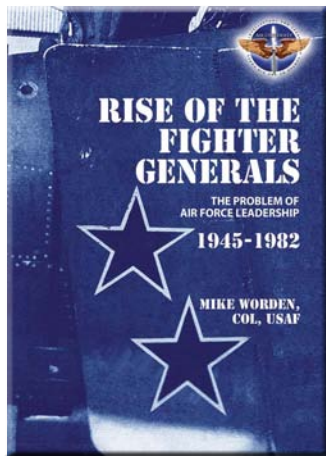
ISBN 978-1-58566-073-5

B-68

\$25.00

"Williams' fine study of British bombing takes us back to the origins of aerial bombardment and sheds light on how the fundamental tenets of strategic bombing doctrine adhered to throughout most of the twentieth century were initially forged. . . . A more substantive concluding section would have benefited readers. . . [but] this criticism notwithstanding Williams has provided a valuable contribution to the expanding scholarly literature on air power history."

PETER L. JAKAB, REVIEWED IN *Journal of Military History*, April 2000



Rise of the Fighter Generals

The Problem of Air Force Leadership, 1945–1982

Worden, Col Mike, USAF

Colonel Worden relies on oral histories, personal interviews, military and social histories, quantitative data, and sociological research to show how fighter generals rose to domination in the Air Force. From its inception through the 1960s, the Air Force was dominated by bomber pilots. Embracing an absolutist perspective, bomber pilots struggled to maintain their dominance. In the 1960s, however, they saw their positions of leadership slowly yielding to the experience, broader education, and pragmatism of fighter pilots. This study terminates in 1982 when the leadership changes with the selection of a string of generals with fighter backgrounds as Air Force chiefs of staff.

1998. 291 pages.

ISBN 978-1-58566-048-3

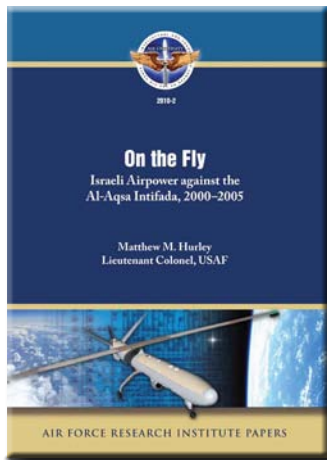
B-51

\$18.00

"For those interested in the evolution of military command, this book is unique. For those interested in the evolution and history of the USAF, it is essential."

DIK DASO, REVIEWED IN *Journal of Military History*, September 1998

PAPERS



Air Force Research Institute (AFRI) papers are occasional studies written by Air Force researchers at large and military defense analysts assigned to the Curtis E. LeMay Center for Doctrine Development and Education at Air University and beyond. The purpose of the AFRI papers is to provide useful ideas and independent analysis of issues of current or potential importance to Air Force commanders and their staffs.

All AFRI Papers are available online only at the AU Press website <http://aupress.au.af.mil>.

Cimbala, Stephen J.

Taking the Lead

Russia, the United States, and Nuclear Nonproliferation after Bush

Dr. Stephen Cimbala, distinguished professor and author of numerous books and articles on national security issues, seeks to reestablish relations on nuclear arms control between the United States and Russia. He reviews arms control history to illustrate the complexities of building agreements that will satisfy both sides and makes the point that more than just good relations between the former Cold War rivals is at stake. Cimbala suggests that only when Russia and the United States reach agreement on nuclear weapons can the case for controlled nonproliferation among the other nuclear powers proceed.

December 2008. 32 pages.

Dunlap, Maj Gen Charles J., Jr., USAF

Shortchanging the Joint Fight?

An Airman's Assessment of FM 3-24 and the Case for Developing Truly Joint COIN Doctrine

This study analyzes the pitfalls of accepting Army/Marine counterinsurgency (COIN) doctrine as the *joint* solution. It also offers insights and ideas from an Airman's perspective for strengthening joint doctrine development in order to deliver fresh alternatives to our national decision makers and combatant commanders. Major General Dunlap's assessment of Field Manual 3-24, *Counterinsurgency*—which regrettably reflects a one-dimensional, ground-centric perspective—is an impressive and influential document, skillfully addressing many difficult COIN issues.

December 2008. 123 pages.

Gray, Colin S.

The Airpower Advantage in Future Warfare

The Need for Strategy

The purpose of the study is to contribute to some reduction in America's strategy deficit; a common and serious error is the belief that airpower theory is uniquely immature and contested. Dr. Gray argues that the United States needs a theory of war and warfare. His paper

also advises a frank recognition of airpower's situational limitations as well as some important factors that detract from airpower's effectiveness. He asserts that future warfare will be diverse and that the tactical, operational, and strategic value of airpower must always be situational.

December 2007. 65 pages.

Gray, Colin S.

Understanding Airpower

Bonfire of the Fallacies

The general purpose of this monograph is to help prevent or reduce error in debates over all aspects of airpower. Since we humans, our institutions and procedures, and our behavior are friction prone and apt to err, it is sensible to try to diminish the pile of assumptions, beliefs, attitudes, and opinions that are plainly wrong. Much of the eternal debate on defense issues cannot usefully be approached with a view to locating error. But large swathes of frequently contested debating terrain can be cleared definitively. This study examines and exposes nine fallacies to "recognize and eliminate the weeds" of falsehood to which Clausewitz referred in one of the epigraphs to this text.

March 2009. 77 pages.

Hall, David Ian, DPhil

Learning How to Fight Together

The British Experience with Joint Air-Land Warfare

Dr. Hall examines the elusive quest for effective integration between air and land forces in the context of joint operations. He draws on historical and contemporary British experience to illustrate the enduring disagreements between soldiers and airmen over who should control aircraft on the battlefield and what air forces should do to assist the army in its operations. The study shows the need for air and land commanders to be in each other's minds and plans from the outset. Lessons learned offer insight to contemporary airmen and soldiers on both sides of the Atlantic to be better equipped conceptually to develop and deliver air-land integration that meets their respective requirements in the complex operating environment of today and tomorrow.

March 2009. 51 pages.

Hinote, Clint

Centralized Control and Decentralized Execution

A Catchphrase in Crisis?

Lieutenant Colonel Hinote applies the Air Force tenet of centralization versus decentralization to the current conflicts in Afghanistan and Iraq and suggests that the urgent need is for improved communication between air and ground forces. Relying on the teaching of the theoretician B. H. Liddell Hart, who emphasized the role of compromise in combat, Hinote sees communication between air and ground forces as a necessity.

March 2009. 87 pages.



Hurley, Matthew M.

On the Fly

Israeli Airpower against the Al-Aqsa Intifada, 2000–2005

Perhaps the greatest lesson the Israeli Air Force should have learned from the five-year campaign against Palestinian militants in the occupied territories was the danger inherent in planning from past success. It had long been accustomed to fighting short, sharp, conventional wars. Operation Ebb and Flow demonstrates that the IAF understood urban counterinsurgency threats at least as poorly as its own role in combating them. Indeed, its overwhelming preference for the blunt application of kinetic force proved as beneficial to Palestinian terrorists as to Israel. More than any other instrument of Israeli power, the IAF united Palestinian militant groups; generated publicity and sympathy for those groups; provided incentives for terrorist recruitment; and polarized Israeli society to a degree unseen since the Lebanon War in the 1980s.

June 2010. 66 pages.



Johnson, David “Scott,” and Brian Landry, PhD

Future Operator Symposium Proceedings

In July 2009 the Air Force Research Institute invited more than 270 active duty personnel, 14 general officers, and Department of Defense civilians to a “Future Operator Symposium” at Maxwell Air Force Base. The objective was to discuss what operators should look like in the future by exploring developmental, training, and educational issues the Air Force may face in the next seven to 10 years. To address these issues, the symposium offered 14 working groups/seminars to define the term *operator*, determine future operator competencies, and specify operator developmental, educational, and training recommendations to the commander, Air Education and Training Command.

May 2010. 30 pages.

Lowther, Adam B., PhD

Challenging Nuclear Abolition

Tough choices regarding defense spending and national security strategy are likely to come in 2009 and 2010, and may significantly affect nuclear weapons policy. Although the president’s efforts to develop a “new New Deal” may overshadow shifts in nuclear weapons policy, the president may oversee an unprecedented change in the number of deployed strategic nuclear weapons and the policy governing their use.

“Modernizers” and “abolitionists” will attempt to influence President Obama’s nuclear weapons policy. Modernizers believe that the United States must develop a new warhead and advanced delivery platforms if the nation wishes to maintain the most advanced and secure nuclear arsenal in the world. Abolitionists see an opportunity to oversee substantial reductions in the number of nuclear warheads and their delivery systems.

This paper takes a critical look at the fundamental arguments offered by abolitionists and concludes that the rationale offered, while admirable, is utopian and makes predictions about human behavior that are not supported by historical example or logic, which must be relied on when examining nuclear deterrence.

August 2009. 45 pages.

Mets, Dr. David R.*Reflections of a Middling Cold Warrior**Should the Army Air Corps Be Resurrected?*

The need for the justification of an autonomous Air Force seems to be increasingly questioned. This paper argues that the issue arises from a bad case of “presentism” that will make it inevitable that we will again be accused of having prepared for the last war in future conflicts. This paper explores the original reasons for creating the separate USAF in 1947, the ways in which the environment has changed since then, and the question of whether or not America should revert to the old ways or bring about still further change.

There are great aviators in all the services, and those in the other services are rightly focused on the support of their own form of warfare. What the Air Force brings to the fight is not its piloting skills but more of a global outlook on conflict. Those global capabilities are the principal contribution, but they also entail the capability to help the other services in a supporting role.

December 2009. 42 pages.

**Mets, Dr. David R.***RPA's**Revolution or Retrogression?*

Remotely piloted aircraft (RPA) are in a way merely the continuation of the old human longing for methods of striking or observing one's enemies while remaining safe. This paper explores the advantages and disadvantages of the systems and briefly speculates about the future of remotely piloted systems.

Precision-guided munitions, cruise missiles, and intercontinental ballistic missiles cannot be reused, and guidance and propulsion systems are consumed with each round. RPA's have had much in common in the development of the technology with those but are intended for reuse of the power and guidance apparatus.

April 2010. 35 pages.

Robinson, John A.*Communicating Airpower**Strategic Communication and the United States Air Force since 9/11*

The Air Force Research Institute asked the knowledgeable Washington editor John Robinson to analyze Air Force communications and provide some lessons that might help the Air Force communicate with the nation. As the ground campaigns in Iraq and Afghanistan drag on, perceptions of the Air Force contribution to those efforts and the larger global war on terrorism will play an increasing role in how communication is understood by the American public and leaders in the Pentagon and Congress. Robinson concludes that the Air Force needs to abandon the vague theoretical construct of strategic communication, rebuild the public affairs community, and focus on better explaining the relevance of airpower in current and future wars. AFRI collected these thoughts from Robinson in order to distribute them to Air Force public affairs offices and those most affected by and interested in his observations.

August 2008. 50 pages.

Tharp, Donald, Dr. Anthony Gould, and Robert Potter

Leveraging Affective Learning for Developing Future Airmen

This study is intended to help Air Force leadership and educators better understand the importance of affective learning in the development of Airmen as lifelong learners. Affective learning concerns learners' attitude, motivations, beliefs, and emotions. Unfortunately, the affective domain has been a neglected area because its characteristics are not directly observable or easily measured. Consequently, most educational systems evaluate student performance against cognitive proficiency rather than against affective measures. However, it is important to realize that affect is critical to the overall learning process since cognitive learning depends on attitude, motivation, and other affective factors. It is necessary to include a learner's emotional/cognitive state in the instructional design process to assist the learner in understanding the efficiency and satisfaction of the learning process. Instructional design that merges affective and cognitive objectives is even more critical as more instruction is conducted through distance learning without a facilitator present. An important Air Force goal should be to partner technology with the affective and cognitive domains to provide distance students with an experience similar to that of in-residence students.

November 2009. 35 pages.

Tomme, Lt Col Edward B. "Mel," DPhil, USAF, Retired

Expansion or Marginalization

How Effects-Based Organization Could Determine the Future of Air Force Space Command

The Air Force Space Command is currently a domain-based organization: the command "does things in and through space." Tomme argues instead for an effects-based organization, whereby missions are grouped according to similar effects rather than platforms and locations. Separating combat-effects producers from combat-support-effects producers would create synergies of training and organization to produce a more effective and potent force. Under Tomme's recommendations, the Air Force Space Command would become the nation's linchpin for delivering the effects of command, control, communications, computers, intelligence, surveillance, and reconnaissance. Tomme's analysis of Space Command also has implications for the organization of the recently announced Air Force Cyberspace Command.

July 2008. 50 pages.



USAF Counterproliferation Center, Defense Threat Reduction Agency, and Air Force Research Institute

Weapons of Mass Destruction Conference

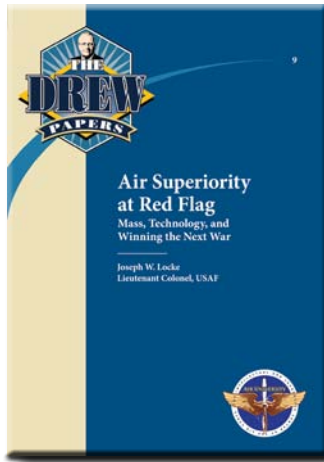
Avoiding a Nuclear Catastrophe, Summary Report

The world is awash in nuclear weapons—an estimated 35 countries have highly enriched uranium and/or stockpiles of plutonium. Although four out of every five nuclear weapons built since 1945 have been retired from service, nuclear weapons states now possess around 23,300 such weapons.

