Air Force
Basic Doctrine

Air Force Doctrine Document 1
17 November 2003

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BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE DOCTRINE DOCUMENT 1
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SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed. This revision restructures the entire publication for better presentation of key ideas; provides a new introduction on the value and relevancy of doctrine (Chapter One); updates the discussion of National Security Strategy to include homeland security (Chapter Two); expands discussion on organizational and operational functions of the Air Force (Chapter Four); changes the function of counterinformation to information operations (page 46), adds a new function on combat support (page 47), and combines the functions of reconnaissance and surveillance (page 55); updates discussion on core competencies to reflect new concepts (Chapter Six); adds a new chapter on linking doctrine to future concepts (Chapter Seven), and updates historical references throughout.

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FOREWORD

The Air Force and the Nation have been through a profoundly challenging period. Our homeland has been attacked, and we are in the middle of a war that at times will be fought openly and conventionally, and at other times in the shadows. The nature of war has changed and so has the Air Force. Although our fundamental beliefs remain sound, the evolution of contingency operations, the rapid maturation of space and information warfare, and the leveraging power of information technology have transformed the effectiveness of air and space power.

The success of our Air Force in meeting the challenges of this rapidly changing world depends on our understanding and applying our doctrine. As airmen we have not properly understood or consistently applied our air and space doctrine. As great operators we have preferred our ability to improvise over using sound repeatable principles. That's no longer good enough—the complex integration required among our fighting elements, the complexity of joint and combined doctrine, and the uncertainty of rapidly developing contingency operations demand that our planning and employment be understood and repeatable. It requires that we learn and practice our own doctrine. We know how to do it right; we have taken the time to argue it out, write it down, and publish it. We must understand what it means to be an airman and be able to articulate what air and space power can bring to the joint fight. Air Force Doctrine Document 1, the Air Force's premier statement of our beliefs, is the cornerstone from which all our other doctrine flows and expresses our Service's identity. I encourage you to read it, discuss it, and practice it.

JOHN P. JUMPER
General, USAF
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17 November 2003

TABLE OF CONTENTS

INTRODUCTION vii

FOUNDATIONAL DOCTRINE STATEMENTS ix

CHAPTER ONE—An Introduction to Doctrine 1
What is Doctrine? 3
What Constitutes Good Doctrine? 4
Levels of Air and Space Doctrine 7
Types of Doctrine 8
Air Force Doctrine Development and Revision 9

CHAPTER TWO—Policy, Strategy, Doctrine, and War 11
The Relationship Between Policy, Strategy, and Doctrine 11
National Security Strategy 12
National Military Strategy 13
The Nature of War 14
The Changing Character of the American Way of War 15
A New View of Conflict 16

CHAPTER THREE—Principles and Tenets 19
Principles of War 19
- Unity of Command 20
- Objective 21
- Offensive 21
- Mass 22
- Maneuver 23
- Economy of Force 24
- Security 25
- Surprise 26
- Simplicity 26

Tenets of Air and Space Power 27
- Centralized Control and Decentralized Execution 28
- Flexibility and Versatility 30
- Synergistic Effects 31
- Persistence 31
- Concentration 32
- Priority 32
- Balance 33

CHAPTER FOUR—Roles, Missions, and Functions of Air and Space Power 35
Roles 35
Missions 35
Functions 36
Organizational Functions 37
Operational Functions 38
The Operational Functions of Air and Space Power 39
Strategic Attack 40
Counterair 41
Counterspace 42
Counterland 43
Countersea 45
Information Operations 46
Combat Support 47
Command and Control 49
Airlift 50
Air Refueling 51
Spacelift 52
Special Operations 53
Intelligence 54
Surveillance and Reconnaissance 55
Combat Search and Rescue 56
Navigation and Positioning 57
Weather Services 58

CHAPTER FIVE—Expeditionary Air Force Organization 59
The Air and Space Expeditionary Force 60
The Air and Space Expeditionary Task Force 61
Joint Organization Fundamentals 63
Commanders and Staffs 65
Span of Control/Command 65
Command Relationships and Authorities 66

CHAPTER SIX—Core Competencies and Distinctive Capabilities 73
Core Competencies 74
Developing Airmen 74
Technologies-to-Warfighting 74
Integrating Operations 75

Distinctive Capabilities 76
Air and Space Superiority 76
Information Superiority 78
Global Attack 79
Precision Engagement 80
Rapid Global Mobility 80
Agile Combat Support 81

CHAPTER SEVEN—Linking the Future to the Present: Vision, Operating Concepts, and Doctrine 83
Vision 84
Operating Concepts 85
Doctrine 86

EPILOGUE 87

Suggested Readings 89

Glossary 91

INTRODUCTION

PURPOSE

This document is the premier statement of US Air Force basic doctrine. It has been prepared under the direction of the Chief of Staff of the Air Force (CSAF). It establishes general doctrinal guidance for the application of air and space forces in operations across the full range of military operations, from nuclear or conventional warfare, to military operations other than war (MOOTW), and to operations within the homeland. It should form the basis from which Air Force commanders plan and execute their assigned air and space missions and act as a commander within a Service, joint, or multinational force.

