



Development of Air Force Basic Doctrine 1947–1992

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Preface

The enclosed materials have been derived from Meeting the Enduring Challenge: United States Air Force Basic Doctrine Through 1992, a thesis by Capt Andrew David Dembosky (under the direction of Dr. Joseph W. Caddell, Dr. Joseph P. Hobbs, and Dr. Robert H. Dorff), The Evolution of United States Air Force Basic Doctrine (May 1978), a research paper by Maj David P. Handel to fulfill the requirements of the Air Command and Staff College, and research by Lt Col Jeff Garner and Maj Robert F. Tate, Airpower Research Institute, Maxwell Air Force Base.

Introduction

The National Security Act of 1947 established the Department of the Air Force, and W. Stuart Symington became its first secretary on 18 September 1947. This same law placed the United States Air Force within the Department of Defense, and Gen Carl A. Spaatz became the first chief of staff. As a separate and independent service, the United States Air Force published its first official doctrine in March 1953.

Joint Publication (Pub) 1 of 11 November 1991 refers to doctrine as “fundamental principles that guide the employment of forces. Doctrine is authoritative but not directive. It provides the distilled insights and wisdom gained from our collective experience in warfare.” Airpower doctrine is, as Dr. I. B. Holley, Jr., puts it, “The point of departure for virtually every activity in the air arm.” Airpower doctrine attempts to codify fundamental beliefs on the employment of airpower. Airpower doctrine, as “fundamental beliefs,” should be based in large part on the critical analysis of lessons learned over the history of aviation, validated exercise and test results, and a thorough study and analysis of theory.

Doctrine, however, is often driven by a myriad of influences that slant its “basic truths.” Not the least of these influences is policy. Often, doctrine is shaped significantly by the policies of the time and reflect more the influences of individuals, budgets, and emerging technological changes than the evidence of experience, critical analysis, and study. Often these shifting influences have shaped Air Force doctrine.

Beginning in 1953 the Air Force issued 10 basic doctrine manuals. This pamphlet reviews the evolution of Air Force doctrine over the nearly 50 years of Air Force history as a separate service. Part I of this pamphlet provides a review of the evolution of Air Force doctrine, while Part II provides a summary of the 10 Air Force doctrine manuals.

Part I

Development of Air Force Basic Doctrine

In the summer of 1946, Air University (AU) was established at Maxwell Field in Montgomery, Alabama. That same year the Army Air Force (AAF) issued a June 1946 mission statement that AU “reviews, revises, and prepares publication of AAF basic doctrine. . . . Develops basic doctrines and concepts for the employment of airpower.”¹ With that guidance AU assumed responsibility for developing concepts and doctrines and reviewing, revising, and preparing airpower basic doctrine publications for the employment of airpower. The Air War College (AWC), also established at Maxwell Field in 1946, was specifically charged with revising Field Manual (FM) 100-20, Command and Employment of Air Power, and recommending a system of doctrinal publications.² The Air War College, however, having only 18 officers assigned to the division responsible for this task, was grossly understaffed for such a challenge. It was decided, therefore, to assign doctrinal studies to working seminars and to have students study and report on major air problems and the existing FM 100-20.³

On 16 September 1947 two AWC seminars began working on the assigned taskings.⁴ Continued disagreements within the Air Force, however, limited efforts to produce an early Air Force doctrine manual. An Air Force publications board met in early 1948 and rejected the Air University plan for doctrine manual development. The board took exception to the type, number, and responsibility for development of doctrine and manuals. With little guidance and no general agreement on the development of Air Force doctrine manuals, Air University continued to pursue the development of airpower thought. On 2 July 1948 Air University submitted

Air Power and the United States Air Force to the Air Staff for review and continued work on other doctrinal manuals. Over the next two years, debate continued on doctrinal responsibilities and the form airpower doctrine was to take. By September 1950 much work had been done, but Air University was directed to suspend work pending the completion of the Joint Action Armed Forces (JAAF) paper that would provide principles and doctrines for joint operations.⁵

In the late spring of 1951, even though the JAAF publication had not been issued, the AU deputy commander decided that Air University could not delay any longer in beginning to exercise its doctrinal mission.⁶ The Air War College established the Evaluation Staff, named Col William W. Momyer as its director, and assigned 25 people to the evaluation staff (17 officers, four airmen, and four civilians). In lieu of producing one all-inclusive doctrine manual, Colonel Momyer recommended the preparation of a basic Air Force doctrine manual and a series of doctrinal manuals on such subjects as strategic air operations, theater air operations, and counterair operations. Amid continued Air Force debate on doctrinal responsibilities, the Air War College continued its work on airpower doctrine following Colonel Momyer's recommendations.

By 1951 Air Force leadership generally recognized the institutional fragmentation that was evolving in developing airpower concepts and doctrine. Although much was being done throughout the Air Force, no single agency officially had the task as its primary function. On 3 August 1951 the Air Force issued a new regulation that charged Air University "to function as an Air Force doctrinal, educational, and research center."⁷ While handing AU the task, the Air Force was unwilling to grant Air University the sole responsibility to produce and promulgate Air Force concepts and doctrine. The opinion of the time was that "the development of doctrine and concept is a dynamic process involving all Air Force commands and activities."⁸ Finally, after continued discussions, the Air Staff approved the list of operations manuals proposed by Air University. In February 1952

Colonel Momyer, two other representatives from Air University, and two representatives from the Air Staff met as a committee at Maxwell Air Force Base (AFB) to redraft the basic doctrine manual. This committee studied the recommendations made by the Air Staff and major commands and completed a draft manual in March 1952.⁹

While the basic doctrine manual was in coordination, the Air University Evaluation Staff began to prepare five manuals derived from the basic manual that included theater air operations, strategic air operations, air defense operations, air transport operations, and amphibious operations. The staff also planned to prepare five manuals to expand the theater air operations manual into five separate operations manuals for counterair, close air support, air interdiction, theater airlift, and theater air reconnaissance. By the end of 1952, the Evaluation Staff had substantially completed four of the operational manuals. However, the draft of the basic doctrine manual was still being reviewed by the Air Staff.

The history of the first doctrinal manual reveals three important problems. First, the Air Staff repeatedly refused to relinquish to AU the authority to approve and publish basic doctrine. Second, the Air Staff often was slow to review AU drafts, and when it did, it disapproved them. Third, considerable debate took place over what should, or should not, be included in the manual. Particularly lively was the discussion over whether AU's term theater air forces should replace tactical air operations (eventually AU deleted the term from its drafts).¹⁰ These problems caused frustration among some senior officers at AU.¹¹ This mood appears understandable given that the final basic doctrine manual, after six years of work and nearly a year in coordination, was finally published on 1 April 1953.

AFM 1-2 1 April 1953

Printed as a pamphlet, Air Force Manual (AFM)1-2, United States Air Force Basic Doctrine, 1 April 1953, measured a

slim four by six and one-half inches and contained only 17 pages organized into five short chapters.¹²

The primary purpose of this manual was to “provide and impart to all Air Force personnel a basis for understanding the use of air forces, in peace and war, and to serve as a background for succeeding manuals covering the tactics and techniques of employing air forces.”¹³

The manual stated that the military instrument of national policy has a two-fold purpose: first, it was designed to deter the use of military force by hostile nations; and second, it must be prepared to repel forces of aggression and protect and preserve the integrity and validity of the nation. The manual also stated that air forces have versatility not common to any other forces and that they possess certain capabilities which, when related to the principles of war, dictate specific employment concepts. The manual emphasized heartland and peripheral actions, two broad and interdependent aspects of air operations. To perform these operations, control of the air was necessary. It further emphasized the use of offensive weapons as a primary means of providing security of the homeland from air attacks.¹⁴ This first Air Force doctrine publication also stressed the employment principle that air forces are an entity that must be placed under the centralized control of a theater commander if their full capabilities were to be effectively utilized.¹⁵

The 1 April 1953 AFM 1-2 proclaimed that “basic air doctrine evolves from experience gained in war and from analysis of the continuing impact of new weapons systems on warfare.”¹⁶ The main chapter on airpower, “Employment of Air Forces,” revealed the beginning of a tendency to focus on nuclear weapons as a means of conducting air warfare. The manual asserted that “no nation can long survive unlimited exploitation by enemy air forces utilizing weapons of mass destruction,”¹⁷ a clear reflection of Air Force beliefs in the efficacy of strategic bombing and nuclear weapons. Discussion of “heartland” operations was also quite evidently connected to weapons of mass destruction.¹⁸

AFM 1-2 1 April 1954

The Air Force was quickly developing a tendency to avoid rigorous analysis of its doctrine. The favorable reception of the first AFM 1-2 by all major air commanders led to its republication on 1 April 1954 with only a few slight changes in wording.¹⁹ The primary changes that were made to follow-on publications were driven by changes in national security strategies and policies and developments in technology.

This pattern seems unfortunate since the Air Force also had its experiences in Korea to draw upon in revising its first doctrine manual. An attentive study of this recent experience might have helped to dispel some beliefs about strategic bombing and nuclear weapons as a means of fighting and winning. As with World War II, the Korean War seemed only to strengthen Air Force beliefs in the capabilities of strategic bombing. Airmen turned to strategic bombing, modeled after the campaigns of World War II, to break the enemy's capability and will to fight.

Other trends and developments in the 1950s contributed to the failure of the Air Force to take full advantage of a rigorous analysis of recent experiences with strategic bombing. The adoption by the Eisenhower administration of the New Look towards defense policy favored the Air Force and the development of the Strategic Air Command (SAC) under the firm guidance of Gen Curtis E. LeMay.²⁰ In 1955 former secretary of the Air Force Thomas K. Finletter (SAF 1950–1953) critically reviewed the use of airpower in foreign policy. Finletter, believing in the value of nuclear deterrence and the need to prepare for large-scale warfare, announced that “the Korean War was a special case, and air power can learn little there about its future role in United States foreign policy in the East.”²¹ In the words of one historian, “The Air Force looked to its future unhampered by its immediate past.”²² The growing US involvement in Southeast

Asia would soon highlight the cost of Finletter's, and the Air Force's, narrow focus.

AFM 1-2 1 April 1955

The third edition of AFM 1-2 was published on 1 April 1955. The 10-page manual now measured eight by 11 inches and was the shortest attempt to date to provide the Air Force with a statement of purpose.²³

In many respects this manual's doctrinal thought seems to have perpetuated previous writings. Of note was the manual's attempt to address concepts of international conflict and airpower operations in peacetime as well as in war. This attempt provided a somewhat significant change, however, since much of the emphasis in these areas seems to have been driven by policies on nuclear war rather than doctrinal analysis. Unfortunately, much of the doctrinal thought about employing airpower to fight and win wars was shallow, as evidenced by the removal of the principles of war from this version. The link between war fighting and the principles of war seemed to be held captive to atomic political policy and the belief in "atomic air power."²⁴ Rather than offering a critical analysis of experience, doctrine was now being written to accommodate the policies of new technologies. Even President Dwight D. Eisenhower's State of the Union message of 1954 emphasized the connection between nuclear weapons and airpower.²⁵

Doctrinally, the third edition of AFM 1-2 did little other than present the material contained in the previous editions. Although the foreword again asserted that "basic doctrine evolves from experience and from analysis of the continuing impact of new developments,"²⁶ the manual did not demonstrate an appreciation of the difficulties involved in the employment of airpower in World War II and Korea. Instead, the manual emphasized strategic nuclear attacks

on both military installations and major cities as a means to destroy an enemy's capability and will to wage war.²⁷