Pres. Barack Obama, in a 5 April 2009 speech in Prague, encouraged proceeding with a combination of strength and diplomacy to help the United States and its allies continue to ride the nuclear tiger safely via deterrence, paired with a long-term nuclear exit strategy. He encouraged a policy of reducing the role of nuclear weapons in our national security strategy and urged others to do the same. He additionally spoke of a long-term goal of working toward a world without nuclear weapons.

Three primary initiatives can thin out the threat of adversaries who possess or are seeking weapons of mass destruction such as nuclear weapons: nonproliferation, counterproliferation, and consequence management. While the nuclear threat cannot be eliminated entirely, the United States and its allies may avoid a nuclear catastrophe by using the strategies and programs highlighted in this paper. December 2010. 42 pages.





The Drew Papers, sponsored by the Air Force Research Institute (AFRI), are occasional papers that promote the understanding of air and space power theory and application. AFRI publishes this series of papers to commemorate the distinguished career of Col Dennis “Denny” Drew, USAF, retired. These papers are also available electronically at the AU Press website <http://aupress.au.af.mil>.

The ISSN for this series is 1941-3785.

When ordering Drew Papers, please use the catalog reference number (e.g., P-53, P-55).

Alfonso, Lt Col Kristal L. M., USAF

Femme Fatale

An Examination of the Role of Women in Combat and the Policy Implications for Future American Military Operations

This study examines the roles of women in combat in the twentieth and early twenty-first centuries with particular emphasis on women in resistance. It goes on to describe women’s combat roles in the American all-volunteer force (AVF), noting that because women are essential to the AVF, they must be actively engaged in combat. The study concludes that women will be engaged in combat and issues having to do with their presence in the military; unit cohesion and effectiveness are the responsibilities of commanders.

August 2009. 138 pages.

P-74, ISBN 978-1-59566-196-1, \$13.00

Brown, Maj R. Greg, USAF

Learning to Leave

The Preeminence of Disengagement in US Military Strategy

Clausewitz posited centuries ago that “no one starts a war—or rather, no one in his senses ought to do so—without first being clear in his mind what he intends to achieve by that war and how he intends to conduct it.” Centuries later Robert Mandel cautioned that “perhaps the least understood, and certainly the least studied, aspect of war is how they [*sic*] end.” Most recently, in *Learning to Leave*, however, R. Greg Brown uses a historical and theoretical examination of US national military strategy to explore these two theses, cogently highlighting how misconceptions about our outdated security framework hinder disengagement. For example, he finds especially outdated and appalling the nexus between the national security strategy and the national military strategy, outlining their role in extending military engagements.

May 2008. 152 pages.

P-59, ISBN 978-1-58566-181-7, \$12.00

Hanson, Lt Col David S., USAF

"When You Get a Job to Do, Do It"

The Airpower Leadership of Lt Gen William H. Tunner

This study examines the development and effectiveness of Lt Gen William H. Tunner's leadership during the interwar years, World War II, and early Cold War. This thesis draws upon current Air Force leadership doctrine and proposes an Air Force leadership framework with which to assess the relationships among personal experience, leadership competencies, leadership actions, and the results they produce. The author begins with Tunner's early experiences, including military education, training, and operational practice. The focus then shifts to Tunner's progression in Ferrying Command and the development of his leadership competencies. Next, the author presents Tunner's leadership actions during the Hump airlift operation and the Berlin airlift. The study concludes with a critique of Tunner based on Air Force leadership doctrine. Tunner was brilliant at improving airlift efficiency and safety, but his single-minded focus limited his leadership accomplishments. Nonetheless, his contributions to the airlift element of airpower confirm that while often underappreciated, Lieutenant General Tunner was a major force in the development of air transportation and a successful Air Force leader.

2008. 92 pages.

P-58, ISBN 978-1-58566-183-1, \$12.00

Judge, Maj Sean M., USAF

"Who Has the Puck?"

Strategic Initiative in Modern, Conventional War

What factors lead to shifts in strategic initiative during the conduct of modern, conventional war? The author looks at the Russo-German War of 1941–45 and the Pacific War of 1941–45 to answer this question.

Both conflicts progressed through three distinct phases in which the Axis combatant first seized the strategic initiative, which then fell into dispute and eventually shifted to Allied control. Four factors contributing to strategic initiative have been examined for each phase of each war: resources, intelligence, strategic acumen, and operational and tactical methods. The heart of the study focuses on the transition into, conduct during, and transition from the second phase of each war, where the actual shifts in initiative occurred.

August 2009. 200 pages.

P-72, ISBN 978-1-59566-195-5, \$13.00

Lenderman, Lt Col Laura L., USAF

The Rise of Air Mobility and Its Generals

During the rise of fighter generals to preeminence in the Air Force, mobility operations played a significant yet secondary role in airpower strategy. Since the end of the Cold War, however, airlift, air-refueling, and aeromedical-evacuation missions have become an indispensable and direct aspect of US grand strategy. The author examines a shift toward myriad, complex operations demanding mobility aircraft. She also shows that as the number and importance of mobility-centric operations have increased, so has the number of generals with mobility expertise, especially at the most senior levels of the Air Force—a phenomenon that reflects the Air Force's adaptation to the changing geopolitical environment.

2008. 110 pages.

P-53, ISBN 978-1-58566-175-6, \$10.00

Locke, Lt Col Joseph W., USAF*Air Superiority at Red Flag**Mass, Technology, and Winning the Next War*

Originally written as a master's thesis, Lieutenant Colonel Locke's *Air Superiority at Red Flag* relies on data compiled from 299 Red Flag missions to illuminate the role of air superiority. His provocative and well-written study shows a distinct correlation between attrition rates and force ratios. He concludes that despite the role of mass, evolving technology produced the "only observable change in the kill ratio."

October 2009. 200 pages.

P-75, ISBN 978-1-59566-201-2, \$19.00

Mastalir, Lt Col Anthony J., USAF*The US Response to China's ASAT Test**An International Security Space Alliance for the Future*

China's successful antisatellite (ASAT) test ushered in a new era of space competition. China still offers no answers to one of the most troubling strategic space questions of the twenty-first century: why is China building space weapons? Fundamental changes in the way the United States approaches national security space are long overdue. Poorly implemented policies and futile strategies have hitherto failed to ignite any sense of urgency or rationality in Washington. China's test must serve to demark the end of failed American assumptions vis-à-vis its future competitive edge in space. Colonel Mastalir suggests that the best response for the United States is to prepare for a very different future in space, not with weapons in kind but with enduring solutions to preserve the utility of space exploitation for all nations. He recommends that the United States take action to properly align its instruments of national power to produce an enduring, coherent, multilateral approach toward space power.

August 2009. 138 pages.

P-71, ISBN 978-1-59566-197-8, \$13.00

Spaven, Maj Paul F., USAF*A US Air Force Strategy for Africa*

This groundbreaking study offers a thorough analysis of the context for USAF strategy making in Africa, followed by a synthesis of what that strategy might look like. The study concludes that a viable Air Force strategy in Africa is properly based on modest "ends" that reflect US national interests on the continent that are themselves limited in scope. Spaven proposes that "only by accepting the risk of stepping beyond tactical and operational thinking can the Air Force do great things for the poorest of continents." Major Spaven's thesis was the recipient of the Airlift/Tanker Association's 2008 "Global Reach" Award.

August 2009. 116 pages.

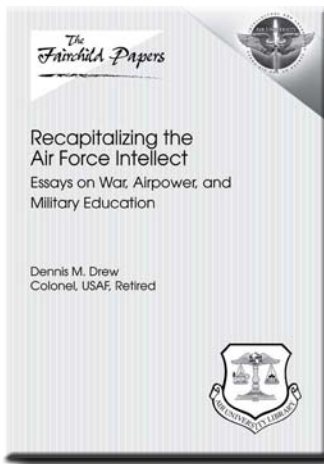
P-73, ISBN 978-1-59566-198-2, \$12.00

Torkelson, Lt Col Thomas D., USAF*Ideas in Arms**The Relationship of Kinetic and Ideological Means in America's Global War on Terror*

The purpose of this paper is to determine whether or not America's kinetic emphasis represents an effective method to achieve the stated political objectives of the global war on terror. The author addresses four questions: What constitutes an effective military strategy? Does America exhibit a characteristic method of waging war? If so, what traits best depict that model? What model would best represent the antithesis of America's preferred form of warfare?

2008. 151 pages.

P-55, ISBN 978-1-58566-178-1, \$11.00



The Fairchild Papers series, sponsored by Air University Press, consists of substantive essays considered too short for publication as monographs but too lengthy to be journal articles. The series is named for Gen Muir S. Fairchild, first commander of Air University and widely regarded as its conceptual father. These papers are also available electronically at the AU Press website <http://aupress.au.af.mil>.

The ISSN for this series is 1528-2325.

When ordering Fairchild Papers, please use the catalog reference number (e.g., P-1, P-32).

Cohen, Maj David M., USAF

The Vital Link

The Tanker's Role in Winning America's Wars

This paper focuses on the unique and vital capabilities of the US Air Force's KC-135 tanker fleet. It analyzes historic and current tanker usage, tanker operational employment, and the capability of today's tanker fleet, with emphasis on force structure and force management.

2001. 67 pages.

P-16, ISBN 978-1-58566-088-9, online only

DiSilverio, Lt Col Laura A. H., USAF

Winning the Retention Wars

The Air Force, Women Officers, and the Need for Transformation

In this paper DiSilverio presents survey results and analyzes why women separate from the Air Force. She demonstrates why the Air Force needs women and makes a compelling case for retention based on demographics. Lieutenant Colonel DiSilverio presents research results showing the value of diversity in general and the value of women leaders in particular, and she looks at the feasibility of implementing some programs that might help the Air Force retain more of its talented members.

2003. 91 pages.

P-32, ISBN 978-1-58566-120-6, \$8.50

Drew, Col Dennis M., USAF, Retired

Recapitalizing the Air Force Intellect

Essays on War, Airpower, and Military Education

This collection of essays and speeches is the fruit of Professor Drew's 30 years at Air University, a career spent at the intellectual forefront of the Air Force. The topics range from the history of airpower doctrine, to the transformation of airpower after the Cold War, to the education of future airpower leaders. Not only does the republication of these essays—and the first publication of the speeches—provide an opportunity to look back at some of the key periods in airpower's development, but also Drew's sharp analysis and careful research

illuminate important problems Airmen continue to face. The items are grouped into four parts or subject areas: *Considering the Past—Contemplating the Future; The End of the Cold War; The Nature and Impact of Airpower; and Educating Airmen*. As the title indicates, this collection can serve as a tool for intellectual renewal or “recapitalization” among Airmen by providing a historical context for current airpower issues and stimulating new thought about these issues.

2008. 280 pages.

P-57, ISBN 978-1-58566-179-4, \$23.00

Hazdra, Maj Richard J., USAF

Air Mobility

The Key to the United States National Security Strategy

Major Hazdra examines the current force structure of Air Mobility Command (AMC) based on a model for two major theater wars. Major Hazdra’s study centers on one question: Can a force structure based on the possibility of fighting two major theater wars satisfy the requirements for steady-state operations?

2001. 138 pages.

P-19, ISBN 978-1-58566-095-7, online only

Head, Dr. William P.

War from above the Clouds

B-52 Operations during the Second Indochina War and the Effects of the Air War on Theory and Doctrine

Dr. Head examines B-52 operations in Vietnam and how the air war affected airpower doctrine and theory. He examines the evolution of this awesome, manned strategic weapon in Vietnam to see how the structure of the B-52’s originally intended mission altered—if at all—the theories of airpower first put forward by Giulio Douhet and William “Billy” Mitchell.

2002. 146 pages.

P-23, ISBN 978-1-58566-107-7, \$13.00

Kwiatkowski, Col Karen U., USAF

Expeditionary Air Operations in Africa

Challenges and Solutions

Colonel Kwiatkowski details air operations challenges in Africa and discusses how the USAF currently meets or avoids these challenges.

2001. 145 pages.

P-21, ISBN 978-1-58566-100-8, online only

MacCuish, Dr. Donald A.

The International Criminal Court

Why We Need It, How We Got It, Our Concern about It

With contributions by Lt Col Tomislav Ruby, Maj David A. Hater, and Maj Steven D. Dubriske, Donald A. MacCuish has placed the permanent International Criminal Court on center stage. At the heart of the issue are the Treaty of Rome and morality and war. Keeping in mind Winston Churchill’s admonition that we should “be ever mindful of the ghost of Nüremberg coming back to haunt us,” MacCuish illustrates how the twin phenomena of morality and war have affected the war fighter for ages.

2005. 118 pages.

P-17, ISBN 978-1-58566-137-4, online only

Mills, Maj Gary H., USAF*The Role of Rhetorical Theory in Military Intelligence Analysis**A Soldier's Guide to Rhetorical Theory*

Through an operationally tailored analysis of Paul-Michel Foucault, Major Mills uncovers a rhetorical framework supporting the military analysis process: a rhetorical template designed to bridge the application gap between strict checklist discipline and power analysis. He infuses key elements from the rhetorical discourse community into the discourse community that addresses training in military intelligence.

2003. 83 pages.

P-31, ISBN 978-1-58566-121-3, \$7.50

Moore, Col David A., USAF*The Art of Aerial Warfare*

Combining nearly 2,500 hours of flying in the A-10 and the F-117 with the theoretical foundation acquired at the Air War College, Marine Command and Staff College, Armed Forces Staff College, and the USAF Weapons School, Colonel Moore shares with readers both a practical and a relevant outlook on the application of airpower in war.

2005. 88 pages.

P-38, ISBN 978-1-58566-134-3, \$10.00

Schmunk, Capt Matthew M., USAF, and Capt Michael R. Sheets, USAF*Challenges in the Multipolar Space-Power Environment*

With this paper, the authors have filled an important void in the literature on the role of space in strategic decision making by applying two models. The first is Col W. Michael Guillot's paper on strategic leadership, and the second is the "VUCA" (volatility, uncertainty, complexity, and ambiguity) model to space programs. Additionally, the authors make specific policy prescriptions for further development of US space power, international cooperation regarding space programs and effects, and suggestions on de-escalation mechanisms for developing space-based conflicts.