APPLICATION

This Air Force Doctrine Document (AFDD) applies to all active duty, Air Force Reserve, Air National Guard, and civilian Air Force personnel. The doctrine in this document is authoritative, but not directive. Therefore, commanders need to consider not only the contents of this AFDD, but also the particular situation when accomplishing their missions.

SCOPE

Air Force capabilities, to include people, weapons, and support systems, can be used across the range of military operations at the strategic, operational, and tactical levels of war. This document discusses the fundamental beliefs that underpin the application of the full range of Air Force air, space, and information capabilities to accomplish the missions assigned by the President and the Secretary of Defense.

FOUNDATIONAL DOCTRINE STATEMENTS

Foundational doctrine statements are the basic principles and beliefs upon which AFDDs are built. Other information in the AFDD expands on or supports these statements.

- Air and space doctrine is a statement of officially sanctioned beliefs, warfighting principles, and terminology that describes and guides the proper use of air and space forces in military operations.
- Doctrine shapes the manner in which the Air Force organizes, trains, equips, and sustains its forces.
- Doctrine consists of the fundamental principles by which military forces guide their actions in support of national objectives.
- Doctrine should be used with judgment.
- Air and space doctrine is an accumulation of knowledge gained primarily from the study and analysis of experience, which may include actual combat or contingency operations, as well as experiments or exercises.
- The US Air Force provides the Nation a unique capability to project national influence anywhere in the world on very short notice. Air and space forces, through their inherent speed, range, and flexibility, can respond to national requirements by delivering precise military power to create effects where and when needed.
- The "American way of war" has long been described as warfare based on either a strategy of annihilation or of attrition and focused on engaging the enemy in close combat to achieve a decisive battle. Air and space power, if properly focused, offers our national leadership alternatives to the annihilation and attrition options.
- Unity of command is vital in employing air and space forces.
- Air and space forces can pursue tactical, operational, or strategic objectives, in any combination, or all three simultaneously.
- Centralized control and decentralized execution of air and space power are critical to effective employment of air and space power. Indeed, it is the fundamental organizing principle for air and space power, having been proven over decades of experience as the most effective and efficient means of employing air and space power.
- Air and space power is inherently a strategic force and an offensive weapon.

- Unlike other forms of military power, air and space power may simultaneously hold all of an enemy's instruments of power at risk—military, economic, and political.
- Effective organization is critically important to effective and efficient operations.
- The air and space expeditionary task force (AETF) is the organizational structure for deployed Air Force forces. The AETF presents a joint force commander with a task-organized, integrated package with the appropriate balance of force, sustainment, control, and force protection.
- The AETF commander—the commander, Air Force forces (COMAFFOR)—is the Air Force warfighter.
- The axiom that "airmen work for airmen, and the senior airman works for the joint force commander (JFC)" not only preserves the principle of unity of command, it also embodies the principle of simplicity.
- The AETF commander—the COMAFFOR—is the Air Force warfighter, and exercises the appropriate degree of control over the forces assigned, attached, or in support of the AETF.
- The Air Force prefers—and in fact, plans and trains—to employ forces through a COMAFFOR who is also dual-hatted as a joint force air and space component commander (JFACC).

CHAPTER ONE

AN INTRODUCTION TO DOCTRINE

At the very heart of warfare lies doctrine. It represents the central beliefs for waging war in order to achieve victory. Doctrine is of the mind, a network of faith and knowledge reinforced by experience which lays the pattern for the utilization of men, equipment, and tactics. It is the building material for strategy. It is fundamental to sound judgment.

—General Curtis E. LeMay

"Doctrine." This word has a mixed reputation. It frequently conjures mental images of dry, arcane, lofty discussion by distant academicians and theorists, of unproven theories and unfulfilled promises, of little apparent use to the average airman trying to do a job down at the unit level. To many, its utility has not been readily apparent; after all, for many in the Air Force, doctrine has seemingly not had an impact on one's career or job performance.

This view is changing. Today the Air Force has moved beyond the past practice of operating under unspoken rules of thumb, and bits of handed-down wisdom on what worked and why. Since the mid-1990s the Air Force has captured this accumulated body of knowledge, which, while actually a form of doctrine, hadn't been consciously or formally recognized as such. Doctrine is, after all, those beliefs, distilled through experience and passed on from one generation of airmen to the next, that guide what we do; it is our codified practices on how best to employ air and space power. For far too many years, the Air Force's basic doctrine document was its only visible doctrine. Written at the "strategic" level of discussion, its high level of abstraction simply didn't translate down to what most airmen did day-to-day. Thus, except as a statement of corporate principles, published Air Force doctrine wasn't very relevant to the average airman.