Doctrine Development—The Shift of Responsibility

Events in 1958 soon led to a significant shift in doctrinal development. First, the Air Staff rejected an AU draft of a revised AFM 1-2, believing that rapid advances in technology had made attempts to publish doctrine outmoded. This belief may well have been in response to the supposed inability of AU to develop what loosely would be called "doctrine" in response to shifting policy. The long lead-time doctrine coordination process did not lend itself to the rapid staff-action requirements of Air Staff officers reacting to policy dilemmas. Apparently, to better provide for an issue-driven doctrine, the Air Staff supplanted AU as the entity responsible for preparing the basic doctrine manual, and this decision was codified in the Defense Reorganization Act of 1958. Also fostering the mood to transfer doctrine responsibilities was a reduction in research personnel and capabilities at Air University. Another element was a disgruntled Air University commander who expressed concern regarding the Air Staff's slow pace in processing doctrinal manuals submitted to it. He cited as an example Air University's submission of a draft AFM 1-2 in May 1958 that was still in coordination in October 1959, 17 months later.²⁸

Air University remained responsible for the development of Air Force basic doctrine until 6 March 1959, when the responsibility officially shifted to Headquarters United States Air Force (USAF). The office that assumed the responsibility was the Air Doctrine Branch, Air Policy Division, Directorate of Plans.²⁹ Lt Gen Walter E. Todd, AU commander, quickly asserted that the 1955 AFM 1-2 was "so far out of date that it has practically become archaic." In response the Air Staff published a revision on 1 December 1959.³⁰

AFM 1-2 1 December 1959

Despite General Todd's criticism, the Air Staff actually made only a few minor changes to the wording of the manual's five brief chapters. The foreword, much of the body of the manual, and statements emphasizing that attacks against an enemy nation could "reduce the enemy's will and capacity to resist or to pursue a war objective" remained virtually unchanged.³¹ In retaining its old statements and adding a few new ones stating that "the best preparation for limited war is proper preparation for general war,"³² the Air Force displayed a desire to eschew its frustrating experience fighting a limited war in Korea in favor of its perceived successful application of strategic bombing in World War II.³³ Statements throughout the new AFM 1-2 also reflected the predominance of strategic airpower thinking in the Air Force during the 1950s and 1960s. In Air Force slang, the service had been "SACumsized."³⁴

Dr. Earl H. Tilford, Jr., historian (and former Air Force intelligence officer and editor of the *Air University Review*), examined this period in his book *Setup: What the Air Force Did in Vietnam and Why*. In Tilford's opinion, "From the late 1950s and into the 1960s Air Force thinking and writing became increasingly insipid."³⁵ This lack of critical thinking led to inflexible and unsubstantiated dogma rather than carefully considered doctrine. Airmen apparently believed that bombers and nuclear weapons could win any kind of war. Above all, "The fact that limited wars are, indeed, very different from conventional wars was ignored during and then forgotten after Korea."³⁶

Advocates of Flexible Response in the early 1960s, especially in the Kennedy administration, attempted to improve US military capabilities across the spectrum of conflict.³⁷ The Air Force responded by refocusing its doctrine to meet the new concept of national security policy engendered by the proliferation of thermonuclear weapons.³⁸ In doing so

the Air Force moved its basic doctrine even further from experience as the basis for operational guidance.

The 1959 AFM 1-2 did, however, acknowledge the space age with a change in terminology, changes caused by the introduction of space and missile systems, specifically sputnik and intercontinental ballistic missiles.³⁹ In recognition of new satellite and missile technology, the manual substituted aerospace for all references to air forces, operations, etc. The revised manual stated that the forces which comprise the United States Air Force were designed, equipped, and trained for operations in the aerospace. The aerospace was defined as an “operationally indivisible medium consisting of the total expanse beyond the earth’s surface.”⁴⁰ The manual went on to describe the forces of the Air Force as the fundamental aerospace forces of the nation, comprised of a family of operating systems—air systems, ballistic missiles, and space vehicle systems. It emphasized that general supremacy in the aerospace must be maintained in both peace and war. This emphasis followed the long-term Air Force responsibility of maintaining general supremacy of the air.⁴¹

Doctrine—Into the 1960s

The Air Force spent the years between 1959 and 1964 concentrating on improving the capabilities of strategic weapon systems. Strategic nuclear forces were improved, hardened, and given better command, control, and communications support. Strategic airlift was given priority to improve its capability to support contingencies on short notice with conventional forces anywhere in the world.⁴² Also during this period the national security strategy of Flexible Response emerged. This change brought new initiatives, particularly by the Army, to develop organic airlift, reconnaissance, and close-air-support capabilities that were in direct competition with Air Force missions for budget dollars. These events caused roles, missions, and doctrine-related matters to become Department of Defense (DOD)-level issues.

During this same period Air Force doctrine development was receiving a greater push towards support of policy. Eugene M. Zuckert, who became secretary of the Air Force in 1961, strongly supported the idea that “Air Force doctrine should be designed to support national policy and strategy,” rather than being “based upon the absolute capabilities and limitations of aerospace forces.”⁴³ At the same time responsibilities for doctrine development remained murky. In response, finally, the Air Force published specific guidance on the development of Air Force doctrine. Dated 20 March 1963, Air Force Regulation 1-1, Responsibilities for Doctrine Development, clarified the responsibilities for developing basic Air Force doctrine, operational doctrine, and unified doctrine. The regulation made Headquarters USAF/XPD responsible for preparing and disseminating basic doctrine and gave official guidance to the meaning of “basic aerospace doctrine.”⁴⁴

The doctrine developed in the early 1960s was influenced greatly by Project Forecast, a major study directed in March 1963 by Air Force Chief of Staff LeMay and headed by Gen Bernard A. Schriever. This study assessed the Air Force’s then-current position in science, technology, and policy and projected its position for the 1965–75 time period.⁴⁵ Three major panels were established to assess technological possibilities, threats, and policies. The findings of the policy panel significantly influenced Air Force basic doctrine because four of the policy panel members shared authorship of the draft of the basic Air Force doctrine manual that was coordinated through the Air Staff and published as AFM 1-1 on 14 August 1964.⁴⁶

AFM 1-1 14 August 1964

Now published as AFM 1-1, the new United States Air Force Basic Doctrine bore the signature of General LeMay. As described in the manual, the nature of modern conflict exists in a vast spectrum and can occur at different

intensities. At one extreme is the possibility of an all-out thermonuclear war, and at the other extreme is the realm of economic, political, social, and educational competition. The manual listed general characteristics and requirements of aerospace forces as flexibility (which consists of range, mobility, responsiveness, and versatility), survivability, centralized command and control, penetration ability, capability for selective target destruction, and recovery and recycling ability. The manual then discussed employment of aerospace forces at varying levels of warfare—general war, tactical nuclear operations, and counterinsurgency.⁴⁷

A seemingly significant change from previous editions of the basic doctrine manual was the specific intention to look to the future in developing basic doctrine. The previous manual had stated that “basic doctrine evolves from experience and from analysis and testing of military operations in the light of national objectives and the changing military environment.”⁴⁸ The 1964 manual’s foreword, in declaring the new focus of the doctrine, stated: “Basic doctrine evolves through the continuing analysis and testing of military operations in the light of national objectives and the changing military environment. Accordingly, the thermonuclear age has created conditions necessitating a rapid advance in the development of new concepts for air warfare.”⁴⁹ It also emphasized that Air Force doctrine must be responsive to the potential military threat and advanced developments in technology.⁵⁰

The 1964 manual merely substituted thermonuclear weapons for conventional ones. In keeping with this emphasis on the new national objectives of Flexible Response, the chapter “Employment of Aerospace Forces in General War” discussed counterforce and countervalue targeting, still calling for the destruction of “major urban/industrial areas of the enemy.”⁵¹ Certainly a strong argument exists that the perceived Soviet threat and nuclear arms buildup of the early 1960s required Air Force thinking oriented towards nuclear war. Moreover, the dismissal of the Korean War as a subject of little relevance to doctrinal development, both

reflected and resulted from the continued Air Force focus on preparing for a major war with the Soviets. In retrospect, though, Korea should have demonstrated the need for greater thinking about airpower and limited war in nonindustrialized nations.

The 1964 AFM 1-1 did, however, contain a one and a half-page chapter on “Employment of Aerospace Forces in Counterinsurgency.” It stressed the importance of enhancing the indigenous support of the local government through Air Force civic actions. The chapter also stated that the ability to locate and attack enemy supply routes, regardless of weather and possible location in adjacent countries, is essential to effective interdiction.⁵² Unfortunately, events in 1965 would quickly prove the inadequacy of this chapter, and the manual in general, in meeting the conditions actually faced in Vietnam. Some of the experiences from Vietnam—not to mention the invasion of Czechoslovakia and the Middle East War of 1967—left many in the Air Force thinking its doctrine needed revision.

Although it took seven years, until 1971, to publish the next AFM 1-1, work began on revising the 1964 version almost immediately after its publication. A full-scale draft was developed by 1965 and revisions to this draft were written at least annually.⁵³ The Air Staff published the new AFM 1-1 on 28 September 1971.⁵⁴

AFM 1-1 28 September 1971

The new AFM 1-1 returned to stating specifically that doctrine “is based on an accumulation of knowledge gained through study, military experience, and test.”⁵⁵ Although once more acknowledging the role of experience, the manual followed previous doctrine manuals by reflecting policy more than an analysis of experience or testing. The new AFM 1-1 included the prevailing thought of former secretary of defense Robert S. McNamara, who believed the “national

leadership must be provided with a wide range of alternatives in the use of military power.”⁵⁶ The manual stated: “The primary objective of U.S. national security policy is the deterrence of military actions which are counter to U.S. interests.”⁵⁷ Sufficiency of forces was listed as fundamental to deterrence and was defined as “that degree of military power which can be expected to deter a potential enemy from attacking the United States or its allies.” Force sufficiency provided senior government officials with the flexibility to exercise a wide range of political and military initiatives.⁵⁸ It was further described as consisting of two basic components — assured destruction and damage limitation. Assured destruction was defined as the capability to destroy an aggressor nation or nations after having suffered a nuclear attack. Damage limitation was defined as possessing “the capability to limit the effectiveness of an enemy attack against the U.S. through both offensive and defensive measures.”⁵⁹ The focus in both instances appears to have been placed on nuclear warfare.

In addition, the two components of force sufficiency offered options other than all-out nuclear war. If US leaders possessed assured destruction and damage limitation capability, they should be able to respond to any type of enemy initiative by escalating or de-escalating the conflict, or coercing the enemy into taking a desired action. The end objective in all instances was to terminate the conflict on favorable terms before it could expand.

The 1971 manual also maintained that force sufficiency was best achieved through a mixed force of manned and unmanned offensive and defensive weapon systems. It listed four advantages of a mixed force. First, in the offensive role, the manual emphasized the positive characteristics of rapid strike systems—flexibility, controllability, and reusable manned systems. These characteristics could compound enemy defensive problems by forcing them to develop forces to counter the multiple threats of a mixed force. Second, in a defensive role, a mixed force compounds enemy problems because they must develop multiple offensive weapon systems to

penetrate US defenses. Third, a mixed force precludes the dependence on one type of offensive or defensive weapon system which could possibly fail or be countered by an enemy. And fourth, a mixed force provides additional options when employing military weapon systems.⁶⁰

The new manual also reflected terminology changes that coincided with the thinking of then-secretary of defense Melvin R. Laird. The more descriptive terms of conventional operations, low-intensity nuclear operations, high-intensity nuclear operations, and special operations replaced such terms as general war, tactical nuclear war, and counterinsurgency.⁶¹ The manual, however, differed little from previous manuals in the characteristics, tasks, and capabilities of aerospace forces. Although still dominated by chapters on the employment of airpower in a nuclear war, the new edition considered the terms general war and limited war overly broad, since “to be appropriate as well as effective, military power must relate to a wide spectrum of potential military involvement.”⁶² For the first time the manual devoted a chapter to special operations and addressed a short section to the Air Force’s role in space (the 1959 and 1964 editions had incorporated the term aerospace without further defining any space missions).⁶³

A study by AU’s Air Command and Staff College (ACSC) in 1972 further indicated that some Air Force officers had begun to question the validity of their doctrine. The 1972 ACSC study of basic doctrine culminated with a proposed new AFM 1-1. This draft highlighted the difficulty of producing specific military, political, and psychological effects through the use of aerospace forces. It relied on historical examples to illustrate its point, as seen in the following passage:

A military victory can be a psychological defeat. The 1968 Tet offensive was a military victory by the United States but a political and psychological victory for the Viet Cong. The psychological effects of the Japanese bombing of Pearl Harbor united the American people against a common enemy. The psychological effects of all operations must be considered to ensure the proper employment of aerospace forces.⁶⁴

AFM 1-1

15 January 1975

Published on 15 January 1975, the new AFM 1-1 drew heavily from the ACSC draft and reflected the national security strategy of the early 1970s, Realistic Deterrence. The basic purpose of that strategy was

to provide through strength and partnership, for the security of the United States and its Free World Allies and friends. Its aim is to discourage—and eventually eliminate—the use of military force as means by which one nation seeks to impose its will upon another. It seeks to deter war, but insures adequate capabilities to protect our Nation and its interests should deterrence fail.⁶⁵

The 1975 version of AFM 1-1 contained only 12 pages organized into three chapters, a dramatic reduction from the 1964 version's seven chapters and the 1971 version's six chapters. Yet, like previous manuals, it retained a heavy emphasis on nuclear warfare capabilities and operations.⁶⁶ It also stated that "USAF Basic Doctrine is derived from knowledge gained through experience, study, analysis and test."⁶⁷ As with the Korean War before, the Vietnam War now offered a vast experience bed for analysis. But, also similar to the Korean War, Air Force doctrine writers largely ignored the lessons of Vietnam, choosing instead to remain with the now familiar issues of nuclear deterrence.