July 2007. 72 pages.

P-48, ISBN: 978-1-58566-166-4, \$7.00

Vest, Maj Hugh S., USAF*Employee Warriors and the Future of the American Fighting Force*

The rapid expansion of social democracy and technology has drawn the military closer to civilian society. Major Vest takes a practical and conceptual look at some of the deep cultural patterns of change within today's military society, and he highlights the need to continue the dialogue on shaping the military culture of tomorrow's cyber warriors.

2002. 82 pages.

P-22, ISBN 978-1-58566-105-3, online only

Worden, Brig Gen Simon P., USAF, and Maj John E. Shaw, USAF

Whither Space Power?

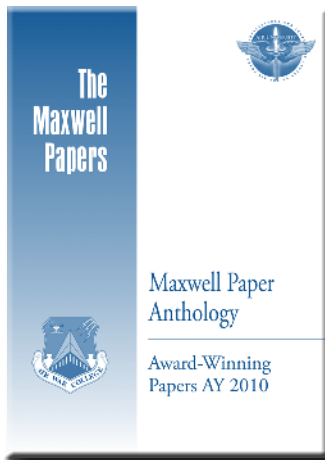
Forging a Strategy for the New Century

The purpose of this paper is twofold: first, to illuminate the historical and ever-increasing importance of space in modern society, and second, to prescribe, in view of this importance, the foundations of a strategy for achieving lasting space superiority and ensuring national and world security.

2002. 166 pages.

P-26, ISBN 978-1-58566-111-4, online only





Maxwell Paper Anthology *Award-Winning Papers AY 2010*

This collection of 12 award-winning papers from the Air War College for AY 2010 presents a unique look at topics of current interest and reflects a high level of scholarship. The authors include an officer from the Canadian Forces, another from the Swedish air force, and USAF officers with diverse backgrounds, all of whom bring their unique perspectives to answer questions about and offer insights into their research subjects. AU Press does not stock the Maxwell Paper Anthology. The book is available online only at the AU Press website <http://aupress.au.af.mil>. The authors, topics, and brief synopses are as follows (in series order):

Series No.

48 Col Rolanda Burnett Sr., USAF

Articulation beyond the Bumper Sticker

Revamping an Incomplete and Confusing Master Tenet

This paper considers why centralized control dominates an Airman's thinking, the doctrinal history of centralized control and current doctrinal concerns, the effect of different operational contexts on the Air Force's master tenet, key doctrinal strengths and weaknesses, and ways to improve the master tenet.

49 Col Kenneth E. Hall, USAF

The Dangerous Decline in the US Military's Infectious-Disease Vaccine Program

The DOD must collectively assess and prioritize all biological threats, whether natural, accidental or deliberate in nature; consolidate redundant vaccine acquisition activities; elevate the priority of infectious-disease vaccines; and provide ample resources to sustain a robust vaccine acquisition capability to protect US military forces against validated and prioritized biological threats.

50 Lt Col Michael Rafter, USAF

Legal and Ethical Aspects of the Decision for War

A Case Study

Despite its status as the sole remaining superpower, the US government must garner the support of allies, like-minded states, and nations with which it does not traditionally align itself, if its military actions are to be considered reasonable and justifiable. The key to ensuring this support is a timely provision of legitimate legal and moral justifications for war.

Series No.

51 Lt Col Kevin M. Coyne, USAF

Developing a US European Command Intelligence, Surveillance, and Reconnaissance Strategy for FY 2010–15

This study examines how US Central Command's overseas contingency operations affect the operations of other commands. It does so by analyzing US European Command's ability to execute an effective intelligence, surveillance, and reconnaissance strategy in pursuit of its intelligence requirements.

52 Col Rebecca A. Keller, USAF

Influence Operations and the Internet

A 21st Century Issue: Legal, Doctrinal, and Policy Challenges in the Cyber World

This paper defines relevant terminology and identifies current operational and legal constraints in the execution of information operations (IO) using cyber technology. It concludes with recommended remediation actions to enhance the use of the Internet as a military IO tool in today's cyber world.

53 Lt Col Lars Helmrich, Swedish Air Force

US National Security and Environmental Change in the Arctic

The author discusses the strategic impact of environmental change in the Arctic, explores how this change affects US national security, and suggests a future US policy in the region.

54 Lt Col David J. Baylor, USAF

Considerations for a US Nuclear Force Structure below a 1,000-Warhead Limit

As the president moves toward a nuclear-free world, we must ask some very important questions about that journey: (1) Are there different negotiation considerations and dynamics in play when Russia and the United States go below 1,000 strategic warheads? (2) What are the implications of nonstrategic or tactical nuclear weapons in the world security environment? and (3) What are some potential implications for the US nuclear force structure and the impact on the role of nuclear deterrence as our national arsenal moves below 1,000 strategic warheads?

55 Col Carl E. Schaefer, USAF

Getting War Fighters What They Need, When They Need It

The author proposes that the United States Special Operations Command's (SOCOM) rapid acquisition process offer a benchmark that should be adopted throughout the military. SOCOM's rapid acquisition process could be used to acquire a limited major weapon system (e.g., a light attack aircraft) in less than two years.

Series No.

56 Lt Col James Michael Doolin, USAF Reserve/YC-3, DAF Civilian

*Developing a Situation Awareness Environment for the Distribution Process Owner
Recommendations for US Transportation Command*

This study addresses three basic questions: (1) What should be the endgame objective for distribution process owner (DPO) situation awareness? (2) What is in the critical path to achieve the objective? and (3) How does the DPO get to the objective end state?

57 Lt Col Matthew C. Smitham, USAF

*The Need for a Global Space-Traffic-Control Service
An Opportunity for US Leadership*

Losing a satellite to an accidental on-orbit collision is no longer hypothetical but real and increasingly likely. As a result, the spacefaring nations of the world, especially the United States, need to address a global space-traffic-control service.

58 Col Julie C. Boit, USAF

*Ready or Not?
Repeal of "Don't Ask, Don't Tell"*

This paper does not argue the "rightness" or "wrongness" of any alteration to DADT. It does, however, show that to successfully execute the potential new law in the US military work environment, the DOD must involve key stakeholders and take multiple actions now to mitigate potential impacts. Such steps include being proactive; emphasizing professional conduct, top-down implementation, and training and education; and considering manpower, facility, and other internal policy concerns. [Congress has now repealed DADT.]

59 Col Stella T. Smith, USAF

*Science and Technology Capital
A Critical US Asset*

The potential for losing intellectual dominance in science and technology is a major threat to the ability of the United States to maintain national security and economic superiority. The United States must ensure that it exercises the best possible options to grow, attract, and maintain enough qualified individuals to stay ahead of all adversaries.



The Maxwell Papers, the Air War College's occasional papers series, focus on current and future issues of interest to the Air Force and Department of Defense. The Air War College prints and distributes a limited run of each paper. AU Press does not stock any titles in the Maxwell Papers series. The titles listed here are available online only at the AU Press website <http://aupress.au.af.mil>.

Bass, Lt Col Carla D., USAF

Building Castles on Sand?

Ignoring the Riptide of Information Operations

Series No. 15

This paper postulates that the information operations (IO) mission should be centralized at the unified command level, specifically Atlantic Command, to capture the plethora of uncoordinated, IO-related activities ongoing throughout the Department of Defense.

Bird, Lt Col David F., Jr., USAF

Quality Air Force in an Emergency

Leadership Principles and Concepts for Emergency Response Forces

Series No. 2

The Air Force challenges leaders to integrate and use quality principles as a way to improve operations throughout the service. In this study the author reminds us that these quality principles apply to emergency response forces—both before and during a crisis.

Butterworth, Dr. Robert L.

Growing the Space Industrial Base Policy

Pitfalls and Prospects

Series No. 23

Dr. Butterworth discusses the fact that the Defense Department has long hoped that its need for space products and services could be supplied by an industrial base sustained by commercial sales. But the author argues that that day has not come. He proposes an alternate approach based on a strategic outlook on research, development, and procurement.

Cain, Lt Col Anthony C., USAF

*Iran's Strategic Culture and Weapons of Mass Destruction
Implications of US Policy*

Series No. 26

Colonel Cain analyzes the relationship between Iran's strategic culture and weapons of mass destruction. He describes how, in the aftermath of the 1991 Gulf War, the United States adopted a one-size-fits-all policy toward Iran and Iraq. Furthermore, Colonel Cain analyzes options available to US policy makers should they choose to help Iran's transition toward a more moderate role in the Persian Gulf.

Cate, Lt Col Devin L., USAF

*The Air Superiority Fighter and Defense Transformation
Why DOD Requirements Demand the F/A-22 Raptor*

Series No. 30

The author tackles the question of whether an air superiority fighter is relevant to warfare in the twenty-first century. Critics of the F/A-22 have identified it as a cold war relic—expensive and out of step with Department of Defense transformation.

Codispoti, Lt Col Joseph M., USAF

*Star and Crescent
Turco-Israeli Partnership in a Tough Neighborhood*

Series No. 22

This study describes an emerging partnership between two longtime allies of the United States—Turkey and Israel. Colonel Codispoti begins his study by examining relations between Turkey and Israel from the founding of Israel in 1948 through the 1980s and concludes by addressing future possibilities for and barriers to the emerging Turco-Israeli partnership.

Convertino, Lt Col Sebastian M., II, USAF; Lou Anne DeMattei, DIA; and Lt Col Tammy M. Knierim, USAF

Flying and Fighting in Cyberspace

Series No. 40

This research paper develops the foundation for a new military operating concept for “fighting the net” in support of Eighth Air Force's requirements and its stand-up as the new Cyber Command.

Costigan, Lt Col Michael J., USAF

The F-22

The Right Fighter for the Twenty-First Century?

Series No. 9

Colonel Costigan takes a look at the F-22 and its role in military strategy in the twenty-first century. Its innovative technologies provide the F-22 with supercruise, stealth, and integrated avionics, enabling it to guarantee the air superiority so necessary to victory.

Curdy, Lt Col David G., USAF

Security and Peace in the Middle East

Experiments with Democracy in an Islamic World

Series No. 4

Lt Col David Curdy examines the prospects for democratic transitions in the Middle East. He suggests that, with the conclusion of the Cold War, the basis for US Middle East policy should be reexamined and, perhaps, redesigned.

Dailey, Lt Col Kevin S., NEANG

Air National Guard Structure for the Twenty-First Century

The Multimission Framework for Total Force Integration

Series No. 43

Colonel Dailey makes a strong case for the Multimission Framework as a primary organizational construct for future Total Force success. His research involves a series of interviews with senior service leaders, multiple case studies of the current constructs, and an examination of current challenges.

dePalo, Col Lee K., USAF

USAF Combat Search and Rescue

Untapped Combat Power

Series No. 35

The author looks at the traditional mission of recovering downed aircrews. He challenges theater planners to reevaluate the effectiveness of keeping a capable force tied exclusively to a rarely executed mission when its combat power could be used to support other joint force objectives in addition to providing combat rescue support.



Downing, Lt Col Glen R., USAF

Missile Defensive Systems and the Civil Reserve Air Fleet

Series No. 45

Man-portable air defense systems (MANPADS) are a growing threat to civil aviation and the Civil Reserve Air Fleet (CRAF). They are predominantly shoulder-fired missiles manufactured in nearly 20 countries worldwide. The evidence shows over 30 MANPADS attacks on civil aircraft since the 1970s. The author describes several options for protection of commercial aircraft from MANPADS attacks and makes recommendations concerning their application.

Dunivin, Lt Col Karen O., USAF

Military Culture

A Paradigm Shift?

Series No. 10

Colonel Dunivin examines social change in American military culture and explores the struggle between the military's traditional and exclusionary combat, masculine-warrior paradigm and the contradictory, evolving model of military culture characterized by egalitarianism and inclusiveness. She uses two cases to illustrate the divergence between paradigm and model: women in combat and homosexuals in the military.

Estilow, Lt Col R. A., USMC

US Military Force and Operations other than War

Necessary Questions to Avoid Strategic Failure

Series No. 3

The author explores the possibility that much of operations other than war (OOTW) may be incompatible with the use of US military force. He reviews the military missions compiled under OOTW and then assesses the acceptability, feasibility, and suitability of using military combat force to pursue those missions.

Felker, Lt Col Edward J., USAF

Airpower, Chaos, and Infrastructure

Lords of the Rings

Series No. 14

The author describes a methodology to exploit airpower's capacities at the operational and strategic levels of war. Colonel Felker focuses on the third ring (infrastructure) of John A. Warden's theory of five strategic rings and argues that it is often neglected in the debate over the importance of leadership (first ring) versus fielded forces (fifth ring).

Gauthier, Lt Col Kathryn L., USAF

China as Peer Competitor?

Trends in Nuclear Weapons, Space, and Information Warfare

Series No. 18

Colonel Gauthier analyzes the potential for China to emerge as a peer competitor of the United States in the coming decades. She examines two traditional pillars of national strength—China’s status as a nuclear weapons state and as a space power—and explores China’s growing focus on information warfare.

Griswold, Lt Col Mary E., USAF

Spectrum Management

Key to the Future of Unmanned Aircraft Systems?

Series No. 44

The author discusses the basics of the electromagnetic spectrum and the operations of unmanned aircraft systems (UAS), pointing out the importance of frequency management and bandwidth availability to those systems. She illustrates this fact through examples of difficulties encountered with spectrum and bandwidth issues during UAS missions. Finally, she notes that solutions to current challenges reside in the employment of both short- and long-term actions in these areas to improve and optimize the use and availability of spectrum support for UAS operations in the future.