Prominent in the 1975 manual, as the deterrent to strategic nuclear war, was the strategic triad—the complementary and mutually supporting mixed force of manned bombers, land-based missiles, and submarine-launched missiles. The manual described triad as the apex of the deterrence process and said it possessed the highest defense priority within the United States. This edition also emphasized the use of the total force—US Reserve forces and allied forces—to strengthen deterrence. By taking into account the total force, senior military officials could appropriately assess the capabilities of these forces when planning employment operations.⁶⁸

The functions and operational missions of aerospace forces remained basically the same as illustrated in previous manuals. The disparity between the size of the 1971 and 1975 manuals, and their lists of basic tasks and missions, mirrored larger problems and changes within the Air Staff during the 1970s. By 1974 the Directorate of Doctrine (HQ USAF/XOD) had little time to think about doctrine. As one XOD officer commented that year, "Sometimes we feel we are so busy stamping ants we let the elephants come thundering over us."⁶⁹

AFM 1-1 14 February 1979

At over 75 pages, the new AFM 1-1, Functions and Basic Doctrine of the United States Air Force, far surpassed previous editions in length. Numerous doctrinal studies and Air Staff reorganizations had been undertaken to improve doctrinal development and scope. These efforts, however, did little to remedy the problems, and as one doctrine expert reflected, 1979 represented "the nadir of Air Force doctrine."⁷⁰ In the foreword chief of staff Gen Lew Allen, Jr., maintained that "the experience and ideas of dedicated leaders in the world of airpower" over the previous 60 years had "gradually led to reasoned change" in doctrine. He added that "whether you are enlisted, an officer, or a civilian in the Air Force family, I believe this manual will help you think seriously about why we are in business."⁷¹

The format and content of the 1979 AFM 1-1, however, made it difficult to take the manual seriously. Nor did its content reveal much "reasoned change" based on analysis of experience. Its length stemmed not from the addition of text, of which there was little, but from the use of numerous quotations, graphics, and illustrations of famous people and aircraft, which led to its being dubbed the "comic book edition." Under its list of missions, it placed "strategic aerospace offense" first, and called for attacks "against any of the enemy's vital targets and thereby destroy(ing) the

enemy's ability and will to continue the war."⁷² These deficiencies, and others, would receive a great deal of criticism from both scholars and Air Force officers during the 1980s.⁷³

The Renaissance of Air Force Doctrine—Into the 1980s

Through the fifties, sixties, and seventies nuclear strategies and deterrence policies had dominated military doctrine almost exclusively. The focus on nuclear weapons and the cold war had so dominated thinking that nonnuclear airpower doctrine and the lessons of history had been all but forgotten. Although its authors consistently stated that airpower doctrine was based on the critical analysis of experience, the evidence did not support the assertion. In the early 1980s, Air Force chief of staff Gen Charles A. Gabriel, together with Air Force/XO, Gen John T. Chain, spurred an interest in airpower history and a renewed interest in the study of airpower. The generals fostered programs and organizations specifically designed to increase awareness of airpower history.

AFM 1-1 16 March 1984

As part of this renaissance, the Air Force extensively revised AFM 1-1 during 1983, releasing it as Basic Aerospace Doctrine of the United States Air Force. The changes to AFM 1-1 can be credited largely to one officer, Maj Clayton R. Frishkorn, a member of the Air Staff Doctrine and Concepts Division (AF/XOXID).⁷⁴

The manual provided a significant improvement over the 1979 edition. The cartoon-like graphics had been eliminated, and only three figures illustrating command structures remained. Four concise chapters covered the subjects "Military Instrument of National Power," "Employing Aerospace Forces," "Missions and Specialized Tasks," and "Organizing,

Training, Equipping, and Sustaining Aerospace Forces” in 43 pages of text.

The manual also contained two informative annexes indicative of the attempts to increase historical awareness within the Air Force. The first annex, a six-page history entitled “Evolution of Basic Doctrine” described in flattering terms the evolution of thinking in previous Air Force doctrine manuals. However, it also acknowledged that “both the 1953 version and its 1954 successor focused almost completely on the World War II experience, leaving out experiences learned in the Korean War,” and that the 1955 and 1959 versions did little to change this.⁷⁵ The second annex, “Selected Bibliography and Reading List,” referenced a variety of important works on war, strategy, doctrine, and decision making and was significant in attempting to promote further study and stimulate critical thought about airpower. Unfortunately, the annex sorely lacked critical evaluations of the Vietnam War.

With the 1984 edition doctrine was now considered an “accumulation of knowledge which is gained primarily from the study and analysis of experience.”⁷⁶ [Emphasis added] Yet, in keeping with the precedent set by previous doctrinal manuals, this manual made a selective use of history in formulating its doctrinal statements. “Strategic aerospace offense” heads the list of Air Force missions.⁷⁷ In an almost verbatim return to the language of the 1953 and 1954 editions, the manual stated that “successful attacks directed against the heartland will normally produce direct effects on an enemy nation or alliance.”⁷⁸ By 1984 the Air Force had accumulated an additional 30-plus years of experience on which to base its doctrine, but instead chose to repeat several of the ideas found in the doctrine of 1953.

The 1984 edition of AFM 1-1 was one of the most professional attempts to articulate doctrine up to that date. Sections on employment patterns, missions and tasks, and operational command structures provided real and much-needed guidance.⁷⁹ But, the manual’s failure to address the limitations and checkered history of airpower, lack of evidence

to support pivotal statements, and propensity to extoll the broad range of capabilities afforded by airpower prevented it from serving as an example of a truly rigorous, broad-minded, or even new analysis of experience. In many ways the 1984 manual continued the approach to doctrine that had been established; that is, it attempted to deal with current military problems and ideas “while working at the margins of doctrine articulated at the Air Corps Tactical School during the 1930s.”⁸⁰

CADRE and Doctrine

During 1979 and 1980 Col Thomas A. Fabyanic, chief of the Military Studies Division at AU's Air War College, argued successfully to create the Airpower Research Institute (ARI) at Air University.⁸¹ In June 1980 ARI officially began operations with a staff of three, devoting most of the next two years to work on a monograph series on Vietnam.⁸²

Within one year a new AU commander, Lt Gen Charles G. Cleveland, proposed that ARI become part of a larger center for airpower and doctrinal studies. However, Gen Jerome F. O'Malley, the Air Staff deputy chief of staff for Operations, Plans, and Readiness (AF/XO), “reasoned that the responsibility for doctrinal development ought to remain in Washington since the Air Force needed a doctrinal spokesman in the Pentagon to look after its interests.”⁸³ Negotiations for the larger AU organization would continue until 1983.

In 1983 Air University was established as a separate major command, and plans were completed to make ARI part of a larger Center for Aerospace Doctrine, Research, and Education (CADRE). The formation of CADRE was opposed by several members of the Air Staff, especially officers in XOIX. They felt that moving the responsibility for doctrine away from Washington would make it less responsive to Air Force planning needs.⁸⁴ To overcome these objections CADRE worded its mission statement to “conduct basic and applied aerospace power research; to assist in the development,

analysis, and testing of concepts, doctrine, and strategy.”⁸⁵ [Emphasis added] Having convinced the necessary people, CADRE, consisting of ARI, the Aerospace Wargaming Institute, and the Air University Press, opened on 3 January 1983. With the publication of several acclaimed books and articles, CADRE quickly established itself as a producer of critical historical works.

Much of this success had to do with the atmosphere established for the organization, both physical and intellectual. “The successive AU CADRE directors . . . maintained the strong climate of intellectual honesty necessary for the [analysis and writing of] history.”⁸⁶ The intellectual climate combined with CADRE’s clean, quiet offices sharply contrasted with the worn, cramped, noisy, old Pentagon room that housed the doctrine division of the Air Staff.⁸⁷ With CADRE the Air Force now had officers devoted to the study of doctrine and military history who were not caught up in the policy battles and staff urgencies associated with being an Air Staff officer. Doctrinal study was now being conducted apart from the demands of shifting policy dilemmas.

Doctrine Debates and a New Approach

Revision of the 1984 doctrine manual seems to have begun almost as soon as the Air Force had published it. By the end of August 1985, XOXID had finished a draft of a new and greatly expanded AFM 1-1. This draft contained twice as many chapters as the 1984 edition, discussing “The Nature of War,” “The Principles of War,” “Aerospace Power and the Levels of War,” and “Characteristics and Qualities of the Aerospace Forces.” It proclaimed that “our doctrine derives [sic] from the study and analysis of past experience interpreted in the light of current and developing technology and an ever-changing world.”⁸⁸ The draft also retained the 1984 manual’s recognition of the importance of “the support of the people” in employing military forces, with only a slight rewording of the first chapter. In other areas, though, the

proposed revision encompassed much more than its predecessor.

To its credit the 30 August 1985 draft recognized some of the lessons of the past and attempted to envision the needs of future air campaigns. In discussing strategic operations against important enemy targets, one statement warned commanders that “such attacks may be limited, however, by overriding political concerns, the intensity of enemy defenses, or more pressing operational requirements,”⁸⁹ a clear reference to the environment faced in Vietnam. The increased historical awareness of the Air Force in the 1980s appears to have had an effect on doctrinal statements.

Quickly soliciting comments on its draft, XOXID sent a copy to ARI in early September 1985. CADRE returned the formal compilation of its comments to XOXID in early October 1985.⁹⁰ ARI reviewers considered the XOXID draft to have several problems, but two in particular were in common with past manuals. First, they felt “the new draft suffers from the same malady as the present manual in that it clearly is focused on a large-scale theater war against a modern industrialized enemy.” The reviewers again referred to lessons drawn from history by adding that “we have ample evidence that being prepared for the worst case does not necessarily prepare one for the least case.” Second, the ARI commentators stated that “the new draft suffers from another malady carried over from previous editions, i.e., much of it is not doctrine.” They disapproved of the XOXID tendency to describe aerospace capabilities and the merits of doctrine, rather than to actually provide the guidance needed by commanders.⁹¹

Several unsubstantiated assertions contained in the draft greatly concerned the reviewers. They felt the problem severe enough to warrant a radical departure in the format of AFM 1-1, as seen in the following:

If we allow our doctrine to contain assertions without evidence, we run the risk of creating dogma rather than doctrine. We suggest that AFM 1-1 and all doctrinal manuals be published in two volumes. The first would be the manual as it

now stands, but with the addition of footnotes. The second volume would contain the footnote citations, hopefully in expanded form. Putting ourselves through such a rigorous process would both give us more confidence that our doctrine is correct and make our doctrine easier to defend to our critics.⁹²

The proposed two-volume format would contrast sharply with the manner in which airpower doctrine had been formulated and presented since at least 1953. The ARI suggestion revealed a desire to produce sound doctrine based on the evaluation of historical evidence. In theory at least, doctrine actually distilled from an honest analysis of experience would prove less vulnerable to criticisms of the sort leveled against past manuals. By substantiating doctrinal thought, ARI hoped to provide benefit to both busy officers and critical scholars. The results, ARI reviewers believed, would be a useful doctrine. The doctrine manual would consist of a concise, direct users' volume and an expanded volume that allowed both scholars and interested professional officers to understand the reasoning behind Air Force doctrine.⁹³

A few other points raised by ARI would remain a source of contention throughout the development of the 1992 edition. ARI reviewers did not understand the XOXID draft's listing of "special operations" as a "mission" of the Air Force instead of as an "operation." They believed such a narrow definition slighted the broad capabilities of special operations forces. Similarly, ARI found contradictions in the draft's discussion of "space operations." In some places XOXID implied that the aerospace environment inherently included space and space operations, while in others it claimed that their location made space operations unique.⁹⁴ While doctrinal manuals and statements often evolve from debates over roles and missions, the ARI comments revealed a belief that the final product should not itself contain conflicting points of view.