Hall, Lt Col Dewayne P., USA

Integrating Joint Operations beyond the FSCL

Is Current Doctrine Adequate?

Series No. 12

Colonel Hall examines the doctrinal issues concerning combat operations in that portion of the battlespace beyond the fire support coordination line (FSCL). He makes a strong case that lessons learned from Operation Desert Storm illustrate a lack of consensus on who is responsible for the integrated employment of combat power beyond the FSCL.

Hall, Lt Col Kurt D., USAF

Near Space

Should Air Force Space Command Take Control of Its Shore?

Series No. 38

Colonel Hall contends that “AFSPC should control its shore—but at a distance for the near term.” The author advises AFSPC to exercise caution before investing in the development of near-space capabilities required for “stay and stare.” He offers several recommendations for monitoring near-space development and preparing the joint community for its integration when the technology matures.

Hasskamp, Lt Col Charles W., USAF

Operations other than War

Who Says Warriors Don't Do Windows?

Series No. 13

Colonel Hasskamp examines the rise of operations other than war (OOTW) as a new and prominent tasking for the armed services of the United States. As an advocate of the OOTW mission, he argues that the US Special Forces Command is an excellent instrument for the task.

Hume, Col David B., USAF

Integration of Weaponized Unmanned Aircraft into the Air-to-Ground System

Series No. 41

This study examines the issues of integrating weaponized unmanned aerial vehicles into the future battlespace from the standpoint of doctrine, operational concepts, and roles and missions. It recommends ways to best employ this capability in the future.

Isola, Lt Col Eileen M., USAF

Leading Air Mobility Operations in Complex Humanitarian Emergencies

Series No. 28

Colonel Isola provides excellent information for Mobility Air Forces war fighters assigned to complex humanitarian emergencies. She focuses her study on building a team of teams, gathering and sharing information, and establishing centers for interagency success.

Johnson, Lt Col Daniel R., USAF

Enabling Intelligence, Surveillance, and Reconnaissance Effects for Effects-Based Operations Conditions

Series No. 34

The author asserts that, to understand an adversary's intent, the joint force commander (JFC) needs clear requisite command and control authority over theater intelligence, surveillance, and reconnaissance (ISR) and the ability to influence ISR organizations beyond his/her control during all phases of a conflict. For effects-based operations (EBO) to be effective, the JFC needs an operational-level ISR strategy-to-task methodology that enables EBO conditions through requisite commander relationships and provides influencing direction at the national-interagency level.

Johnson, Lt Col Wayne M., USAF

Seller Beware

US International Technology Transfer and Its Impact on National Security

Series No. 16

The author argues that systematic tightening of interagency cooperation and better work on defining sensitive technology prohibitions are needed to maintain the US technological edge. He maintains that the US government requires a new and disciplined export control process.

Kemper, Lt Col Todd G., USMC

Aviation Urban Operations

Are We Training Like We Fight?

Series No. 33

The author examines aviation urban operations during Operations Allied Force, Enduring Freedom, and Iraqi Freedom to demonstrate the use of airpower and space power as a force multiplier in the urban environment. Colonel Kemper recommends that the armed services reprioritize funding and expedite the development of complexes for aviation urban training.

Key, Lt Col Lawrence E., USAF

Cultivating National Will

An Introduction to National Will

Series No. 5

Colonel Key examines how national will plays a decisive role during any application of US military power, not just the employment of forces to fight America's wars. Leaders need to understand what national will is and recognize the ways in which they can articulate and cultivate it.

Kiziah, Lt Col Rex R., USAF

US-Led Cooperative Theater Missile Defense in Northeast Asia

Series No. 21

The author examines US efforts to cooperatively develop and deploy with Japan and South Korea a theater missile defense family of systems in Northeast Asia. He summarizes the US security strategy for the East Asia–Pacific region and characterizes the ballistic missile capabilities of North Korea and China. Colonel Kiziah then discusses the advantages, country-specific issues, and status of cooperative US, Japanese, and South Korean theater missile defense activities; challenges in ameliorating Chinese concerns; and prospects of long-term partnering and fielding of a tri-country, integrated regional theater missile defense system.

LaFrenz, James L., Department of the Air Force

Doctrine (Maybe), Strategy (No)

Will the Air Force Implement a Force Protection Program?

Series No. 17

This study contends that the Air Force has not instituted a clear and serious program to protect its buildings from the kinds of lateral load that can cause building collapse. The author, a civil engineer in the Department of Defense, wants the Air Force civil engineering community to be more proactive in force protection, base vulnerability assessment, and mitigation of unacceptable risks.

Lamb, Lt Col Michael W., Sr., USAF

Operation Allied Force

Golden Nuggets for Future Campaigns

Series No. 27

The author contends that the lessons learned in Operation Allied Force (OAF) are like “golden nuggets” and that they need to be remembered in future campaigns. Colonel Lamb examines those key lessons and argues that the experiences in OAF indicate the need to improve our strategy development and campaign planning.

Lanicci, Col John M., USAF

Weather Operations in the Transformation Era

Series No. 29

Colonel Lanicci examines Air Force weather and climate services at the tactical, operational, and strategic levels of warfare. He introduces a working definition for strategic weather and discusses two conceptual models. Colonel Lanicci shows that to attain a truly consolidated “sight picture” of the battlespace, it’s necessary to integrate the man-made and natural elements of the battle environment.

Lucas, Lt Col Joseph E., ANG; and Lt Col Stuart C. Johnson, USAF

Air National Guard Fighters in the Total Force

Series No. 1

During the last few years, the United States Air Force has been involved in an unparalleled number of peacetime contingency operations. Air National Guard (ANG) tanker and airlift assets have been heavily engaged in these operations. However, the authors of this study point out that the same level of activity is not found in the ANG fighter force even though many of these units have demonstrated a willingness to participate. They contend that it is imperative to explore new options for increasing availability of the Guard fighter force for peacetime contingency use.



McAneny, Col Paul J., USAF

Red Is Good

Transformational Changes for US Air Force Aircraft Maintenance

Series No. 46

In *Red Is Good: Transformational Changes for US Air Force Aircraft Maintenance*, Col Paul J. McAneny examines the cultural changes that must take place in the maintenance community to accomplish the goals of the Air Force transformation initiative, Air Force Smart Operations for the 21st Century (AFSO21). He argues that the Air Force must promote a Red Is Good culture, which takes its name from the practice of using red, yellow, and green charts in PowerPoint metrics briefings. Many Air Force leaders believe that Green Is Good—that is, metrics should show that the organization meets or exceeds expectations. McAneny argues instead that the Air Force should embrace a culture that views problems (indicated by red on metrics briefings) as opportunities for positive change. He evaluates current aircraft maintenance metrics and argues that enterprise-level changes are needed in the maintenance community to ensure the ongoing effective maintenance of the total force.

Meyer, Col Mark P., ANG

The National Guard Citizen-Soldier

The Linkage between Responsible National Security Policy and the Will of the People

Series No. 6

Colonel Meyer provides an excellent examination of the linkage between responsible national security policy and the will of the people. He argues that for our democratic government to act responsibly, it is imperative that national policy reflect the will of the people; it is especially important when the policy involves the use of the armed forces.

Mott, Lt Col William H., V, USAF

F-15A versus F/A-22 Initial Operational Capability

A Case for Transformation

Series No. 36

This paper focuses on the background events that led to the development of the F-15A air-superiority fighter. It covers the F-15A's test-and-evaluation process and buildup to initial operational capability at Langley AFB in 1976, as well as the test-and-evaluation process for the F/A-22.

Narvid, Lt Col Juan C., USAF

Tanker Force Structure

Recapitalization of the KC-135

Series No. 32

The author challenges air mobility warriors to develop a tanker force structure that overcomes the old way of thinking and that launches new concepts and capabilities for the future tanker. He argues that the future of warfare will require a tanker that is able to operate as a force enabler across the full spectrum of operations.

Nowak, Lt Col Michael J., USAF*The Air Expeditionary Force**A Strategy for an Uncertain Future?***Series No. 19**

The author begins this study by reviewing the international and domestic context that has caused the Air Force to focus on expeditionary operations. He discusses the air expeditionary force's historical roots and its current philosophy. In the conclusion Colonel Nowak offers several recommendations for continuing the development of the air expeditionary force.

Pivarsky, Lt Col Carl R., Jr., USAF*Airpower in the Context of a Dysfunctional Joint Doctrine***Series No. 7**

The author studies the intellectual foundation of the American profession of arms—joint doctrine. Colonel Pivarsky specifically looks at Joint Publication 3-0, *Doctrine for Joint Operations*, and its impact on how we think about high-intensity, conventional combat operations. He argues that a rewrite of Joint Pub 3-0 is required to reflect joint force capabilities for full-dimensional operations, not simply land force dominance of the entire battlefield.

Roman, Lt Col Gregory A., USAF*The Command or Control Dilemma**When Technology and Organizational Orientation Collide***Series No. 8**

The author examines how an outdated command and control orientation prevents the US military from fully applying the benefits of information technology. Future warfare requires a new orientation based on greater decentralized control and more flexible organizational orientation.

Schauber, Lt Col Donald M., Jr., USAF*Impact of Foreign Ownership on the Civil Reserve Air Fleet***Series No. 42**

Following a basic overview of the Civil Reserve Air Fleet (CRAF) and its criticality, this paper examines the conflict of interest between the national economy and national security regarding the push to liberalize airline ownership and control. The author examines options and recommendations to help ensure that the CRAF program remains a viable and integral part of the US military capability.



Scherrer, Col Joseph H., USAF, and Lt Col William C. Grund, USAF

A Cyberspace Command and Control Model

Series No. 47

The Air Force relies absolutely on cyberspace to perform its war-fighting missions, and the other services depend on the Air Force to deliver cyberspace capability to support the joint forces' ability to operate. The authors make the case that a definitive method for cyberspace command and control (C2) has not been established across the joint force. They offer a fresh approach with a C2 hybrid organizational model to effectively command and control cyberspace operations. Their hybrid model incorporates speed, adaptability, alertness, flexibility, responsiveness, resilience, and efficiency and harnesses the innovativeness and mission-oriented focus of military organizations. The authors conclude that the nature of cyberspace itself must be the primary driver of how the Air Force performs C2 of this domain rather than wholly relying on established joint doctrine.

Simmons, Lt Col Daniel R., USAF

Core Values

Foundation for the Twenty-First Century

Series No. 11

The author seeks to convince Air Force leadership that the future success of officers depends on a robust foundation based on Air Force core values. The author recommends how the Air Force can better instill these core values into its officers and its officer candidates.

Stone, Lt Col Cristina M., USAF

Air Force Intelligence Role in Combating Weapons of Mass Destruction

Series No. 39

This paper addresses Air Force intelligence areas for improvement in predictive analysis; targeting; intelligence, surveillance, and reconnaissance operations; and the air and space operations center. The author introduces the issue of reforming Air Force intelligence on weapons of mass destruction in the aftermath of Operation Iraqi Freedom.

Theisen, Lt Col Eric E., USAF

Ground-Aided Precision Strike

Heavy Bomber Activity in Operation Enduring Freedom

Series No. 31

The author introduces the idea of a new mission: Precision firepower called in by the tactical air control party teams on the ground should be termed *ground-aided precision strike*. The author looks at the utilization of heavy bombers in the close air support / *ground-aided precision strike* role during Operation Enduring Freedom and offers recommendations for future use of these platforms in conjunction with revised rules of engagement and aircrew training.

Thompson, Col David J., USAF, and Lt Col William R. Morris, USAF

China in Space

Civilian and Military Developments

Series No. 24

Colonel Thompson focuses on China's military space applications and examines aspects of ground, space, counterspace, and space policy in the People's Republic of China. Lieutenant Colonel Morris examines the relationship between China's evolving space effort and its national development goals.

Whitbred, CDR George N. T., IV, USN

Offensive Use of Chemical Technologies by US Special Operations Forces in the Global War on Terrorism

The Nonlethal Option

Series No. 37

This paper examines the applicability of the 1925 Geneva Protocol and the 1993 Chemical Weapons Convention (CWC) to the unconventional counterterrorist in operations associated with today's global war on terrorism. The 1925 protocol restricts the use of nonlethal chemical warfare (CW), while the CWC augments this protocol by including verification measures. The author develops a case that supports the offensive use of nonlethal CW technologies as a viable expansion of the existing capabilities of counterterrorist operations conducted by special operations forces.

Whittington, Col Michael C., Chaplain, USAF

A Separate Space Force

An 80-Year-Old Argument

Series No. 20

This paper does not propose a separate space force but provides the reader with an unbiased perspective on the arguments for and against it. The airpower issues in 1920 and the space power issues of today are strikingly similar: leadership, doctrine, technology, and funding.

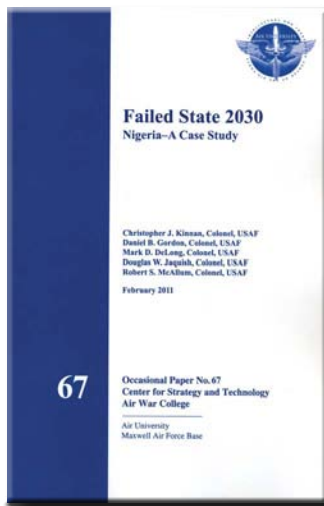
Wojtysiak, Lt Col Martin J., USAF

Preventing Catastrophe

US Policy Options for Management of Nuclear Weapons in South Asia

Series No. 25

Whether the United States likes it or not, India and Pakistan have nuclear weapons. This paper highlights the threat via a fictitious report describing what could happen in the future. The author then outlines a new nuclear nonproliferation policy that realistically addresses the threat on the subcontinent.