The officers on the Air Staff again worked quickly, producing another draft by 27 November 1985. On 2 December

XOXID sent a copy of the draft with an explanatory cover letter to Air Force major commands, including Air University.⁹⁵ The cover letter explained that this draft sought to clarify the assertions made in the 1984 version and admitted that “the reader will see that the fundamental tenets of our doctrine have not changed, only the manner of presenting them.” While the draft offered a major reorientation towards the operational level of war, XOXID further maintained that its “emphasis on theater-wide employment” remained consistent with the way the Air Force had always thought.⁹⁶ Therefore, XOXID did not feel it necessary to challenge the conceptual focus of Air Force doctrine.

By 2 January 1986 ARI had compiled comments on the second draft from members of CADRE, AWC, ACSC, and the Squadron Officer School. These comments and the draft were returned to XOXID. AU also acknowledged that 70 percent of ARI comments on the 30 August 1985 draft had been incorporated into the new draft. Yet, XOXID had not addressed any of the major problems previously mentioned. The “General Comments” section of the AU reply reiterated that much of the material presented did not constitute doctrine and complained that the chapter, “The Nature of War,” “says very little about the nature of war.” The critics noted that the discussion of conflicts on the lower end of the conflict spectrum needed to be expanded. ARI also restated its belief that XOXID conceptually misunderstood the relationships between special operations and unconventional warfare and between air and space missions.⁹⁷

More importantly, ARI commentators wrote that “the Air University reviewers are in unanimous agreement that it is a mistake for the manual to narrowly focus on fighting a large-scale, theater war against a modern, industrialized enemy.” They went on, considering the experiences in Korea and Vietnam, to remark that “our doctrine should address not only the most demanding war, but also the most likely wars.”⁹⁸

In December 1987 ARI requested that its personnel be allowed to research and write a new basic doctrine manual

that included historical and authoritative supporting material. The Air Staff rejected the proposal, preferring that CADRE and ARI continue in their roles as assistants and consultants.⁹⁹ In January 1988 ARI, together with CADRE, decided to begin research on a new manual regardless of the position of the Air Staff.¹⁰⁰

The officers at ARI felt current doctrine contained nothing more than assertions lacking documentation and, therefore, were difficult to defend. They planned to produce one volume of doctrinal statements accompanied by one volume of footnotes to provide “expansive discussions citing historical sources, published analyses, and detailing the logic flow from these sources to the doctrinal statement in volume one.”¹⁰¹ CADRE officers believed that the project could serve at least as an educational exercise for Air University and its students. At best, they felt, according to CADRE documents, that the “project has great promise to solve our basic doctrinal impasse.”¹⁰²

A significant event then took place on 17 February 1988. The Air University commander, Lt Gen Truman Spangrud, proposed to Gen Larry D. Welch, the Air Force chief of staff, that CADRE assume the responsibility of producing the new AFM 1-1.¹⁰³ General Spangrud, who had been a classmate of General Welch at the National War College a few years before, was able to win the support of the most senior airman for the project the Air Staff had refused. As a result, CADRE gained approval to draft a new approach to doctrine.

On behalf of CADRE Col Dennis M. Drew, ARI’s director, and the Long Range Planning and Doctrine Division (XOXFP, an Air Staff agency equal to XOXID and also involved in doctrinal development) agreed in March 1988 that CADRE’s role in making doctrine only extended to the proposed two-volume manual and that final approval for adoption of their work as AFM 1-1 remained with the Air Staff.¹⁰⁴ CADRE officers tentatively planned to begin work on the project in July 1988 and to submit a final draft for comment to XOXFP by July 1990.¹⁰⁵

On 25 April 1988 Lt Gen Michael J. Dugan, the new Air Force deputy chief of staff for Plans and Operations (HQ USAF/XO), gave formal approval to the CADRE project. In a letter to General Spangrud, he also noted that his staff (which included both XOXID and XOXFP) would continue its own work on a revision to the 1984 edition of AFM 1-1 and might publish it as an interim manual.

After receiving approval from the chief of staff and General Dugan in the spring of 1988, CADRE began to develop a team and a plan of work.¹⁰⁶ On 1 July 1988 the ARI team, consisting of six officers with two civilian advisors from ARI, held its first meeting. By late November 1988 CADRE officially informed Air Force major commands of the project. In the message, CADRE requested comments on its intention to produce a manual that contained “tenets provable with historical evidence/examples,” that covered “the entire spectrum of conflict,” that considered “the limitations as well as the capabilities of aerospace power,” that was “written in terms of what should be rather than what is,” and that proceeded “from the general to the specific (i.e., deductively).”¹⁰⁷

By December 1988 the team had developed detailed outlines of the four chapters that would constitute volume 1. By March 1989 CADRE had received responses to its November 1988 message from several major commands. Alaskan Air Command (AAC), US Air Forces in Europe (USAFE), and Military Airlift Command (MAC) all supported the two-volume approach. Strategic Air Command supported the incorporation of historical evidence, suggesting several historical examples for illustrating different principles and missions. Tactical Air Command (TAC), however, believed the documented essays did not constitute doctrine and should not be a part of the manual, preferring the current format. TAC recommended that the revision of chapter 3 focus on the employment of aerospace power at the operational level of war and that its guidance apply across the spectrum of conflict.¹⁰⁸ CADRE continued to work on its project, planning to send a completed draft of both volumes to the Doctrine and Concepts Division (XOXWD, the successor

to XOXID) in July 1990.¹⁰⁹ By May 1989 work on volume 2 had commenced, with the officers developing essays to support their respective chapters in volume 1.¹¹⁰ As a lesson for future doctrine projects, they found that volume 1 had to be based on the research appropriate for volume 2, but volume 2 could not be written until volume 1 was complete.¹¹¹

In May CADRE also invited major commands to attend a July working conference on the revision of AFM 1-1. The 18–19 July 1989 conference elicited many comments, criticisms, and suggestions from all the participants. In general, CADRE realized that it needed to make the manual clear and readable, to identify its target audience and speak to it, and to encourage senior and junior officers to study the manual.

The Air Staff had not fully accepted the CADRE project, however, or the challenge to its authority CADRE represented. Nor did it seem a foregone conclusion that the CADRE manual would be the next AFM 1-1. As General Dugan had told General Spangrud in 1988, his staff would attempt its own revision of AFM 1-1 for possible publication as an interim manual.

By 1989 Dugan's staff had gained some outstanding officers and produced a creditable draft. Shortly after General Dugan had assumed his job on the Air Staff, Maj Gen Charles G. Boyd became his deputy director for Plans (XOX). Although General Boyd greatly appreciated the importance of studying military history, he did not support the CADRE effort to write doctrine, believing that the responsibility should remain with the Air Staff.¹¹² Col John A. Warden served under General Boyd as director of the Warfighting Concepts and Doctrine Division (XOXW). Colonel Warden, another pilot who had flown numerous combat missions in Vietnam, also held strong convictions about airpower, its history, and its ability to apply decisive force in a modern war.¹¹³ With the support of both Boyd and Warden, XOXWD (the division immediately below Warden's) began to work on a completely new revision of AFM 1-1 in 1988. Col David Tretler of XOXWD did a majority of the research and writing.

Colonel Tretler, a combat fighter pilot, also held a BA, MA, and PhD in history and had taught military history at the Air Force Academy during two separate three-year assignments. Colonel Tretler made excellent use of his extensive historical knowledge in writing the XOXWD revision. In doing so, his work on successive drafts from 1988 to 1990 reflected an awareness of criticisms of previous editions of AFM 1-1. It also reflected the influence of Colonel Warden's thinking on airpower.¹¹⁴

The Air Staff's first draft of AFM 1-1, *Air Force Basic Doctrine: Employing Air Power*, appeared in March 1989 and indicated a new focus. The first chapter discussed the nature of war and the different forms it could take, while other chapters provided guidance for employing airpower. In structure, the draft resembled the 1984 edition, but its inclusion of historical examples to illustrate different points and its narrative style far surpassed earlier Air Staff work.¹¹⁵ Recognizing the value of feedback from the different Air Force commands, General Dugan in April 1989 requested comments on the draft from all major commands.¹¹⁶ He received some interesting responses in May and June. Perhaps unexpectedly, CADRE and AU found the draft thought provoking and worthy of publication as the proposed interim AFM 1-1.¹¹⁷

Air Force Space Command, however, did not agree, disapproving of the way XOXWD had reduced the importance of space operations. Maj Gen Ralph E. Spraker, the vice commander of Space Command, wrote to General Dugan that HQ USAF/XO had been working with CADRE and strongly recommended "that your proposed AFM 1-1 revision effort be terminated pending the outcome of the Air University initiative."¹¹⁸ Headquarters USAFE also found the Air Staff draft inappropriate for publication, citing the change in focus and "weak, historical examples" as major problems. USAFE recommended that the Air Staff hold a conference on the draft that included representatives from AU and major commands.¹¹⁹

Instead of hosting a conference, however, XOXWD produced another draft by August 1989. This version had six chapters (“Nature of War,” “Nature of Aerospace Power,” “Employing Aerospace Power,” “Nuclear Warfare,” “Preparing Aerospace Forces,” and “Conclusion”) spanning 58 pages. It retained its stated focus as a guide for the employment of airpower rather than a statement of basic doctrine. Through their attempts to combine an analysis of experience with doctrine, XOXWD and Colonel Tretler had produced a readable and informative draft. However, other agencies within the Air Staff’s XOX chain of command found the draft too long, “excessively pedantic and at times patronizing” in its use of history, and flawed in its discussion of Air Force roles and missions, including the concepts of space operations and special operations.¹²⁰

Apparently, the draft’s length and its often “forced” use of historical examples hindered the reader’s ability to distill the doctrinal guidance the manual intended to relate, thus providing more credibility to CADRE’s two-volume approach. Edited and refined, the draft eliminated three pages, and XOXWD published another version in November 1989.¹²¹ In retrospect, this work made little difference. Lt Gen Jimmie V. Adams had replaced General Dugan as AF/XO during the summer of 1989. He reportedly believed that General Welch’s 1988 agreement with General Spangrud established the CADRE draft as the next edition of AFM 1-1. Therefore, General Adams canceled the XOXWD project in late November 1989. The cancellation greatly disappointed Colonel Warden and Colonel Tretler, both of whom deeply believed their draft provided a better presentation of Air Force doctrine than the CADRE manual.¹²²

Meanwhile, by the end of 1989, the seven officers at CADRE had completed more than 7,000 hours of research and writing. They had another draft of volume 1 and had almost finished the 24 essays that would comprise volume 2. CADRE planned to send a draft of both volumes to all major commands in January 1990, hoping to elicit “valuable suggestions” and “ease [the] formal coordination process.”