The Center for Strategy and Technology (CSAT) was established at the Air War College in 1996. Its purpose is to engage in long-term strategic thinking about technology and its implications for US national security.

The Occasional Papers series is the result of the CSAT efforts to establish relationships with organizations in the Air Force, as well as other Department of Defense agencies, and identify potential topics for research projects. This resulting research is published as Occasional Papers and disseminated to senior military and political officials, think tanks, educational institutions, and other interested parties. The papers are used to promote the integration of technology and strategy in support of US national security objectives.

AU Press does not stock any titles in the Occasional Papers series. The titles listed here are available online only at the AU Press website <http://aupress.au.af.mil>.



Geis, Col John P. II, PhD, USAF; Col Christopher J. Kinnan, USAF; Col Theodore C. Hailes, USAF, Retired; Col Harry A. Foster, USAF; and Lt Col David Blanks, USAF

Blue Horizons II

Future Capabilities and Technologies for the Air Force in 2030, Executive Summary

Series No. 65

Blue Horizons II provides “a new look at the future” and develops a prioritized list of concepts and their key enabling technologies that the USAF would need to maintain dominance in air, space, and cyberspace to the year 2030. The study examines whether the USAF could leverage a targeted investment today to position itself to address a broad set of possible challenges over the next 20–30 years.

Drawing on extensive academic and field research, the authors build four alternate futures. While the scenarios are not intended to be read as predictions, each is plausible, and the future may see one or more of these scenarios unfold. Their purpose, however, is to act as a tool to assess how best to accomplish the core USAF missions, which are assumed to remain in the domains of air, space, and cyberspace for the foreseeable future.



Geis, Col John P., II, PhD, USAF; Lt Col Scott E. Caine, USAF; Col Edwin F. Donaldson, USAF; Col Blaine D. Holt, USAF; and Lt Col Ralph A. Sandfry, PhD, USAF

Discord or “Harmonious Society”?

China in 2030

Series No. 68

Discord or “Harmonious Society”? asks, How should the Air Force prepare for a peer China in 2030? The authors assume that China’s economy will dominate Asia and much of the world by 2030. China will also be a near peer to the United States in terms of military power. War with that nation is not a foregone conclusion, but the United States will face a wide array of advanced weapons if war does occur. The authors expect China to develop naval power that will challenge US naval capabilities in the waters around China. Its military

aircraft will be on par with those of the United States. China will also field a wide array of technically advanced weapons such as systems for directed energy, space and counterspace, information warfare, and electronic warfare. Moreover, the Chinese will field a wide variety of antiaccess capabilities to deny the United States entry to areas around their country.

Whatever the actions of China in 2030, the United States must be prepared to handle the challenges they present. Meeting these challenges will require investments in new systems and technologies, especially in the fields of responsive space, offensive and defensive cyberspace, more responsive strategic lift, and survivable tactical lift as well as long-range strike.



**Hailes, Col Theodore C., USAF, Retired; Col Ronald Buckley, USAF;
Lt Col David Blanks, USAF; Lt Col Mark Butler, USMC;
Lt Col Phillip Preen, USAF; and Lt Col Michael Tarlton, USAF**

Resurgent Russia in 2030

Challenge for the USAF

Series No. 66

Russia is reasserting itself as a world power in terms of geography, politics, nationalism, and religion. It tends to value stability and strong leadership even when these traits conflict with those democratic ideals that have become mainstays in the West. Its ideology is deeply rooted in its unique history, and that history helps explain Russia's focus on national security and its high level of suspicion in the international arena. This constant pursuit of security will drive that country to continue to spend an increasingly larger share of its gross domestic product on military.

Security concerns will continue to allow for the centralization of authority in the hands of a strong, autocratic leader. Consequently, these security concerns and associated spending priorities will come at the expense of social programs, which will continue to be underfunded.



**Kinnan, Col Christopher J., USAF; Col Daniel B. Gordon, USAF;
Lt Col Mark D. DeLong, USAF; Lt Col Douglas W. Jaquish, USAF; and
Lt Col Robert S. McAllum, USAF**

Failed State 2030

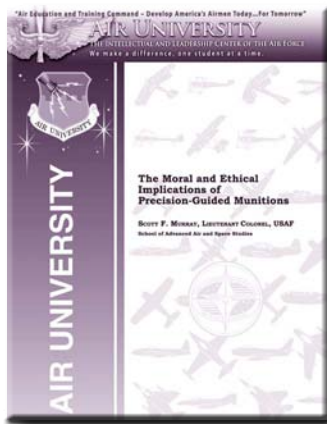
Nigeria—A Case Study

Series No. 67

Failed State 2030: Nigeria—A Case Study is about how the world, particularly the United States and its Air Force, will deal with the potential global consequences of a failed state whose principal export commodity is also of vital interest to the United States.

Although not possessing nuclear weapons, Nigeria, with its vast oil wealth, large population, and strategic position in Africa and the global economy, has the potential to dramatically affect the United States and the global economy if it fails. Africans are fond of saying, "As Nigeria goes, so goes Africa." Nigeria's extraordinarily complex demographics, culture of corruption, poor and failing national and human infrastructure, long history of dangerously destabilizing religious and ethnic violence, history of and potential for future military coups d'état, endemic disease, and growing importance to the global and US economy present researchers with a myriad of vexing and intractable problems and challenges.

This monograph is not a forecast of a specific future; rather, it is structured to help the reader understand the magnitude and shape of Africa's largest economy and the impact it has on the world. A failure in Nigeria, like the failure of almost any other nation, could have serious repercussions across the planet.



These student theses are selected for publication from among those submitted to the faculty of the School of Advanced Air and Space Studies (SAASS), Maxwell AFB, Alabama, as one of the requirements for completion of a master's degree in air and space power art and science. SAASS Papers are also available in PDF at <http://aupress.au.af.mil>.

When ordering SAASS Papers, please use the catalog reference number (e.g., T-2, T-48).

Brunhaver, Maj John Steven, USAF

Lifeline from the Sky

The Doctrinal Implications of Supplying an Enclave from the Air

Major Brunhaver seeks to answer the question, What are the doctrinal imperatives of providing effective airlift support to enclaves? He states that doctrinal imperatives are those necessary and sufficient propositions that describe the optimal way to employ airlift forces in support of an enclave. This paper attempts to determine the best way to conduct airlift operations to support enclaves. Major Brunhaver's primary conclusion is that four fundamental factors influence airlift operations: requirement-to-capability ratio, threat, support infrastructure, and weather.

2002. 66 pages.

T-2, \$9.00

Chandler, Lt Col Michael J., USAF

Gen Otto P. Weyland, USAF

Close Air Support in the Korean War

In this study the author traces the history of air-ground support from its infancy to the Korean War, discusses the effectiveness of close air support throughout the conflict, and addresses why this mission was controversial for the Army and Air Force. He then highlights General Weyland's perspective on airpower and his role in the close-air-support "controversy."

2007. 94 pages.

T-48, \$10.00

Cody, Maj James R., USAF

AWPD-42 to Instant Thunder

Consistent, Evolutionary Thought or Revolutionary Change?

Major Cody analyzes the air war plans in World War II and the Persian Gulf War. His goal is to ascertain whether there is a continuity of thought reflected in American air planning over the years. He assesses the importance of Air War Plans Division-1/42 and Instant Thun-

der to contemporary airpower theory. Major Cody concludes that there is a continuity of thought reflected in major air plans, particularly in the issues of strategic bombing, precision attack, and command and control.

2003. 68 pages.

T-38, \$10.00

Ellis, Maj Peter S. H., USAF

Hale's Handful . . . Up from the Ashes

The Forging of the Seventh Air Force from the Ashes of Pearl Harbor to the Triumph of VJ-Day

Major Ellis analyzes the evolution of Seventh Air Force's joint command and control relationships as well as the development of joint operational procedures and doctrine in the Central Pacific during World War II. In approaching this subject, he proceeds chronologically, outlining the major campaigns of the drive through the Central Pacific. Within the campaigns, Major Ellis addresses joint planning, preparation and support issues, bombing and strike challenges, and developments in close air support of the amphibious operations.

2002. 94 pages.

T-18, \$13.00

Fahrenkrug, Maj David T., USAF

Regime Change and the Role of Airpower

Drawing from the vision of airpower theorists and building on insights gained from studies on various regime changes, this thesis advances a theory of regime change and outlines a strategy for the use of airpower. It also furthers the hypothesis that adversely affecting these goods will create policy failure, increase dissatisfaction among the winning coalition, and cause members to seek out a new coalition and regime to provide the lost goods.

2006. 70 pages.

T-31, \$9.50

Fredriksson, Lt Col Brian E., USAF

Globalness

Toward a Space Power Theory

The purpose of this thesis is to take the first steps toward a military space power theory. It begins by answering the question, Why does the US military need space power theory? The United States or any military spacefaring nation needs theory because space power is more than simply a force enhancer; it is a separate and unique form of military power with the capacity to deter and compel. An analysis of the fundamental attributes of military power—identified here as presence, perspective, response, and destructive capability—demonstrates the unique advantages and disadvantages of space vis-à-vis land, sea, and airpower. A unifying principle of "globalness" links the laws, rules, and precepts of a prototype theory based on space power's unique capabilities. The space power theory provides a common vision that allows a spacefaring nation to take full advantage of these unique capabilities.

2006. 84 pages.

T-22, \$12.00

Grady, Maj Walter Anthony, Jr., USAF

The Moral Domain of War

A View from the Cockpit

Major Grady uses original research obtained from surveys, completed by F-105 pilots, that focuses on the Vietnam War in an attempt to analytically determine the moral domain of war factors that enable a pilot to fly in combat. Viewing motivation in war from the pilot's perspective, he states that the moral domain consists of forces originating within a person's heart and soul. This shift in emphasis offers insights that indicate a fundamentally different set of motivation factors operating on the pilot than those generally assumed from projecting ground-combatant motivation factors on Airmen.

2002. 96 pages.

T-1, \$13.00

Haun, Lt Col Phil M. "Goldie," USAF

Airpower versus a Fielded Force

Misty FACs of Vietnam and A-10 FACs of Kosovo—A Comparative Analysis

In this paper the author examines two groups of Airmen—the Misty forward air controllers (FAC) of Vietnam from 1967 to 1970 and the A-10 FACs over Kosovo in 1999. He compares the tactics used in these two conflicts, in which US airpower had to attack enemy forces independently of friendly ground troops. In the Vietnam War, Air Force O-1 and O-2 FACs began flying visual reconnaissance missions over the southern area of North Vietnam. A comparison of the Misty and A-10 FAC missions clearly demonstrates a failure of the USAF to develop a full range of suitable tactics for the direct attack of enemy fielded forces.

2004. 98 pages.

T-8, \$14.00

Kramlinger, Maj George D., USAF

Sustained Coercive Air Presence (SCAP)

Provide Comfort, Deny Flight, and the Future of Airpower in Peace Enforcement

Major Kramlinger examines the theoretical, historical, operational, and technological aspects of SCAP and illustrates how air operations over Iraq and Bosnia demonstrated the problems associated with a long-term air presence; the author then suggests the need for doctrine that adapts combat airpower to the SCAP mission. He focuses on the determination of the mechanisms, strengths, and limitations of how combat airpower can persuade determined belligerents to stop fighting and can then maintain a secure environment to facilitate the continuing diplomatic process.

2000. 78 pages.

T-26, \$8.50

Kreighbaum, Maj Jay W., USAF

Force-Application Planning

A Systems-and-Effects-Based Approach

Major Kreighbaum explores the question, How can current force-application (FA) planning methodologies be changed or supplemented to provide better linkage among objectives, effects, and targets in order to achieve more effective applications of military force? The USAF has not articulated a clear theory of effects. Yet, in all FA analyses, planning, executions, and assessments, effects are used explicitly and implicitly. Due to this imprecise understanding of where effects fit into FA, the overall planning process for using selective FA to

achieve objectives suffers a like imprecision. Airpower's efficiency and effectiveness can be enhanced by a clear articulation of a systems-and-effects-based approach to FA that will supplement the existing planning frameworks. Major Kreighbaum develops general propositions regarding the nature of FA effects.

2004. 132 pages.

T-56, \$18.00

Larm, Maj Dennis, USAF

Expendable Remotely Piloted Vehicles for Strategic Offensive Airpower Roles

Major Larm examines the feasibility of developing expendable remotely piloted vehicles (RPV) and explores future concepts of conventional US offensive airpower roles. He outlines the historical base of the larger category of remotely piloted aerial vehicles. Major Larm does not propose to take the pilot out of the cockpit, but he examines the concept of taking the cockpit out of the aircraft. By incorporating the added dimension of employing one-use vehicles to this concept, he attempts to reveal representative—though not all-encompassing—innovative airpower ideas. Major Larm's conclusion is that the use of expendable RPVs for strategic offensive airpower roles is a viable concept.

2001. 88 pages.

T-28, \$12.00

Murray, Lt Col Scott F., USAF

The Moral and Ethical Implications of Precision-Guided Munitions

This work explores the relationship between one of the most significant military developments to emerge in the past century—namely, aerial precision-guided munitions and their relationship with the just-war tradition. The aim of this study is to encourage moral and ethical reflection by politicians, strategists, and tacticians at all levels. The issues at hand are aerial precision doctrine, the use of the precision-guided munition as the modern aerial weapon of choice, and the influence of the just-war tradition on strategic and tactical decisions.

March 2007. 75 pages

T-6, \$6.00

Panarisi, Maj Michael T., USAF

Comparative Analysis of Internal and External Solutions to Provide Air Combat Maneuvering Instrumentation Functionality

Major Panarisi summarizes the development of the current and proposed family of air combat maneuvering instrumentation (ACMI) systems—considered the gold standard of training mission enhancements—and presents the capabilities each system provides. He uses the Kadena Interim Training System as a suitable case study to compare requirements of current ACMI features to the capabilities available using internal components. He contends that internal systems can be installed long before the next-generation system will be operational. Thus, Major Panarisi proposes alternatives that offer the potential to save millions of dollars in operating costs and which allow ACMI training on every mission independent of ground-based equipment and external stores.

2001. 92 pages.

T-30, \$12.00

Phinney, Maj Todd R., USAF*Airpower versus Terrorism**Three Case Studies*

In this paper the author analyzes the effectiveness of airpower versus terrorism using three case studies: Operation El Dorado Canyon, Operation Infinite Reach, and the Israeli use of airpower versus the second Palestinian intifada of September 2000. All three studies reveal a spectrum of responses with which states can respond to terrorism.

2007. 90 pages.

T-9, \$10.00

Pinter, Maj William E., USAF*Concentrating on Dispersed Operations**Answering the Emerging Antiaccess Challenge in the Pacific Rim*

In this study Major Pinter discusses how degrading US combat power projection requires a strategy of antiaccess denial, which consists of geopolitical and military measures. He examines developments in the Pacific Rim, especially in China, and discusses accelerated development of antiaccess capabilities. Major Pinter also discusses an approach previously used to counter the challenge of the Soviet Union during the Cold War. The author then addresses the dispersed operational concept in the Pacific Rim, which enhances the survivability and sustainability of US military forces against a robust and growing antiaccess threat, as a complement to the existing US force structure. The latter enables a balance of inter- and intratheater air assets in conjunction with joint and coalition forces to most effectively and efficiently achieve decisive results.

April 2007. 78 pages.

T-15, \$6.00

Rauch, Lt Col John T., Jr., USAF*Assessing Airpower's Effects**Capabilities and Limitations of Real-Time Battle Damage Assessment*

Lieutenant Colonel Rauch analyzes how real-time battle damage assessment (BDA) contributes to airpower strategy and execution. He provides a historical review of BDA during World War II, Vietnam, and the Persian Gulf War and examines the current BDA doctrines, capabilities, and procedures to illustrate contemporary strengths and shortcomings.

2004. 65 pages.

T-16, \$9.50

Schmidt, Maj Edward B., USAF*Targeting Organizations—Centralized or Decentralized?*

Major Schmidt analyzes the evolution of targeting organizations to identify their strengths and evaluate their impact on future organizations. He discusses both strategic and tactical targeting, with primary emphasis on strategic targeting. Because Desert Shield/Desert Storm revealed that centralized targeting of a conventional war from the United States could also work well, Major Schmidt proposes creation of a centralized targeting organization. He indicates that a centralized strategic-targeting agency could ensure ready access to strategic target lists, thus allowing the United States to strike at the heart of the enemy at a moment's notice.

2003. 48 pages.

T-33, \$6.50

Stanley, Maj Robert W., II, USAF

Attacking the Mobile Ballistic Missile Threat in the Post–Cold War Environment

New Rules to an Old Game

Using interviews with former Soviet Union missile engineers, Russian language sources documenting the Soviet need to develop mobile missiles, top Air Force commanders, and recently declassified CIA documents regarding the US reconnaissance program and national intelligence estimates, the author shows that the threat to US national security from mobile ballistic missiles is at least as great today as at any time in history, including the height of the Cold War. His study highlights many of the great technological leaps America has made in terms of its ability to attack mobile missiles, but it also underscores the need for improved coordination. He questions the preparation of the United States for proper integration of these individual examples of advanced technology and offers recommendations for a more responsive post–Cold War strategic mind-set and doctrine for attacking these mobile threats.

2006. 72 pages.

T-19, \$10.00

St. Clair, Maj Matthew G., USMC

The Twelfth US Air Force

Tactical and Operational Innovations in the Mediterranean Theater of Operations, 1943–1944

This paper analyzes the participation of the US Twelfth Air Force in the Mediterranean theater of operations from 1943 to 1944 and studies the coalition and joint operations required in the air campaign.

2007. 80 pages.

T-43, \$11.00

Stickle, Maj Douglas R., USAF

Malignants in the Body Politic

Redefining War through Metaphor

In the aftermath of 9/11, Pres. George W. Bush declared the dawn of a new kind of war. He has repeatedly emphasized that means and measures of success in this new war will differ greatly from those of wars past. However, if this “war on terrorism” is unlike any other war, then what *is* it like? From the public statements of high-ranking US officials, metaphorical answers emerge: terrorism is a metastasizing cancer, a plague, a threat from which we are not immune. Major Stickle explores the analogies of immunity, infection, and cancer. In doing so he addresses the classic strategic question, What is the nature of the enemy and of the fight? In the never-ending battle against microbes and a 30-year-old “war on cancer,” the enemies are microbes and malignancies—threats from without and threats from within. In the context of the announced war on terrorism, Major Stickle converts these biological and medical themes for reflective contemplation and concludes that the administration might look further to the language of disease to better communicate the challenges of the war on terrorists.

2004. 52 pages.

T-3, \$6.50

Tolbert, Maj Julian H., USAF

Crony Attack

Strategic Attack's Silver Bullet?

Major Tolbert details how a nation can use crony attack to disrupt, if not destroy, "key elite supporters of an enemy leader to effect policy change in the attacker's favor." He defines crony attack, discusses its methodology, and outlines ways in which its effectiveness can be measured by offering the Slobodan Milošević regime as a case study.

2006. 62 pages.

T-32, \$8.50

West, Maj William P., USAF

Small Wars in a Big Theater

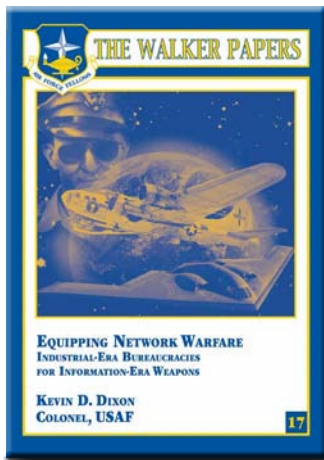
Special Operations Air Component Integration with the Joint Air Component in Theater Operations

This study addresses the issue of special operations forces' (SOF) integration of combat capabilities with the rest of the US Air Force and proposes measures to enhance the coordination between special operations air forces and conventional air forces in theater operations. In the 15 years since the formation of the United States Special Operations Command, the SOF communities of all services have strongly emphasized the integration of their combat capabilities. However, Air Force Special Operations Forces are expert at the joint tactical fight but less proficient at integrating into larger conventional air operations. This deficiency is most evident when SOF air forces must work within the command and control system of theater air forces.

March 2007. 82 pages.

T-14, \$6.00





Walker Papers are selected and published from over 50 papers written by field grade officers participating in the Air Force Fellows program. Selected officers attend civilian universities and organizations for one year, studying national security strategy and serving as military ambassadors to prestigious institutions. The papers, named after Brig Gen Kenneth N. Walker, a former Air Corps Tactical School instructor and Medal of Honor recipient in the Pacific during World War II, are published annually.

The ISSN for this series is 1555-7871.

These papers are also available in PDF at <http://aupress.au.af.mil>.

When ordering Walker Papers, please use the catalog reference number (e.g., P-42, P-29).



Atteberry, Lt Col Christopher L., USAF

Overcoming Inertia

Building Human Capital on Interagency Success

Addressing both a domestic and an international concern, Colonel Atteberry outlines several ways in which the government can achieve greater success with its human capital. The first phase of his two-pronged approach suggests better use of interagency personnel in the short term, and his second, longer-term phase fosters the “development of a truly independent corps of interagency experts, essentially a new bureaucratic structure within the government.” Combining these two phases to create interagency experts or interagency specialists allows for near-ideal fluidity or cooperation between governmental agencies.

Written primarily for a governmental audience, this brief but well-researched and well-written volume offers huge lessons for numerous nongovernmental agencies, including educational, financial, and religious institutions.

August 2011. 56 pages.

P-81, ISBN 978-158566-214-2, \$7.50

Bansemer, Lt Col John D., USAF

Intelligence Reform

A Question of Balance

This study explores three topics in the context of the 9/11 Report and the subsequent reform efforts initiated by the executive and legislative branches: (1) the 1986 Goldwater-Nichols reform of the Department of Defense and its applicability to the intelligence community (IC), (2) the common findings and recommendations of past reform efforts of the IC, and (3) the competing interests inherent in the IC that influence the pace and character of actual reform.

2006. 192 pages.

P-42, ISBN 978-1-58566-151-0, \$15.00

Brown, Col Charles Q., Jr., USAF

Developing Doctrine for the Future Joint Force

Creating Synergy and Minimizing Seams

Colonel Brown argues that recent operations have highlighted seams and shortfalls in joint doctrine that need to be addressed in the shaping of a more effective future joint force. Using the current doctrine command and control tenets and *Joint Operations Concept* attributes as a framework, Colonel Brown develops the foundation of air-ground doctrine for the future joint force.

2005. 136 pages.

P-25, ISBN 978-1-58566-147-3, \$12.00

Butler, Lt Col Jeffrey T., USAF

The Influence of Politics, Technology, and Asia on the Future of US Missile Defense

This work presents an overview of ballistic missile defense (BMD) initiatives and their attendant technologies, with a careful analysis of their existing capabilities and potentialities to make recommendations as to the BMD initiatives that are most likely to provide realistic expectations of useful defense capabilities in the near term to midterm. There is also an extended discussion of the implications of BMD in the relationships of the United States and the nations of Asia, particularly Russia, China, India, Pakistan, Iran, North Korea, and Japan.

August 2007. 86 pages.

P-46, ISBN 978-1-58566-167-1, \$9.00

Constantine, Lt Col Rofthiel, USAF

GPS and Galileo

Friendly Foes?

Lt Col Rofthiel Constantine cogently outlines the competitive relationship between the European Union and the United States regarding satellite navigation. To buttress his thesis that Galileo, the European Union's navigation satellite system, poses a veritable threat to the Global Positioning System, the navigation system of the United States, Colonel Constantine traces the development of the navigation systems, analyzes the threat posed to the United States by Galileo, and delineates precisely the course of action the United States must undertake to protect its "industrial, military, and national security interests."

May 2008. 84 pages.

P-56, ISBN 978-1-58566-177-0, \$7.50

Cotts, Lt Col Christopher D., USAF

The Revenge of Europe

NATO and the Transatlantic Relationship in the Era of the European Union

The collapse of the Soviet Union, the reunification of Germany, and the emergence of the European Union (EU) have all raised questions regarding the United States' transatlantic relationship and the subsequent role of the North Atlantic Treaty Organization. The author takes a brief look at past US-European relations and provides an analysis of the current state of affairs. Recent tensions in the relationship, he concludes, are a result of the EU's growing role as a state actor in the international system. Policy differences between the United States and the EU are merely symptoms of the changes resulting from the EU's new role.

2005. 87 pages.

P-29, ISBN 978-1-58566-142-8, \$9.00



Dixon, Col Kevin D., USAF

Equipping Network Warfare

Industrial-Era Bureaucracies for Information-Era Weapons

Information age “weapons” can potentially change the character of war, and offensive cyberspace operations have moved beyond mere penetration of adversary networks for intelligence gathering. Cyberspace is marked by its centrality to all Air Force missions—technological development is unusually rapid and not confined to “in house” development or friendly players. This study provides a detailed overview of the processes inhibiting Air Force effectiveness in the cyber domain. Three potential approaches to speed up the requirements and acquisition processes in the cyber domain are discussed: Major Force Program-11 authorities, Cyber Safari, and the Cyber Warfare Integrated Reprogramming model. These alternatives provide a tiered approach to countering some ill effects of the corporate processes, while mitigating both operational and resource allocation risk. Additionally, these alternatives allow a more responsive presentation of materiel development capabilities to counter the unique challenges of technology breadth, pace of innovation, and operational urgency.

May 2011. 56 pages.

P-84, ISBN 978-158566-213-5, \$7.50

Douglass, Lt Col Charles A., USAF, and Lt Col Michael D. Hays, USAF

A US Strategy for Iran

No contemporary foreign policy issues capture more headlines or elicit more debate than US relations with the Islamic Republic of Iran, the largest country in the Middle East and a potential nuclear power. Colonels Douglass and Hays researched the history of the Persians and talked with noted experts to analyze why Iran acts the way it does toward the United States and how we can use that knowledge to develop a strategy based on potential vulnerabilities created by Iran’s history and the nature of the country and its people. Current opportunities are addressed in their short-term strategy proposal, as well as a long-term strategic outlook.

April 2008. 130 pages.

P-54, ISBN 978-1-58566-200-5, \$12.00

Hendrickson, Lt Col Gordon B., USAF

The Future of NATO-Russian Relations

Or How to Dance with a Bear and Not Get Mauled

Lt Col Gordy Hendrickson, a former air attaché in Moscow, analyzes Russia’s historic territorial anxiety and how this affects the way NATO’s eastern movement is perceived by that nation. Despite several examples of NATO and Russia effectively working together, both in exercises and in actual operations in the Balkans, their relationship is haunted by old feelings of distrust. Colonel Hendrickson proposes several practical steps the alliance can take to ease Russia’s concerns and continue to effectively keep the relationship moving forward. As Lt Gen Frank Klotz notes in his foreword, “It is absolutely vital that NATO and Russia get this right.”

2006. 80 pages.

P-43, ISBN 978-1-58566-155-8, \$6.00

Hesterman, Col Jennifer L., USAF

Transnational Crime and the Criminal-Terrorist Nexus: Synergies and Corporate Trends

Addressing the convergence of organized crime, drug trafficking, and terrorism requires the new paradigm of strategic thinking ushered in by the war on terrorism. Such an effort cannot be seen through a diplomatic, military, law enforcement, financial, or intelligence lens alone. Rather, it demands a prism of all of these to offer a comprehensive and coordinated approach. Colonel Hesterman's analysis of this subject is accurate and timely. She provides a fresh look at the criminal-terrorist nexus and by examining corporate trends, provides unique insights into funding aspects of both activities. This important subject matter is ripe for further policy and substantive analytical focus. Analysts and policy makers alike can use her study's conclusions and recommendations in their efforts to protect our nation against this vexing threat.