CADRE would then send a final draft to the Air Staff by 1 April, ironically the date of publication of the first three AFM 1-1s written at the Air University.¹²³

Then, in January 1990, the recently promoted Lieutenant General Boyd gained a new command, and with it the power to end the CADRE project. General Boyd became the new commander of Air University, thus making CADRE subordinate to his authority. Because General Boyd had not welcomed CADRE's efforts to write the next AFM 1-1 when he was XOX, many officers expected that he would cancel the project.¹²⁴

Coincidentally, despite General Adams' cancellation of the Air Staff revision effort, XOXWD had continued work on its draft in hopes of having it published.¹²⁵ By May 1990 it had further refined the draft, reducing the "pedantic" tone and number of historical examples used in the text. Nonetheless, it still recognized the capabilities and limitations of airpower that can come only from an objective analysis. After producing doctrine for more than three decades, the Air Staff finally seemed to recognize that history had not fully and conclusively proven the beliefs espoused in early Air Force doctrine.

Recognizing that it would take CADRE at best another 12 to 18 months to prepare its draft for publication (if it would be published at all), XOXWD continued to push during the summer of 1990 for the publication of its own version. In correspondence with other agencies, XOXWD repeatedly argued against the CADRE manual and recommended that its version be published in 1990 while the CADRE version underwent major revisions.¹²⁶ Despite the more frenetic atmosphere at the Pentagon, XOXWD personnel had produced an honest examination of the principles for employing airpower; however, they now lacked the support to publish it. General Adams' cancellation of the XOXWD project seemed to ensure that CADRE would write the next Air Force basic doctrine manual. But, the 1990 assignment of General Boyd as the AU commander had the potential to

reverse that. CADRE now faced the difficult task of actually winning approval for, and publishing, its work.

In late January 1990 CADRE gave General Boyd a completed draft of AFM 1-1. During the next six months, General Boyd and AU vice commander Brig Gen Charles D. Link rigorously, and somewhat slowly, scrutinized it. This slow progress, though, allowed for two important changes. First, General Welch, who had originally authorized the CADRE project, retired as Air Force chief of staff in June. General Dugan, General Boyd's former commander at the Air Staff, became the new chief on 1 July.¹²⁷ General Boyd now had the perfect opportunity to recommend that the XOXWD version replace the CADRE version as the next AFM 1-1. The second important change, however, involved General Boyd's opinion of CADRE and its work. Apparently, he grew to believe in the advantages CADRE had over the Air Staff. Sometime in the summer of 1990 General Boyd reportedly told General Dugan that "doctrine could only be produced at a place such as Air University, away from the political buffeting of the Pentagon, in a place conducive to the contemplative life."¹²⁸ Now with the support of both generals, the CADRE project was assured.

During the next several months, coordination and debate continued. In October and November 1990 CADRE received responses from 20 of 27 organizations it had contacted for review.¹²⁹ During January and March of 1991, CADRE also received comments from XOXID on the draft sent out in September 1990. Operation Desert Storm (16 January to 28 February 1991) added further experience and historical evidence to strengthen the manual, but incorporating the new material required further time and effort.¹³⁰ In effect, Desert Storm offered a test of many of the doctrinal beliefs CADRE had expressed in the manual. Information on the effects of airpower in the Gulf War did not cause any editing of the doctrinal tenets in volume 1, but it did confirm in the minds of the CADRE officers the validity of much of their work.

With the revisions completed by the spring of 1991, CADRE presented the draft manual to General Boyd. For the next several months CADRE did little work on the manual as General Boyd reviewed it.¹³¹ In February 1992 the new manual was ready to be printed. General Boyd offered to have CADRE listed as the office of primary responsibility (OPR) in the “supersession block” of the manual’s first page. Doing so would have deviated from Air Force regulations assigning responsibility to the Air Staff, where it had rested since AU was relieved of the responsibility in 1958. Vice chief of staff Gen Michael P. C. Carns decided the matter on 21 February 1992. This way, XOXWD would retain its role as the OPR. With this decision, the Air Force finally had a new basic doctrine manual, officially published in March 1992. After eight years of work, the 1984 edition had been replaced.

AFM 1-1 March 1992

The March 1992 version of AFM 1-1 marked 39 years of Air Force doctrinal thought. This current version is a significant departure from the earlier manuals in that it incorporates two separate, distinct volumes. Volume 1 contains basic doctrine and doctrinal thought important and relevant to air and space power. It represents the collection of broad, overarching “truths” and fundamental principles that guide the employment of air and space forces. Volume 1’s 19 pages provide the distilled insights and wisdom gained from our collective experience in warfare. Volume 2 contains selected readings that refer to issues discussed and defined in volume 1.

Volume 1 is divided into four sections: “War and the American Military,” “The Nature of Aerospace Power,” “Employing Aerospace Forces: The Operational Art,” and “Preparing the Air Force for War.” From the beginning of the manual, the reader is confronted with the principles of war and the explanation that to understand doctrine readers

must first understand the nature of war. Air Force roles and missions are broken down and graphically illustrated, making it easier to comprehend the relationship between roles and missions.

While new to Air Force doctrine, the addition of the tenets of aerospace power provides great insight into the unique nature of air and space power employment. Also new to the manual is a discussion of war and operational art with a detailed introduction and explanation of the campaign and how it relates to Air Force roles and missions. Making repeat appearances in this AFM 1-1 are Air Force organizational structure, personnel training, and the equipping of forces. For the first time in many years, the Air Force has a doctrine manual based in critical analysis, experience, and history. The inclusion of volume 2 allows the basic manual to be concise while providing reference to important information that does not necessarily belong in a basic doctrine manual.

Summary

This review of Air Force basic doctrine and its related manuals reveals the particular bias of the Air Force in its analysis of experience.¹³² That many doctrinal assertions could not be proven through an objective review of airpower history seemingly mattered little to the development of Air Force doctrine for nearly 40 years. In a 1988 publication historian Donald J. Mrozek traced the origins of the “Air Force’s chronic impatience with history” to the prophecies of Billy Mitchell.¹³³ These prophecies became ingrained as doctrine first through the teachings at the Air Corps Tactical School (ACTS) and then through years of bloody fighting in World War II. After the war, according to another airpower historian, “The marriage of the atomic bomb to Giulio Douhet’s precepts clouded the vision of Air Force leaders with congenital conservatism.”¹³⁴ Senior airmen deemed

experiences in Korea irrelevant, preferring to rest on the laurels of perceived successes in World War II.

This conservatism readily appeared in the successive editions of Air Force doctrine. Beginning in the 1953 version and through the 1984 version, the Air Force generally overlooked that part of its history that contradicted or did not fit with contemporary policies and the doctrine necessary to win budget monies. The Air Force consistently focused its doctrine on a large-scale, generally nuclear war against an industrialized adversary. A recent thesis for the Air Force School of Advanced Airpower Studies (SAAS) similarly found that “the 1971, 1974, and 1979 versions of Air Force basic doctrine largely ignored Vietnam, just as previous doctrine writers had forgotten about Korea.”¹³⁵ Analysis of experience held value only if it confirmed dogma and supported budget battles. Occasionally, critical analysis of history crept into doctrinal thinking, as seen in the 1953 and 1954 versions of AFM 1-2 and the 1972 ACSC study. The 1992 version of AFM 1-1 proved to be the first real attempt to rely on analysis of experience to develop Air Force doctrine.

The propensity to dismiss history and critical analysis betrays an institutional and organizational shortcoming. Several historical works have discussed the Air Force’s narrow focus on the future of strategic bombing and bombers to the exclusion of both analysis of past experiences and tactical aviation. These works generally cite the need to justify independence and budgetary appropriations, the technological nature of airpower, and the rapid advances in bomber aerodynamics from the 1920s to the 1960s as the main factors in Air Force intellectual inertia.¹³⁶ While a variety of reasons existed for the selective use of history in the formulation of Air Force basic doctrine, the results remained undeniable. Numerous historians have documented how the Air Force planned and built its post-World War II and post-Korean War force structure around strategic bombing and strategic bombers, while forsaking tactical airpower.¹³⁷ As Professor I. B. Holley remarked in a 1974 lecture, “The failure to exercise rigorous thinking caused the whole

service to suffer. The Air Force had little to offer in Vietnam except a return to its pre-World War II thinking. Consequently, airpower was misused, and pilots often flew the wrong kinds of missions in the wrong kinds of aircraft.”¹³⁸

Throughout the development of Air Force doctrine, much empirical evidence existed to refute specific doctrinal statements. However, as Dr. Tilford has written, “Since the theories of air power were grounded in prophecies that had no real basis in historical fact, questioning doctrines and the strategies built on those theories tended toward heresy.”¹³⁹ The Air Force of the 1950s, 1960s, and early 1970s had not fostered a service in which officers could challenge established doctrinal beliefs with new and critical interpretations of historical evidence. The Air Staff, responsible for the formulation of doctrine since 1958, suffered not only from these larger institutional problems but also from its own organizational difficulties. According to Professor Holley the Air Staff never established criteria for the selection of officers to write doctrine manuals. The military’s assignment process also meant that the Air Staff had a “revolving door,” as officers came and went. In general, there was no way of ensuring that officers qualified to analyze past experiences critically actually wrote doctrine.¹⁴⁰ The lack of any formal procedural manual for the formulation of doctrine and that research material was scattered between Bolling AFB and Maxwell AFB, further hindered the efforts of the Air Staff. With much of their energy devoted to “fighting for the Air Force” and meeting other projects with more immediate suspense dates, Air Staff officers had little time for critical thinking. Every institutional and organizational arrangement worked against the formulation of sound doctrine based on a rigorous analysis of experience.¹⁴¹

These criticisms do not imply that Air Staff officers never reviewed airpower history. The examination presented here assumes just the opposite. When the time existed many officers actually did derive doctrinal assertions from an analysis of what historically had worked best. Unfortunately, many generally accepted beliefs about the effectiveness of

airpower repeatedly were taken as historical facts. Doctrine, as described by Holley, remained nothing more than the “generalizations” lacking “assurances that they were based” on a multiplicity of cases.¹⁴²

Lacking an institutional appreciation for the critical analysis required to produce sound doctrine, an organization suited to such a task, and a staff of qualified officers to perform it, Air Force doctrine suffered. By 1979 AFM 1-1 had been reduced to a “comic book.” The enduring challenge of doctrine had proven too difficult to meet without rigorous and objective analysis of experience. By the 1980s the Air Force, according to one doctrine expert, had lost its bearings in the “doctrinal wilderness.”¹⁴³

The 1984 version of AFM 1-1 seemed to mark a turning point in Air Force doctrine. Although still heavily influenced by policy and unsubstantiated with historical example, the 1984 version nonetheless turned towards the analysis of warfare for some of its doctrinal statements. A renewed interest in airpower history was beginning, and many of the right people were positioned for a renewed look at airpower doctrine. Whether a blessing or a curse, the foundation of CADRE and ARI in the 1980s added further fuel to the doctrinal fires that were becoming evident. The doctrinal debates continued for nearly a full decade; however, out of the conflicts over doctrine responsibilities came a serious attempt to develop, perhaps for the first time in the history of the Air Force, sound airpower doctrine. Air Force doctrine was now based in critical analysis and the lessons of warfare rather than being based primarily in rapidly changing policies, promising technologies, individual personalities, budget battles, and politically friendly catch phrases.

Notes

1. As quoted in Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907–1984*, 2 vols. (Maxwell AFB, Ala.: Air University Press, December 1989), vol. 1, 365.

2. With the National Security Act of 1947, Brig Gen Thomas S. Power, deputy assistant chief of air staff for Operations, directed Air University to undertake its doctrinal responsibilities without delay and to recommend a system of doctrinal publications. See Futrell, vol. 1, 367.

3. General Power directed Air University to revise FM 100-20 and to provide recommendations for the type of publications that should be used to disseminate doctrine. Without awaiting a response to this direction, the Air Force leadership convened a meeting in August 1947 to formulate guidance on air defense procedures, doctrine, and organization. Representatives of Air University, the Air Defense Command, the Tactical Air Command, and the Strategic Air Command were summoned. See Futrell, vol. 1, 367.