2005. 96 pages.

P-8, ISBN 978-1-58566-139-8, \$7.50

Lengyel, Col Gregory J., USAF

Department of Defense Energy Strategy

Teaching an Old Dog New Tricks

Colonel Lengyel addresses the need for a national energy policy to meet the United States' insatiable thirst for energy, especially its implications for the Department of Defense. He argues cogently that the United States has created one of the mightiest militaries in the world but sadly has fallen short in its efforts to create a viable energy strategy. His proposals for conserving energy include "bases operating on 100 percent renewable energy," among others.

January 2008. 104 pages.

P-52, ISBN 978-1-58566-174-9, \$8.50

Manske, Col Chad T., USAF

The Machinery of Government Needs a Tune-Up

Lessons for the US National Security Council from the British Committee of Imperial Defence

This study examines the history, similarities, and differences of the US National Security Council (NSC) system and its organizational prototype, the pre-World War II British Committee of Imperial Defence, their structures, purposes, functions, leadership, significant changes, historical contexts leading to their creation, and their organization over time. Then, the author compares, contrasts, and subjectively examines each organization, while bringing historical evidence to bear. The study concludes with insights that form the underlying bases for recommending modest changes to the NSC system. These recommendations include appropriately sizing the NSC staff, emphasizing the importance of strategic planning, and others.

March 2009. 117 pages.

P-63, ISBN 978-1-58566-190-9, \$12.00

Marttala, Lt Col David W., USAF

The "In Lieu Of" Myth

Airmen in Joint Ground Operations

Lt Col Dave Marttala discusses the Air Force deployment of large numbers of Airmen to perform various combat support functions doctrinally assigned to the Army or Marine Corps. Known as "In Lieu Of" (ILO) deployment (since then the term has changed to "Joint Expeditionary Tasking" [JET]), this program has evolved from a temporary assistance measure to a de facto permanent reallocation of service

roles and missions. This study gives attention to the serious, central problem of the long-term negative effects of this program on the comprehensive military capacity to fight modern wars. Using Air Force security forces as a case study, the author demonstrates that ILO solutions actually do more harm than good, creating an illusion of adaptation that obscures the nature and scope of the problem, thereby jeopardizing future war-fighting capability among our collective military forces. He concludes by offering practical recommendations to rebalance requirements and resources for modern warfare.

January 2009. 107 pages.

P-61, ISBN 978-1-58566-172-5, \$11.00

McCarthy, Lt Col Michael J., USAF

The Limits of Friendship

US Security Cooperation in Central Asia

This research paper explores the history of US security cooperation programs in Central Asia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan, from 1993 to the present, identifying five distinct phases of development as those programs sought to achieve US objectives in *denuclearization and proliferation prevention, democratization and military reform, regional cooperation, and improving military capabilities*. The author elaborates on the limiting factors, successes, and a failure associated with those efforts and then makes recommendations for the future US security cooperation in Central Asia.

October 2007. 265 pages.

P-49, ISBN 978-1-58566-172-5, \$25.00

Palmby, Col William G., USAF

Outsourcing the Air Force Mission

A Strategy for Success

Colonel Palmby's study not only serves as a primer for readers not intimately familiar with either outsourcing or the acquisition/manpower career fields, but also provides Air Force leadership and decision makers recommendations designed to help them resolve or prevent the numerous pitfalls that accompany the outsourcing process. Toward those ends, it provides background on the terminology, processes, and regulatory guidance used in outsourcing. It also reviews various forces that drive the Air Force toward outsourcing as a resource option and analyzes the advantages and disadvantages that may reside in any outsourcing situation. The paper also examines numerous issues facing the Air Force and Department of Defense in general as the outsourcing of missions continues to increase. Additionally, the paper offers some critical recommendations designed to help begin the considerable effort of evolving the Air Force's culture and structure to allow full integration of outsourcing as a key and equal component of its Total Force team.

2006. 84 pages.

P-40, ISBN 978-1-58566-150-3, \$6.50

Patterson, Lt Col P. Dean, Jr., USMC, and Lt Col Lenny J. Richoux, USAF

Rethinking the QDR

The Case for a Persistent Defense Review

P. Dean Patterson and Lenny J. Richoux offer a cogent argument for a Department of Defense quadrennial defense review (QDR). Established in 1997, the QDR is a relatively new process. It examines the budgetary process to ensure that taxpayers' money is well spent. At the same time, it is equally important to ensure that each service receives its fair share of the allocation pie. Abandoning the QDR, enlarging it, or creating a persistent QDR are the only viable options the authors believe are available. Of the three choices, Patterson and Richoux believe that creating a persistent QDR provides the best option.

January 2009. 72 pages.

P-62, ISBN 978-1-58566-188-6, \$7.00

Vaughan, Lt Col Edgar M., USAF

Recapitalizing Nuclear Weapons

More than six decades after Hiroshima and almost two since the end of the Cold War, the US nuclear weapons stockpile is undergoing an extensive and expensive life-extension program to ensure the continued safety, security, and reliability of the legacy weapons well into the future. The current stockpile does not meet post-Cold War national security challenges. Today's challenge is to sustain and modernize the US nuclear weapons infrastructure with minimal risk and cost. Lt Col Ed Vaughan advocates that to mitigate the risks and address the highly uncertain future security environment, the recapitalization of US nuclear weapons should begin immediately.

August 2007. 80 pages.

P-47, ISBN 978-1-58566-170-1, \$7.00





The Wright Flyer series consists of occasional papers sponsored by the Air Command and Staff College, which prints and distributes a limited run of each paper. AU Press does not stock any titles in the Wright Flyers series. The titles listed here are available online only at the AU Press website <http://aupress.au.af.mil>.

Bacon, Maj Donald J., USAF

Second World War Deception

Lessons Learned for Today's Joint Planner

Series No. 5

This paper analyzes Allied deception operations—Barclay, Cockade, Bodyguard, and the Soviet deception operations at Stalingrad, Kirsik, and White Russia. Major Bacon identifies major factors that made Allied deception efforts extremely effective and examines Joint Publication 3-58, *Joint Doctrine for Military Deception*, and determines it could better incorporate lessons learned from World War II.



Barfoed, Maj Jacob, Royal Danish Air Force

Center of Gravity Analysis and Operational Design

Ensuring a Logical Linkage among National Strategic Objectives; Diplomatic, Informational, Military, and Economic Instruments of Power; and the Military Campaign

Series No. 38

Combatant commanders already use the center of gravity (COG) concept when analyzing their operational environment; however, this analysis is normally performed *after* the president has established the strategic objectives for the US government agencies. This defies the purpose of analyzing the strategic COGs: determining the adversary's vulnerabilities to available instruments of power. This paper recommends that strategic COG analysis be done at the National Security Council level.



Beers, Timothy E., USAF

The Cheshire Jet

Harnessing Metamaterials to Achieve an Optical Stealth Capability

Series No. 44

Laboratory research that blends physics with materials science has ventured into the design of matter with unique electromagnetic characteristics and response functions. These metamaterials exhibit exceptional, unnatural properties resulting from their structure rather than from their composition. These materials promise to provide significant advances in stealth and survivability technology, both highly applicable for future Air Force capabilities against a counter low-observable, directed-energy-equipped integrated air defense system. The author researched the advances and development patterns of optical band metamaterials—specifically, the leading indicators of frequency, bandwidth, and energy loss. Following that, a backcasting futures technique helps uncover the obstacles of metamaterial durability, suitability, and manufacturability. This paper concludes with a 20-year timeline for optical-band metamaterial capabilities and applications.

Bennett, Lt Col J. Lee, USN

A Game of Simon Says

Latin America's Left Turn and Its Effects on US Security

Series No. 31

In this paper the author discusses why leftism is on the rise and whether US national security is being threatened. Colonel Lee believes that the causes are a combination of extreme inequality with regard to income per capita, an increased awareness among the populace as to its unequal situation, a poor display of US foreign policy, and an increase in education levels throughout the region. He recommends three policy proposals—the United States needs to pioneer fair trade agreements, increase foreign aid, and work harder at being a good neighbor.



Birch, Maj Amanda Sue, P. E., USAF

Waste to Watts and Water

Enabling Self-Contained Facilities Using Microbial Fuel Cells

Series No. 37

Looking to the national security environment in 2030, Major Birch's research explores one technology—the microbial fuel cell (MFC)—that gives life to self-contained facilities decoupled from vulnerable supply lines and infrastructure networks. MFCs could become a diplomatic and economic tool to pursue a better state of peace by building a foundation for democratic and economic development.

Charlesworth, Maj Robert L., USAF

Using an Intratheater Regional Hub Heuristic in Iraq
An Exploratory Case Study

Series No. 25

In this paper the author recommends a relaxation of airlift operations' doctrinal definition of the hub-and-spoke concept to allow for inclusion of a regional hub-in-theater. The author concludes that the channel system created using a regional hub heuristic is more efficient by about 8 percent and more effective by 48 percent.

Crider, Maj Kimberly A., USAFR

Strategic Implications of Culture
Historical Analysis of China's Culture and Implications for United States Policy

Series No. 8

In this paper the author uses a group-grid typology model for framing culture to describe the strategic implications of culture and culture's response to a changing global context. The author applies these concepts to analyze the effect of cultural change in China and its implications for current and future US-China relations.

Daddis, Maj Gregory A., USA

Armageddon's Lost Lessons
Combined Arms Operations in Allenby's Palestine Campaign

Series No. 20

In this paper Major Daddis analyzes the reasons that people in the profession of arms missed the lessons of airpower and its role in combined arms operations. He discusses the context of the Middle Eastern theater of World War I, describes how "western front myopia" added to the overshadowing of operations conducted in Palestine, and discusses the role of airpower in the Middle East.

Daniels, Maj John A., USAF

C-130 Programmed Depot Maintenance

Series No. 1

This paper develops an analytical model that C-130 maintainers can use to forecast when a C-130 aircraft requires programmed depot maintenance. The model is based on five aircraft variables: aircraft age, total flying hours, average yearly flying hours, mission profile, and operating location of the aircraft.

Davis, Maj Arthur D., USAF

Back to the Basics

An Aviation Solution to Counterinsurgent Warfare

Series No. 23

This study focuses on the global war on terrorism as a conflict against insurgents who attack US power through asymmetric means. Major Davis examines past examples of the use of airpower in counterinsurgent warfare and sheds light on the United States' failing in both equipment and doctrine as it wages this type of war.

Dowling, Maj Maria J., USAF, and Maj Vincent J. Feck, USAF

Feasibility of a Joint Engineering and Logistics Contract

Series No. 7

In this study the authors address the use of contractors in support of joint military operations. They offer an objective review of the benefits and drawbacks of the Army's Logistics Civil Augmentation Program and the Air Force's Air Force Contractor Augmentation Program contracts. In conclusion they recommend that a joint civil augmentation program contract be created.

Folland, Lt Col Rolf, RNoAF

Holistic Debriefing

A Paradigm Shift in Leadership

Series No. 41

Folland examines the problem of the lack of proper leadership tools in the Royal Norwegian Air Force's operational units to understand and cope with the effects of increased stress. Based on theory and examples from operational practice, holistic debriefing is presented as a possible means for leaders to increase mission effectiveness through improved stress-coping mechanisms. The secondary effects from people engaging with themselves and each other through holistic debriefing are increased self-knowledge, interpersonal trust, group confidence, and an improved working environment.

Green, Maj Robert S., USAF

Proposed Core Competencies for Acquisition

Series No. 2

In this paper Major Green proposes core competencies for acquisition organizations undergoing change. These core competencies are derived from a comparison of theory with actual practice. The author discusses possible change strategies—unfreezing the system, movement toward a new orientation, and refreezing new behaviors and attitudes. He compares these strategies to the Joint Direct Attack Munitions program's successful acquisition program, and the results suggest that there are overarching core competencies for successful organizational change.



Grunwald, Maj Michael, Jr., USAF*Transforming Air Force ISR for the Long War and Beyond***Series No. 36**

Air Force intelligence, surveillance, and reconnaissance (ISR) is undergoing a tremendous transition—as a growing core competency and an operational entity in its own right. This paper draws on well-established close air support doctrine and organizational models to build new ISR organizational and execution constructs to bridge the gap between theater-level ISR assets and tactical operations. These models bind the ISR asset, exploiter, combined air and space operation center, and supported unit together through face-to-face interactions and standardized processes that apply across any theater of operations or combatant command.

Harter, Maj Mark E., USAF*Rapid Dominance**Integrating Space into Today's Air Operations Center***Series No. 11**

This paper identifies the importance and legitimacy of space as a center of gravity and military war-fighting medium, focusing on the realm of the joint air operations center. It defines five key areas: space training, doctrine, equipment, personnel, and command and control.

**Holifield, Maj Richard N., Jr., USAF***Tracking Next-Generation Automatic Identification Technology into 2035***Series No. 47**

This paper discusses the current capabilities of automatic identification technology (AIT), primarily focusing on radio frequency identification (RFID) tags. The author projects trends in several areas (e.g., politics, economics, computing, and wireless networks) that will affect AIT and forecasts the AIT requirements for 2035. He identifies several challenges to implementing those requirements, while emphasizing the significance of AIT for end-to-end visibility in the DOD's logistics system.