4. Ibid.

5. Ibid., 379.

6. Ibid., 385.

7. The 3 August 1951 regulation in part directed Air University to formulate, review, compile, and recommend military air doctrine. While the Air Force broadened the scope of Air University's authority to study and recommend, it was unwilling to charge Air University with sole responsibility to produce and promulgate Air Force concepts and doctrines. See Futrell, vol. 1, 387-88.

8. Even though the Air Force council expressed its desire that Air Force doctrine should be produced and disseminated promptly, the Air Staff, which alleged that "these manuals are of extreme importance and must receive every consideration," moved slowly. On 2 October 1951 the Air Staff approved the projected titles of the family of operational manuals proposed by Air University, but on 25 October it returned the Air University draft of the basic manual without approval. "Some of the statements in the draft," explained Maj Gen Robert Burns, acting deputy chief of staff for Operations, "although self-evident truths in substance are stated in a form which makes them generalizations and in a sequence which is lacking in continuity." See Futrell, vol. 1, 388.

9. Ibid., 389.

10. Note that much of the debate over the terms theater air forces versus tactical air forces are similar to the uses of operational and tactical in today's environment. Col William W. Momyer felt that the term theater air forces included tactical air forces, as well as Marine and Navy units that might be assigned to the theater. The philosophy behind this concept was that the commander of theater air forces ought to have centralized command authority over all air units in the theater. While the Air University was trying to teach the idea of theater air operations, the Tactical Air Command opposed the concept, being skeptical of the idea of unity of airpower. See Futrell, vol. 1, 365-400, but especially 390-94.

11. Col William W. Momyer of the Air War College's doctrine evaluation group found the whole process "a long and laborious task." AU vice commander Maj Gen John D. Barker considered the many revisions ordered by the Air Staff to have resulted "in no change of importance in the

doctrine,” and was “disappointed” with the published manual. He was also one of the many senior officers to recommend that AU be given authority to approve and publish basic doctrine free of Air Staff authority. Both officers are quoted in Futrell, vol. 1, 385–93.

12. AFM 1-2, United States Air Force Basic Doctrine, 1 April 1953, 1.
13. Ibid.
14. Ibid., 1, 5, 7, 11, 13, 14.
15. Ibid., 4–5.
16. Ibid., 1.
17. Ibid., 13.
18. Ibid., 11–16.
19. Futrell, vol. 1, 398.
20. Earl H. Tilford, Jr., *Setup: What the Air Force Did in Vietnam and Why* (Maxwell AFB, Ala.: Air University Press, June 1991), 25; and Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York: Free Press, 1989), 29. For a broader treatment of the New Look, see Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York: Columbia University Press, 1961), chapters three and five.
21. As quoted in Eugene M. Emme, *The Impact of Air Power: National Security and World Politics* (Princeton, N.J.: Van Nostrand, 1959), 783.
22. Tilford, 24.
23. Futrell, vol. 1, 400.
24. Quoted in Futrell, vol. 1, 425.
25. Ibid.
26. AFM 1-2, United States Air Force Basic Doctrine, 1 April 1955, ii.
27. Ibid., 8; and Futrell, vol. 1, 9.
28. George N. Dubina, *Role of Air University in the Development of Air Force Doctrine* (Maxwell AFB, Ala.: Air University, 1965), 43.
29. Futrell, vol. 1, 10.
30. Ibid.
31. AFM 1-2, United States Air Force Basic Doctrine, 1 December 1959, 11.
32. Quote found in Clodfelter, 30–31.
33. Ibid., 36.
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35. Tilford, 38.
36. Ibid., 39.
37. Richard Smoke, *National Security and the Nuclear Dilemma: An Introduction to the American Experience*, 2d ed. (New York: Random House, 1987), 90–94; and Donald M. Snow, *National Security: Enduring Problems in a Changing Defense Environment* (New York: Saint Martin’s Press, 1991), 64–65.

38. Futrell, vol. 2, 23–35, 711–17.
39. Ibid., 677; and Futrell, vol. 1, 477.
40. AFM 1-2, 1 December 1959, 6.
41. Ibid., 6, 9, 10.
42. Futrell, vol. 2, 90, 623–29.
43. Ibid., 714.
44. Ibid., 714–15.
45. Bernard A. Schriever, “Forecast,” *Air University Review* 16, no. 3 (March–April 1965): 3–12.
46. Futrell, vol. 2, 192, 715.
47. AFM 1-1, United States Air Force Basic Doctrine, 14 August 1964, chapters 1–4.
48. AFM 1-2, 1 December 1959, 1.
49. AFM 1-1, 14 August 1964, 1.
50. Ibid., 3-1.
51. Ibid.
52. Ibid., 6-2.
53. John W. Pauly, “The Thread of Doctrine,” *Air University Review* 27, no. 4 (May–June 1976): 2–10.
54. Futrell, vol. 2, 719–20.
55. AFM 1-1, United States Air Force Basic Doctrine, 28 September 1971, 1-1.
56. Ibid.
57. Ibid., 1-2.
58. Ibid., 1-3.
59. Ibid.
60. Ibid.
61. Ibid., 1-4.
62. Ibid., 1-1, 1-4.
63. Ibid., 2-4, 6-1.
64. As quoted in Futrell, vol. 2, 724.
65. Melvin R. Laird, “National Security Strategy for Realistic Deterrence,” *Air Force Policy Letter for Commanders: Supplement, Number 5*, May 1972, 14–26.
66. Futrell, vol. 2, 725. See also AFM 1-1, United States Air Force Basic Doctrine, 15 January 1975.
67. AFM 1-1, 15 January 1975, “Foreword.”
68. Ibid., chapters 1–3.
69. Futrell, vol. 2, 728.
70. Col Dennis M. Drew, “Two Decades in the Air Power Wilderness: Do We Know Where We Are?” *Air University Review* 37, no. 6 (September–October 1986): 12.
71. AFM 1-1, Functions and Basic Doctrine of the United States Air Force, 14 February 1979, i.
72. Ibid., 2–8.
73. Futrell, vol. 2, 736. For criticisms of the 1979 manual, see Dr. Williamson Murray, *Strategy for Defeat: The Luftwaffe, 1933–45* (Maxwell

AFB, Ala.: Air University Press, January 1983); and Drew, "Two Decades in the Air Power Wilderness."

74. Futrell, vol. 2, 744; and Col David Tretler and Col Price T. Bingham, interviews with Capt Andrew D. Dembosky.

75. AFM 1-1, Basic Aerospace Doctrine of the United States Air Force, 16 March 1984, A-3.

76. Ibid., v.

77. Ibid., 3-2.

78. Ibid., 2-13.

79. Ibid., 2-6-4-3.

80. Col Thomas A. Fabyanic, USAF, Retired, to HQ USAF/CVA, personal letter, 3 October 1984. This letter can be found in the AFM 1-1 Historical Files for 1984 at the Airpower Research Institute, Maxwell AFB, Ala.

81. Futrell, vol. 2, 741.

82. Ibid., 741-42. See also biographical data from Fabyanic's dissertation (1973) and article (1986).

83. Futrell, vol. 2, 742.

84. Dr. Richard H. Kohn interview with Capt Andrew D. Dembosky, 1 March 1993. See also History, Center for Aerospace Doctrine, Research, and Education (CADRE), 3 January-31 December 1983.

85. History, CADRE, 5.

86. Futrell, vol. 2, xiii.

87. Sylvia Branch, secretary for the Doctrine Division (XOXD, XOXID's heir), interview with Capt Andrew D. Dembosky. Branch remarked that the successive Air Staff agencies responsible for AFM 1-1 had used that same office at least since the early 1970s.

88. Basic Aerospace Doctrine of the United States Air Force, Draft, 30 August 1985, 3, with memo dated 17 September 1985 attached as a cover sheet. Found in ARI historical folder 1984-85-86.

89. Ibid., 30.

90. CADRE to HQ USAF/XOXID, letter, subject: Draft AFM 1-1, 11 October 1985. Found in ARI historical file, 1984-85-86.

91. Ibid., general comments.

92. Ibid.

93. Col Dennis M. Drew, "The Reformation of Air Force Doctrine," tab 1 of "Item of Interest: AFM 1-1 Publicity Efforts," 6 May 1992, ARI file 1992.

94. CADRE to HQ USAF/XOXID, letter, subject: Draft AFM 1-1, General Comments, chapter 7 of attached comments, 11 October 1985.

95. HQ USAF/XOXID to Air Force Command Headquarters, letter, "Draft AFM 1-1, Basic Aerospace Doctrine," 2 December 1985. This letter was attached to the 27 November 1985 draft and cover letter. Found in ARI historical file, 1984-85-86.

96. Ibid.

97. Staff Summary Sheet, AFM 1-1 Critique, General Comments, 2 January 1985. Found in ARI historical file, 1984-85-86.

98. Ibid.
99. Bullet Background Paper on ARI and Air Force Doctrine, 15 January 1988. Found in ARI historical folder, 1988.
100. Bullet Background Paper on the New AF Basic Doctrine Manual (AFM 1-1), 1 February 1988. Found in ARI historical folder, 1988.
101. Ibid.
102. Ibid.
103. Talking Paper for AU/CC's Meeting with AF/XO on CADRE's Responsibility for Doctrine, 4 March 1988. Found in ARI historical folder. See also Point Paper, New Air Force Basic Doctrine Manual (AFM 1-1), 7 June 1988. Found in ARI historical folder, 1988.
104. Talking Paper, 4 March 1988.
105. Tentative Schedule for AFM 1-1 Research and Writing, 8 March 1988. Found in ARI historical folder, 1988.
106. Ibid.
107. Message, AU CADRE to all major commands, 25 November 1988.
108. Messages and letters from respective commands in ARI historical folder, 1989.
109. Col Dennis M. Drew, Point Paper, New Air Force Basic Doctrine Manual (AFM 1-1), 9 March 1989. Found in ARI historical folder, 1989.
110. Lt Col Richard L. Davis, "Alphabetical Listing of Volume II Essays," 19 May 1989. Found in ARI historical folder, 1989.
111. Memorandum for record, subject: Research/Writing of AFM 1-1 Strawman, 31 May 1989. Found in ARI historical folder, 1989.
112. Col Dennis M. Drew, interview with Capt Andrew D. Dembosky, 10 October 1992; Col David Tretler, interview with Capt Andrew D. Dembosky, 25 February 1993; also, Drew, "The Reformation of Air Force Doctrine," 8.
113. Col David Tretler, interview with Capt Andrew D. Dembosky, 25 February 1993.
114. Col David Tretler, telephone interview with Capt Andrew D. Dembosky, 12 March 1992.
115. AFM 1-1, March 1989 (Draft), Air Force Basic Doctrine: Employing Air Power. Found in ARI historical folder, 1989.
116. Staff Summary Sheet, 10 May 1989, tab 2. Found in ARI historical folder, 1989.
117. Ibid., tab 1.
118. Maj Gen Ralph E. Spraker, AF Space Command/CV, to HQ USAF/XO, letter, 9 May 1989. ARI historical folder, AFM 1-1, January – June 1989.
119. Message, 051305Z Jun 89, HQ USAFE to HQ USAF, 5 June 1989.
120. Col William E. Jones to AF/XOXW, letters, 15 September 1989 and 3 October 1989. Found in HQ USAF/XOXD files.
121. AFM 1-1, November 1989 (Draft), HQ USAF/XOXD files.
122. Col David Tretler, telephone interview with Capt Andrew D. Dembosky, 12 March 1993.

123. Col Dennis M. Drew, Talking Paper on CADRE Basic Doctrine Project, 22 September 1989.

124. Col David Tretler, interview with Capt Andrew D. Dembosky, 25 February 1993.

125. Ibid. See also AFM 1-1, May 1990 (Draft), HQ USAF/XOXD files.

126. Lt Col Dan Kuehl, "Issue Paper on Status of AFM 1-1," HQ USAF/XOXD files, 24 September 1990; and Kuehl's "Point Paper on Status of AFM 1-1," HQ USAF/XOXD files, 29 August 1990. Colonel Tretler in his 12 March 1993 interview remarked that these papers would be sent up the chain of command. His comments elicited little or no response.