Johnson, Maj Michael H., USNC*Cleared to Engage**Improving Joint Close Air Support Effectiveness***Series No. 35**

The close air support (CAS) mission is one of the most difficult missions flown today. It requires the highest level of integration with ground forces and the greatest precision due to the proximity of friendly forces. Furthermore, it has the highest potential for negative ramifications if something goes wrong. However, ground forces continue to rely heavily on CAS, with the CAS mission increasingly becoming joint in nature. This paper explores the question of how we overcome hurdles to increase CAS effectiveness and achieve a truly joint system.

Judge, Maj Sean M., USAF

Slovakia 1944

The Forgotten Uprising

Series No. 34

In this paper Major Judge attempts to fill some of the void in the history of the Slovak National Uprising of 1944. The political climate during World War II and the Cold War obscured and distorted the history and understanding of this revolt. The author suggests that even the Slovaks remain at odds among themselves about the importance and meaning of the uprising.

Kelley, Maj David H., USAF

They Too Served

496th Fighter Training Group, 1943–45

Series No. 13

In this paper the author outlines the historical accounts of the 496th Fighter Training Group from activation in December 1943 through inactivation in April 1945.

Kravitsky, Maj Stephen M., USAF

Reducing the Intercontinental Ballistic Missile Alert Rate and the Impact on Maintenance Utilization

Series No. 26

The intent of this research is to provide an analysis of the intercontinental ballistic missile (ICBM) maintenance team utilization at the current ICBM alert rate and at lowered alert rates. Quantitative research methodologies are used to model historical ICBM maintenance data from the 341st Maintenance Group and simulate future maintenance team utilization at both the current and decreased ICBM alert rates.

Kumashiro, Maj David J., USAF

Microsoft, Al-Jazeera, and the Predator

The Challenge of Effects-Based Operations in the Global War on Terrorism

Series No. 21

In this paper Major Kumashiro seeks to illustrate the conditions and challenges surrounding the translation of current effects-based theory into operational practice in the global war on terrorism by using three conceptual constructs.



Laborie, Lt Col Geraud J., French Air Force

The Diplomacy of the Jaguar

French Airpower in Postcolonial African Conflicts

Series No. 39

Lieutenant Colonel Laborie examines the role of French airpower in military conflicts in such areas as Mauritania and Chad in the 1970s and 1980s, Rwanda in 1994, Zaire in 2003, and the Central African Republic in 2007. His central thesis is that airpower determined the margin of victory in each instance and that the outcome of events in the Ivory Coast would have been different had there been a greater emphasis on airpower.

LeClair, Maj Michael A., USAF

Fatigue Management for Aerospace Expeditionary Forces Deployment and Sustained Operations

Series No. 12

The purpose of this paper is to extract all relevant materials pertaining to fatigue and aircrews in order to provide a plan for equipping commanders and personnel in aerospace expeditionary forces with a historical perspective, critical information, and new technologies to enable effective fatigue management.

Lee, Maj Seow Hiang, Republic of Singapore Air Force

Center of Gravity or Center of Confusion

Understanding the Mystique

Series No. 10

In this paper the author attempts to unravel some of the mystique that surrounds the employment of the center of gravity concept. He proposes that one should endeavor to grasp the essence of the concept and to think systematically and creatively.

Linnean, Maj Harold W., III, USAFR

Air Force Smart Operations for the Twenty-First Century

Identify Potential Failure Points in Sustaining Continuous Process Improvement across the Air Force

Series No. 33

In this paper, Maj Harold Linnean explores how Air Force leadership may avoid potential failure points in its implementation of Air Force Smart Operations for the 21st Century (AFSO 21), the Air Force's initiative to recapitalize funds by maximizing value and minimizing waste in operations. The author addresses three potential failure points: (1) an exclusive focus on culture that creates an unbalanced system or organization, (2) the inflexibility of the Air Force structure, and (3) the Air Force's human resource management systems. Major Linnean proposes that a culture of continuous process improvement will take root only when Air Force leadership fully commits to AFSO 21.

Lozo, Maj Christopher C., USAF

Punitive Discharge with Retirement Pay

Windfall for the Accused or Justice for All?

Series No. 3

When retirement-eligible military members are court-martialed and punitively discharged, by operation of law they forfeit retirement pay. This forfeiture is a collateral consequence of receiving a punitive discharge. Major Lozo argues that the court-martial members and the convening authority, not the operation of law, should deprive a member of retirement pay. He recommends a new punishment: punitive discharge with retirement pay.

Machoian, Maj Ronald G., USAF

Looking Skyward

The Emergence of an Air-Minded Culture in the US Army

Series No. 17

This is a brief study of the earliest American Airmen and their influence on the development of an air-minded culture. Those Airmen believed that the airplane could act as an invaluable reconnaissance asset, that its use as a real-time artillery observer would render that arm's fire much more destructive, that the airplane's presence over the battlefield would revise the manner in which armies maneuvered and sought contact with the enemy, and that seizing control of the air would become an important precursor to success on the earth's surface.

McAlexander, CDR Joseph C., IV, USN

Hearts and Minds

Historical Counterinsurgency Lessons to Guide the War of Ideas in the Global War on Terrorism

Series No. 29

In this paper the author argues that to conduct successful effects-based operations on human terrain in the global war on terrorism, the US military must focus on developing a culturally aware force that can interact with the various cultures of the world the United States wishes to influence.

McKinney, Maj Maurice M., USAF

Transformational Satellite (TSAT) Communications System

Falling Short on Delivering Advanced Capabilities and Bandwidth to Ground-Based Users

Series No. 27

In this paper the author discusses the TSAT's capabilities and space-based satellite systems. Major McKinney discovers that TSAT is capable of providing approximately 8,000 radio frequency links and 20–50 laser communication links, creating a ground-based shortfall to support future service requirements. In his conclusion the author offers three recommendations for the TSAT Program Office.



Musico, Lt Col Arous Robert F., Philippine Air Force

The Head Side of the Coin

A Smarter Way to Fight the Moro Secessionists in the Southern Philippines

Series No. 42

In *The Head Side of the Coin: A Smarter Way to Fight the Moro Secessionists in the Southern Philippines*, Lt Col Arous Robert F. Musico argues that “the secessionist movement had its roots in the centuries-old Moro resistance against the colonial policies of forceful assimilation, which the newly independent government also later adopted.” He continues by portraying the struggle between Muslims and Christians on the one hand and the evolution of the postcolonial policy and its impact on the region on the other hand.



Ojala, Maj Galen K., USAF

Virtual Wingman

Harnessing the Future Unstructured Information Environment to Achieve Mission Success

Series No. 48

In the twenty-first century the character of war is being changed through cyberspace. Recently, the Air Force added cyberspace to its mission statement, joining it with the traditional operating environments of air and space. In this paper, the author defines the “cyber domain.” Cyberspace is marked by its centrality to all Air Force missions—technological development is fast and not confined to “in house” development or friendly players.

Oldenburg, Maj James A., USAF

Fighting the War above Iraq

Employing Space Forces to Defeat an Insurgency

Series No. 24

This paper addresses the counterinsurgency effort in Iraq and examines whether space forces can be employed to help fight this and other insurgencies. Major Oldenburg’s conclusion is that the persistence, security, and field of view of space forces allow them to generate critical effects. Thus, the employment of space forces is crucial to future counterinsurgency operations.

Olson, Maj Wesley A., USAF

Identifying and Mitigating the Risks of Cockpit Automation

Series No. 14

Cockpit automation has delivered many promised benefits, such as improved safety and efficiency; however, at the same time it has imposed system costs in the form of new opportunities for error. The author suggests that to mitigate these errors a system of in-depth defenses is required to integrate innovations in design, procedures, and training.



O'Reilly, Maj Ainsworth M., III, USAF

The Better Blitzkrieg

A Comparison of Tactical Airpower Use by Guderian and Patton

Series No. 43

In *The Better Blitzkrieg: A Comparison of Tactical Airpower Use by Guderian and Patton*, Maj Ainsworth M. O'Reilly III relies on primary sources to document why Gen Heinz Guderian and the Luftwaffe came up short on the Western Front in Europe during the latter stages of World War II against Gen George S. Patton and the Army Air Forces. Showing contrasts in support for Guderian's Luftwaffe and the XIX Tactical Air Command of Patton enables readers to anticipate the Luftwaffe's downfall.



Peeler, Maj David L., Jr., USAF

Counterinsurgency Aircraft Procurement Options

Processes, Methods, Alternatives, and Estimates

Series No. 40

Although aircraft have been shown to be effective in small wars, the United States Air Force currently does not possess counterinsurgency (COIN) aircraft of the type advocated by many students of small wars. Obtaining a COIN operations platform has received little attention; however, within academic circles and the special operations community, the need for a "low-tech" airborne participant in COIN operations is gaining traction. Acquiring a weapons system platform with meticulously defined processes and authorities is serious business. By examining opportunities to turn ideas into aircraft, Major Peeler identifies specific authorities, processes, requirements, and methodologies for quickly procuring an aircraft for COIN operations.

Philippart, Maj Jeff D., USAF

The Expeditionary Airfield as a Center of Gravity

Henderson Field during the Guadalcanal Campaign (August 1942–February 1943)

Series No. 19

This study explores the contemporary relevance of the Guadalcanal campaign to current military operations. It uses Henderson Field as a historical example for employment of airpower from an austere airfield and discusses relevant lessons for future expeditionary military operations in the global war against terrorism.

Rentfrow, Lt Col James C., USN

Electronic Combat Support for an Expeditionary Air Force

The Lessons of History

Series No. 15

The United States Air Force currently faces a shortfall in the type and number of electronic combat aircraft capable of operating with an aerospace expeditionary wing (AEW). This has a direct impact on the USAF's global attack core competency and undermines the combat power of any deployed AEW. The author discusses why there is a shortfall and offers some suggestions on how to correct the shortfall.

Riza, Maj M. Shane, USAF*The Operational and Tactical Nexus**Small Steps toward Seamless Effects-Based Operations***Series No. 22**

In this study Major Riza explains that it is clear that tactical actions can have strategic effects. The doctrinal desire to segregate levels and the institutional desire to view operational planning as completely distinct from well-founded and practiced tactical-level effects-based thinking are limiting the evolution of effects-based operations. Solving mind-set differences and smoothing disconnects at the tactical/operations nexus may hold the key to seamless effects-based operations in future joint fights.

Row, Maj Lisa A., USMC*A Joint Task Force Staff Structure for the New Millennium**Leaner, Faster, and More Responsive***Series No. 4**

This study explores the problem of how joint task force staffs should reorganize to improve future command and control to meet demands of the most likely future environment. Several key changes envisioned for the military provide a foundation for this project and introduce future operational and environmental complexities. The study concludes with a discussion of benefits gained through reorganization.

Saffold, Maj Timothy L., USAF*The Role of Airpower in Urban Warfare**An Airman's Perspective***Series No. 6**

This research project addresses how the author believes airpower should be employed in urban warfare to achieve operational and strategic results. He believes there is a disconnect between how military planners and operators view urban combat and their awareness of airpower's unique and potentially decisive contributions in this environment.

Tart, Maj William M., USAF*Ethnic Conflict and US Central Command Policy for the Central Asian Republics***Series No. 16**

This paper identifies a possible shortfall in US military planning and attempts to counter critics in the January–February 2000 issue of *Foreign Affairs* who maintained that our obtuse military ties are not sensible or sustainable. To achieve stability, promote democracy, and ensure our national security, US Central Command must consider the nature of ethnic conflict and the principles of insurgent warfare, and develop a thoughtful strategy that creates a new regional vision for Central Asia.

Teo, Maj Cheng Hang, Republic of Singapore Air Force

The Acme of Skill

Nonkinetic Warfare

Series No. 30

This paper explores nonkinetic warfare in its various forms and explains how today's strategic environment favors nonkinetic approaches and methods. The author tries to answer the question, How should the armed forces of the world transform to be as effective in the nonkinetic realm as they are in the kinetic?

Thomas, Maj Gary L., USMC

United States Marine Corps Air-Ground Integration in the Pacific Theater

Series No. 9

This paper addresses how the United States Marine Corps deals with the challenge of air support for the infantry in the Second World War. The research indicates that the Marines developed an effective means for air-ground integration during the Second World War and that a great deal of their success was due to the Marine Corps's philosophy of airpower as well as to experience gained during the inter-war years, particularly in Nicaragua.

Trautmann, Maj William D., Jr., USAF

Designing Bare Base Systems for Logistics Efficiency in the Joint Operational Environment

Series No. 28

This study examines joint management of bare base systems. The author discusses the existing bare base capability and how bare base systems support national military strategy. He then shares lessons learned, followed by a review of published literature concerning the capabilities and limitations of bare base systems as they are managed today.

Trsek, Maj Robert B., USAF

The Last Manned Fighter

Replacing Manned Fighters with Unmanned Combat Air Vehicles

Series No. 32

In this paper Lt Col Robert B. Trsek addresses the questions, Can and should the Air Force pursue an unmanned multirole fighter to replace manned systems? Unmanned aircraft systems have demonstrated enormous intelligence, surveillance, and reconnaissance (ISR) capabilities in both flexibility and persistence. Current and emerging technology may permit unmanned fighters to replace conventional multirole aircraft in the face of high-endurance missions, evolving threat systems, and political pressure to preserve human life.

Wolosz, Lt Col Pamela J., USAF

On the Wings of the White Eagle

Poland's Air Force Reform and Modernization, 1989–2001

Series No. 18

This research paper, which analyzes Poland's progress in implementing its air force reform, is grounded in three themes: the political progress of reforming the civil-military structure, the economic progress of reforming Poland's defense budget and defense industry to support air force modernization, and the military's progress in modernizing its air force weapons.





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Editors

Diane Clark
Mary J. Moore

Cover Art and Book Design

L. Susan Fair

Illustrations

Daniel Armstrong
L. Susan Fair

*Composition and
Prepress Production*

Ann Bailey

Quality Review

Marvin W. Bassett
Mary J. Moore

Print Preparation and Distribution

Diane Clark





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