127. "USAF Leaders Through the Years," Air Force Magazine 75, no. 5 (May 1992): 43.

128. Drew, "The Reformation of Air Force Doctrine," 8.

129. "Register of Inputs to AFM 1-1," December 1990. Found in ARI historical file, 1990.

130. Drew, "The Reformation of Air Force Doctrine," 9. Also see Richard P. Hallion, *Storm Over Iraq: Air Power and the Gulf War* (Washington, D.C.: Smithsonian Institution Press, 1992), 163–237 for a discussion of airpower in Operation Desert Storm.

131. Drew, "The Reformation of Air Force Doctrine," 9.

132. The best and most articulate brief review of Air Force doctrine and its inflexible belief in strategic bombing remains Colonel Drew's "Two Decades in the Air Power Wilderness."

133. Donald J. Mrozek, *Air Power and the Ground War in Vietnam: Ideas and Actions* (Maxwell AFB, Ala.: Air University Press, January 1988), 8–9.

134. Maj Michael R. Terry, "Formulation of Aerospace Doctrine From 1955 to 1959," *Air Power History* 38, no. 1 (Spring 1991): 48.

135. Lt Col Kurt A. Cichowski, "Doctrine Matures through a Storm: An Analysis of the New Air Force Manual 1-1" (Maxwell AFB, Ala.: Air University Press, Thesis for the School of Advanced Airpower Studies, June 1993), 21.

136. For example, see books by I. B. Holley, Jr., *Ideas and Weapons* (Washington, D.C.: Office of Air Force History, 1983); Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York: Columbia University Press, 1961); Perry Smith, *The Air Force Plans for Peace, 1943–1945* (Baltimore: Johns Hopkins University Press, 1970); Tilford; and the papers by Holley and Gropman in Lt Col Harry Borowski ed., *Military Planning in the Twentieth Century: The Proceedings of the Eleventh Military History Symposium, 10–12 October 1984* (Washington, D.C.: Office of Air Force History, 1986).

137. See the works by Futrell, including his paper in Borowski. See also Clodfelter, and Tilford, and various books by Hallion and Smith.

138. See Drew, "Rolling Thunder" and "Two Decades in the Air Power Wilderness"; Clodfelter; Tilford; and various books by Armitage and Mason, Higham, Mrozek, and Thompson (1980).

139. Tilford, 38–39, 286–87.
140. Professor I. B. Holley, Jr., interview with Capt Andrew D. Dembosky, 25 March 1993.
141. Ibid.
142. Ibid.
143. Drew, “Two Decades in the Air Power Wilderness,” 3.

Part II

A Summary of Air Force Doctrine Manuals

This part addresses the 10 Air Force manuals published since 1953. It provides a brief description of the contents and theme(s) of each.

Prior to the publication of the first AFM 1-2, officers at the Air Corps Tactical School generally were credited with establishing many of the principles that later would become Air Force doctrine. Many of the central tenets of early airpower beliefs were based on theory with little to no empirical evidence to support them. Central to early airpower theory was the belief that destroying the enemy's vital economic centers would cause a collapse of enemy morale and thus the enemy would sue for peace. Many of these untested beliefs became dogma that subsequently translated to doctrine.

1 April 1953

Developed by Air University and published as AFM 1-2, United States Air Force Basic Doctrine. Signed by Gen Hoyt S. Vandenberg, chief of staff. Published as four inch by six and one-half inch, 17-page pamphlet containing five chapters.

- Stated doctrine was the understanding of the use of air forces in peace and war and evolved from experiences gained in war.
- Reflected early Army Air Corps statements of World War II experience; left out Korea.
- Acknowledged the nuclear age with: "New weapons require constant review of doctrine."

Chapter 1: Military Force as an Instrument of National Policy

- The military instrument has a two-fold purpose:
 - deter other nations' use of military force
 - repel the forces of aggression; preserve and protect the vitality of the nation

Chapter 2: The Relationship of Military Forces

- Basic theme: "Air forces find greatest opportunity for decisive actions in dealing immediately and directly with the enemy's warmaking capacity—both in being and potential."

Chapter 3: Air Forces and the Principles of War

- Principles of war:
 - objective
 - offensive (on onset of hostilities)
 - concentration
 - economy
 - flexibility (primary strength) (mobility)
 - security
 - surprise (key element of success)
 - control (included cooperation)
- Characteristics of airpower:
 - dispersal
 - concentration
 - freedom of maneuver
 - observation
- Covered the nature of the medium of operation.
- Idea that a nation's industrial components are exposed to attack.

Chapter 4: Employment of Air Forces

- Air operations have three broad aspects:

- control of the air
- heartland (vital elements of war making)
- peripheral (reduce air/surface efforts of enemy)
- Mentions air reconnaissance.
- Talks of use of weapons of mass destruction from the air.
- Peripheral actions predicated on adequate control of the air.
- Surprise and shock of weapons of mass destruction used on homeland can be decisive (emotional effects).
- Defines the need for air defense force.

Chapter 5: Airpower and National Security

- Airpower includes entire aviation capability of a nation.
- Recommends a nation evaluate its military program by
 - national survival
 - ultimate success in war
- Air forces should maintain readiness to launch a full-scale attack upon outbreak of hostilities.

1 April 1954

Developed by Air University and published as AFM 1-2, Air Doctrine, United States Air Force Basic Doctrine. Signed by Gen Nathan F. Twining, chief of staff. This version of AFM 1-2 was basically a republication of the early March 1953 manual. Published as four inch by six and one-half inch, 19-page pamphlet containing five chapters.

- Again, based on World War II experience, Korean experience not evident.
- Included same five chapter titles as the 1953 version (only minor wording changes).
- Main ideas included:
 - deter the use of military force by nations' endeavoring to impose their policies on others

- speaks to the prosecution of war
- still targeted a nation’s war-making potential primarily
- strategic bombardment still “king”

1 April 1955

Developed by Air University and published as AFM 1-2, Air Doctrine, United States Air Force Basic Doctrine. Signed by Gen Nathan F. Twining, chief of staff. Published as an eight and one-half inch by 11-inch, 10-page manual containing five chapters.

- Stated that “doctrine evolves from experience and from analysis of the continuing impact of new developments.”

Chapter 1: International Conflict and the Instruments of National Policy

- “Nations may be involved in international tensions . . . including limited wars—and possibly for long periods.”
- The elements of a nation’s power fall into four categories: psychosocial, political, economic, and military instruments.

Chapter 2: The Military Instrument of National Power

- Listed five fundamental effects of military power: persuasion [added], neutralization, denial [added], destruction, and capture.
- Emphasis on joint operations and planning.
- Stressed how intelligence (analysis) and research and development are essential for force evaluation.

Chapter 3: Characteristics of Air Forces and Principles for Their Employment

- Characteristics included range, speed, mobility, flexibility, and penetrative ability (a change from the 1953 version).

- Principles of successful employment:
 - air forces are an entity
 - employed for the attainment of a common objective
 - initiative must be exercised to the greatest possible extent
 - must exploit the principle of surprise whenever appropriate
 - air effort must be properly concentrated
 - security is a constant consideration
 - air operations must be carefully coordinated through proper control

Chapter 4: Employment of the Air Forces in Peace and War

- Air forces are employed to gain and exploit a dominant position in the air both in peace and in war.
- The striking capacity of enemy air forces must be minimized as a primary consideration in war.
- Air defense forces in being are indispensable to national security.
- A dominant position in the air enhances the security of all types of military forces.
- Air operations are mutually supporting.

Chapter 5: Airpower and National Security

- The term airpower embraces the entire aviation capacity of the United States.
- Airpower has radically changed the conduct of war.

1 December 1959

Developed by the Air Staff and published as AFM 1-2, United States Air Force Basic Doctrine. Signed by Gen Thomas D. White, chief of staff. Published as an eight and

one-half inch by 11-inch, 13-page manual containing five chapters.

- Few changes from previous manuals.
- Changed airpower to aerospace power in recognition of space and missile technology. Aerospace defined as “total expanse beyond the earth’s surface.”
- Strategic Air Command included.
- Differentiated between limited and conventional wars.
- Added firepower delivery as a characteristic of aerospace forces.

Chapter 1: International Conflict and the Instruments of National Policy

- Conflict doesn’t always lead to war—limited war.
- Maintained that conflict between nations is continuous.

Chapter 2: The Military Instrument of National Power

- Military forces must be responsive to an organizational structure for unified operations.

Chapter 3: Characteristics of Air Forces and Principles for Their Employment

- Characteristics were range, mobility, flexibility, speed, penetrative ability, and firepower delivery [added].

Chapter 4: Employment of the Air Forces in Peace and War

- Air forces employed to deter general or limited war, if general war occurs—defeat the enemy, if limited war occurs—conduct selective operations, in cold war—conduct special operations, and in peacetime—conduct operations to advance man’s knowledge and capabilities.

Chapter 5: Aerospace Power and National Security

- The term aerospace embraces the entire aeronautical and astronautical capacity of the United States.

16 March 1964

Developed by the Air Staff and published as AFM 1-1, United States Air Force Basic Doctrine. Signed by Gen Curtis E. LeMay, chief of staff. Published as an eight and one-half inch by 11-inch, 24-page manual containing seven chapters.

- Major events of this period included Berlin crisis, Cuban missile crisis, worldwide Soviet insurgencies, Navy's attainment of nuclear capability, and DOD's adoption of the strategy of Flexible Response.
- Principles of war omitted from this manual.
- Document based on deterrence and Flexible Response options:
 - refocused doctrine on concept of national security engendered by proliferation of thermonuclear weapons
 - several nuclear scenarios; focused on fact that total victory may not be attainable
- Air Force role in deterrence:
 - should deterrence fail, Air Force must respond to general nuclear, tactical nuclear, conventional, or other lower level efforts of war (each separately addressed in detail)
 - general nuclear war can take the form of attacks against urban/industrial areas (countervalue), or military capabilities (counterforce), or a combination
- Distinguished between basic doctrine (principles for the employment of aerospace forces), operational doctrine (specific capabilities—tactical, strategic, and defensive air operations), and unified doctrine (joint).

Chapter 1: Dynamics of Aerospace Doctrine

- Defined military objectives in modern conflict:
 - deter military aggressions in areas vital to US and allied interests
 - use military forces to defeat aggressors in a manner suitable to obtain political goals through negotiation
 - limit damage to US and allies during times of war

Chapter 2: General Characteristics and Requirements of Aerospace Forces

- Redefined aerospace as the region above the earth's surface, composed of both atmosphere and near-space [only].
- Listed the military advantages of the aerospace medium: range, mobility, responsiveness, and tactical versatility.
- Stated the required aerospace force characteristics as survivability, command and control, penetration ability, selective target destruction, and recovery and recycling.

Chapter 3: Employment of Aerospace Forces in General War

- Focus on general nuclear warfare.
- Extensive discussion in counterforce operations.
- Melded active aerospace defense forces with passive defenses (civil defense, concealment, etc.) and first-/second-strike considerations (nuclear).
- Advocated the requirement for mixed-manned and unmanned-weapon systems.

Chapter 4: Employment of Aerospace Forces in Tactical Nuclear Operations

- Restricts nuclear warfare to limited objective area.
- Discusses various airpower missions in theater nuclear operations.

Chapter 5: Employment of Aerospace Forces in Conventional Air Operations

- Defines conventional operations as tactical operations in which nuclear weapons are not employed.
- Describes counterair, close air support, interdiction, reconnaissance, and airlift missions.

Chapter 6: Employment of Aerospace Forces in Counterinsurgency

- Defines insurgency and counterinsurgency.
- Describes characteristics of insurgency warfare.
- Describes the air role in insurgencies.

Chapter 7: Conclusion

- Concept of national security.
- Employment of aerospace forces.
- The need for effective control of conflict.
- The need for technological and tactical superiority.

28 September 1971

Developed by the Air Staff and published as AFM 1-1, United States Air Force Basic Doctrine. Signed by Gen John C. Meyer, vice chief of staff. Published as an eight and one-half inch by 11-inch, 21-page manual containing six chapters.

- Stated the primary military objective of US national security policy is deterrence.
- Acknowledged limited and unlimited war.
- “Strategic force sufficiency may not be a creditable deterrent against hostile acts by small powers alone or while serving as proxies for larger powers.”
- Stressed deterrence by general purpose forces.
- First version to discuss the “Role of Air Forces in Space”:

- a natural and evolutionary extension of [USAF] mission responsibilities and operational capabilities

Chapter 1: Dynamics of Aerospace Doctrine

- Defined basic, operational, functional, and joint doctrine.
- Stated that operational doctrine was “published in the 2- and 3-series manuals.”
- Defined functional doctrine as being for such specialized activities as communications-electronics, research and development, personnel, training, and so forth.

Chapter 2: Characteristics, Tasks, and Capabilities of Aerospace Forces

- Characteristics were range, mobility, speed, versatility, flexibility.
- Tasks of aerospace forces:
 - counterair (offensive and defensive)
 - close air support
 - air interdiction
 - air reconnaissance
 - airlift
 - strategic attack (last)
- Expanded the definition of the role of aerospace forces in space.

Chapter 3: Aerospace Forces in Conventional Air Operations

- Lists conventional missions as counterair, close air support, interdiction, reconnaissance, and airlift.
- Refers to the fire support coordination line (FSCL).

Chapter 4: Aerospace Forces in Low-Intensity Nuclear Operations

- Objectives of low-intensity nuclear operations:

- force enemy to negotiate or to engage in other desired action
- regain initiative lost to overwhelming conventional forces
- terminate conventional conflict of attrition
- signaling national resolve to see conflict to acceptable conclusion

Chapter 5: Aerospace Forces in High-Intensity Nuclear Operations

- Objectives of high-intensity nuclear operations:
 - limit damage to the US population and resources by destroying or neutralizing enemy nuclear delivery systems
 - assist in the preservation of assured destruction capability
 - persuade an enemy to terminate the conflict before systematic attacks are initiated against population and industry
- Early rendition of mutual assured destruction (MAD) as basis for deterrence.

Chapter 6: Air Force Special Operations [new chapter]

- Foreign internal defense (normally conducted during low-intensity conflicts).
- Psychological operations (any level of war).
- Unconventional warfare (any level of war/guerrilla, evasion and escape, and subversion).

15 January 1975

- Developed by the Air Staff and published as AFM 1-1, United States Air Force Basic Doctrine. Signed by Gen David C. Jones, chief of staff. Published as an eight and one-half inch by 11-inch, 12-page manual containing

three chapters. Contains a full-page preface on doctrine: basic, operational, functional, joint, and combined.

Chapter 1: The Role of the Military Instrument in Contemporary Conflict

- Deterrence remained the foundation of US national security policy. Strategic triad had highest defense priority.
 - sufficiency became basis for contemporary conflict
 - total force addressed (active, reserve, and allied forces)
- Space environment discussed.

Chapter 2: Characteristics, Capabilities, and Employment Principles

- Aerospace redefined as region above the earth's surface.
- Characteristics were speed, range, altitude, and maneuverability
- Exploiting these characteristics allowed for the capabilities of
 - flexibility
 - responsiveness
 - survivability
 - surveillance
- Principles of war were returned as employment guidelines:
 - objective
 - offensive
 - defensive
 - concentration
 - surprise
 - security
 - unity of effort

Chapter 3: Aerospace Forces in Modern Conflict [constitutes nearly one-half of the doctrine manual pages]

- States that “the basic principle of centralized control, decentralized execution, and coordinated effort are fundamental to the success of aerospace operations.”
- Lists functions and missions:
 - strategic attack
 - counterair
 - air interdiction
 - close air support
 - aerospace defense of the US [added]
 - aerospace surveillance and reconnaissance [surveillance added]
 - airlift
 - special operations
- Employment concentrated on the nuclear aspect (strategic and theater).
- Emphasis on role during peacetime and enhancing national prestige.

14 February 1979

Developed by the Air Staff and published as AFM 1-1, Functions and Basic Doctrine of the United States Air Force. Signed by Gen Lew Allen, Jr., chief of staff. Published as a 98-page manual containing six chapters. Known as the comic book version, the manual was the first publication to include extensive quotes, graphics, and illustrations.

- Foreword suggests the doctrine manual will answer the questions, “Why do we need military forces?” “Why do we need an air force?” “How do we build an air force?” and “How do you best use an air force?”
- States the Air Force mission is “to prepare our forces to fight to preserve the security and freedom of the people of the United States.”

- Places peace as our goal and deterrence as the means to achieve peace.
- USAF mission had five primary tasks:
 - strategic operations
 - mobility operations
 - tactical operations
 - command and control of these operations
 - support of these operations
- Addressed basic, operational, and joint doctrine.

Chapter 1: National Power and the Military Instrument

- Objectives of military were to sustain deterrence, assure territorial integrity, conduct warfare, and resolve conflict.
- Deterrence is sustained through a dual triad system:
 - strategic triad forces
 - theater defense triad
- “Deterrence and warfighting capability are provided for all levels of potential conflict.”
- Levels of conflict defined as
 - localized conflict
 - theater conventional warfare
 - theater nuclear warfare
 - strategic nuclear conflict

Chapter 2: Functions and Missions of the United States Air Force

- Primary Air Force functions: conduct prompt and sustained combat operations to defeat enemy airpower.
 - formulate doctrine and procedures for organizing, equipping, training, and employing Air Force forces
 - provide forces for strategic air warfare
 - provide air transport for worldwide deployment
 - provide adequate, timely, and reliable intelligence

- furnish close combat and logistical air support to the Army
- provide aerial photography for cartographic purposes
- coordinate with and support other services
- Collateral functions included
 - interdict enemy sea power
 - conduct antisubmarine warfare and protect friendly shipping
 - conduct aerial mine-laying operations
- Space roles were expanded to
 - conduct needed defensive operations to protect our use of space
 - develop space systems capable of enhancing land, sea, and air forces
 - conduct space operations as required to protect US resources from threats in and from space
- Space missions included space support, force enhancement, and space defense.
- Air Force missions expanded:
 - strategic aerospace offense
 - space operations
 - strategic aerospace defense
 - airlift
 - close air support
 - air interdiction
 - counterair operations
 - surveillance and reconnaissance
 - special operations
- Theater operations required the integration of air missions and tasks (composite air strike elements).

Chapter 3: Characteristics, Capabilities, and Composition of Aerospace Forces

- Characteristics of aerospace power reduced to

- speed
- range
- maneuverability
- Capabilities changed to
 - flexibility
 - readiness
 - responsiveness
 - presence
 - destructiveness
 - survivability
 - mobility

Chapter 4: Organizing, Training, Equipping, and Sustaining Aerospace Forces [new]

- Detail on the people, organization, and so forth.

Chapter 5: Principles for Employing Aerospace Forces

- Principles of war expanded to
 - objective
 - offensive
 - mass [concentration]
 - economy of force [added]
 - surprise
 - security
 - unity of effort
 - maneuver [added]
 - implicit [added]
 - timing and tempo [added]
 - defensive [added]
- Those added were due to the land/air battle philosophy adopted by the Army.

Chapter 6: Evolution of Air Force Basic Doctrine

- Traced the evolution of airpower doctrine from early air application through all versions to date.

16 March 1984

Developed by the Air Staff and published as AFM 1-1, Basic Aerospace Doctrine of the United States Air Force. Signed by Gen Charles A. Gabriel, chief of staff. Published as a four-chapter manual with two annexes (one annex being a reading list).

- Extensive preface describing types of doctrine to include basic, operational, tactical [new], joint, and combined.

Chapter 1: Military Instrument of National Power

- Introduces specified and unified command distinction.

Chapter 2: Employing Aerospace Forces

- Redefined space as “the outer reaches of the aerospace operational medium.”
- Aerospace characteristics stated as speed, range, and flexibility [maneuverability from the 1979 version was dropped].
- Capabilities changed to
 - responsive
 - mobile
 - survivable
 - presence
 - destructive
 - firepower
 - observation [added]
 - readiness [deleted]
- Principles of war were listed as
 - objective
 - offensive
 - surprise
 - security
 - mass
 - economy of force
 - maneuver

- timing and tempo
- unity of command
- simplicity
- logistics [added]
- cohesion [added]
- defensive [dropped]
- Provides a discussion on employing aerospace power as an indivisible entity based on objectives, threats, and opportunities.
- Discusses conducting strategic and tactical actions unilaterally or in conjunction with other component forces.
- Discusses control of the aerospace environment:
 - attack an enemy’s war-fighting potential
 - consider both offensive and defensive actions
 - exploit the psychological impact of aerospace power
 - develop a coherent pattern for employing forces
 - establish one authority for air defense and aerospace control
 - maintain command, control, communications, and intelligence

Chapter 3: Missions and Specialized Tasks

- Missions listed as
 - strategic aerospace offense
 - strategic aerospace defense
 - counterair
 - air interdiction
 - close air support
 - special operations
 - aerospace surveillance and reconnaissance
 - aerospace maritime operations
- Listed the following as specialized tasks:
 - aerial refueling
 - electronic combat
 - warning, command, control, and communications

- intelligence
- aerospace
- rescue and recovery
- psychological operations
- weather service

Chapter 4: Organizing, Training, Equipping, and Sustaining Aerospace Forces

- Unified action (distinguished operational and service authority).
- Discussed combined operations, etc., in broad terms.
- Included two annexes, “Evolution of Basic Doctrine” and “Selected Bibliography and Reading List.”

March 1992

Developed by Air University and published as AFM 1-1, Basic Aerospace Doctrine of the United States Air Force. Signed by Gen Merrill A. McPeak, chief of staff. Published as a two-volume manual. Volume 1 and volume 2 consisted of 352 printed pages with volume 1 being approximately 20 pages and containing the “bare bones of our doctrine in quick-reference form.” Volume 2 offered 25 “essays that provide the evidence and supporting rationale for each doctrinal statement.” It also included two appendices, “Functions of the United States Air Force” and “Responsibilities of the Combatant Commands and Service Components.”

- Stated that “aerospace doctrine is, simply defined, what we hold true about aerospace power and the best way to do the job in the Air Force. It is based on experience, our own and that of others.”
- Announced that “this is an airman’s doctrine—written by air power scholars for use by air power practitioners.”
- Volume 1 was organized into four chapters.

Chapter 1: War and the American Military

- “An understanding of aerospace doctrine must begin with an understanding of the nature of war.”
- Statements on “the domain of military activities below the level of war” and on “peacekeeping functions.”

Chapter 2: The Nature of Aerospace Power

- Section on the aerospace environment.
- Defined aerospace as “the entire expanse above the earth’s surface.”
- Section on aerospace power lists attributes of aerospace power as
 - speed
 - range
 - flexibility
 - versatility
- Section on aerospace roles and missions.
- Section on tenets of aerospace power lists tenets as
 - centralized control/decentralized execution
 - flexibility/versatility
 - priority
 - synergy
 - balance
 - concentration
 - persistence
- Describes aerospace power employment as being based on the principles of war and the tenets of aerospace power

Chapter 3: Employing Aerospace Forces—The Operational Art

- Section on influences on campaign employment.
- Section on aerospace operational art.
- Section on orchestrating aerospace roles and missions.

- Section on “airmindedness”:
 - not presented as doctrine, air-mindedness reexamines the principles of war from an aerial or three dimensional perspective
 - figure “illustrates the mind-set airmen should develop”

Chapter 4: Preparing the Air Force for War

- Section on Air Force aerospace power.
- Section on organizing Air Force aerospace power.
- Section on training Air Force aerospace forces.
- Section on equipping the Air Force.

Volume 2 (25 essays)

- Each doctrinal statement in volume 1 references one or more of the essays in volume 2.
- Each essay in volume 2 lists the doctrinal statements the essay supports.

**DEVELOPMENT OF AIR FORCE BASIC DOCTRINE
1947–1992**

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