"That was then; this is now." Today, the Air Force has expanded its library of doctrine. The number of doctrine documents has grown to cover

most aspects of air and space warfighting. These publications capture those "bits of handed-down wisdom," as well as recent thinking on expeditionary organization and emerging operational concepts such as effects-based operations. Taken together, these publications express why air and space power is different from other forms of military power, how it should be organized and employed, and why it's best to do things certain ways. Also, by capturing these concepts on paper, the Air Force is now able to express itself to numerous internal and external communities—doctrine is also an educational tool. By bringing all these ideas together in a coherent fashion, doctrine captures our Service's identity.

Although air officers have not been prolific writers, they have expressed their beliefs freely . . . . In fact, one may almost say that the Air Force has developed an oral rather than a written tradition.

—Frank Futrell
Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907-1960

In the current turbulent environment of expeditionary operations and the emerging arena of homeland security, doctrine provides an informed starting point for the many decisions airmen must make in what seems to be a continuous series of deployments. We no longer face the challenge of starting with a blank sheet of paper; with doctrine, airmen now have a good outline that lays out the basic issues:

- What is my mission? How should I approach it?
- What should my organization look like, and why?
- What are my lines of authority within my organization and within the joint force?
- What degrees of control do I have over my forces?
- How am I supported? Who do I call for more support?

From one operation to the next, many things are actually constant. Doctrine, properly applied, often can provide a 70-, 80-, or even 90-percent

solution to most questions, allowing leaders to focus on the remainder, which usually involves tailoring for the specific operation.

WHAT IS DOCTRINE?

Air and space doctrine is a statement of officially sanctioned beliefs, warfighting principles, and terminology that describes and guides the proper use of air and space forces in military operations. It is what we have come to understand, based on our experience to date. The Air Force promulgates and teaches this doctrine as a common frame of reference on the best way to prepare and employ air and space forces. Subsequently, **doctrine shapes the manner in which the Air Force organizes, trains, equips, and sustains its forces.** Doctrine prepares us for future uncertainties and provides a common set of understandings on which airmen base their decisions. **Doctrine consists of the fundamental principles by which military forces guide their actions in support of national objectives;** it is the linchpin of successful military operations. It also provides us with common terminology, conveying precision in expressing our ideas. In application, **doctrine should be used with judgment. It must never be dismissed out of hand or through ignorance of its principles, nor should it be employed blindly without due regard for the mission and situation at hand.** On the other hand, following doctrine to the letter is not the fundamental intent. Rather, good doctrine is somewhat akin to a good "commander's intent": it provides sufficient information on what to do, but does not specifically say how to do it. We must strive above all else to be doctrinally sound, not doctrinally bound.

Air and space doctrine is an accumulation of knowledge gained primarily from the study and analysis of experience, which may include actual combat or contingency operations, as well as experiments or exercises. As such, doctrine reflects what has worked best with full consideration of what has worked poorly. In those less frequent instances in which experience is lacking or difficult to acquire (as in, for example, nuclear operations), doctrine may be developed through analysis of exercises, wargames, and experiments.

It must be emphasized that doctrine development is never complete. Any given AFDD is a snapshot in time—a reflection of the thinking at the time of its creation. Innovation has always been a key part of sound doctrinal development and must continue to play a central role. Doctrine will evolve

as new experiences and advances in technology point the way to the operations of the future.

WHAT CONSTITUTES GOOD DOCTRINE?

Adherence to dogmas has destroyed more armies and cost more battles than anything in war.

—J. F. C. Fuller

Good doctrine informs, provides a sound departure point, and allows flexibility; bad doctrine overly bounds and restricts creativity. If not properly developed, and especially if parochialism is allowed to creep in, doctrine will point to suboptimal solutions. Parochialism and other biases can come from within a Service as well as between Services. Professionals will still have honest differences of opinions, but when those opinions are not based on sound warfighting practices, inefficiency and ineffectiveness frequently result. Good doctrine can help, but it must be intelligently applied.

One way to explore good doctrine is to use a "compare and contrast" model to walk through some key issues. This technique also amplifies the point that doctrine should be written broadly, allowing decision makers latitude in interpretation and flexibility in application, yet be specific enough to provide informed guidance. This technique also illustrates the use of doctrine in explaining contentious issues and how doctrine can be used to think more effectively about the best means to integrate various aspects of military power and organization. In the following discussion, there may be overlap among some of the principles expressed; this is desirable in that frequently there are different aspects or nuances to a particular issue. In doctrine, language is important.

Doctrine is about ***warfighting*...not physics.** This principle specifically addresses the perceived differences between operations in the air and in space. Air and space are **separate domains** requiring exploitation of different sets of physical laws to operate in, but are **linked by the effects** they can produce together. By using the phrase "air and space" instead of "aerospace" we acknowledge the inherent differences in the two media and the associated technical and policy-related realities without deviating from our vision. To achieve a common purpose, "air" and "space"

need to be integrated. Therefore, Air Force doctrine focuses on the best means to obtain warfighting effects regardless of the medium in which a platform operates. As an example, airmen should be concerned with the best means of employing intelligence, surveillance, and reconnaissance (ISR) capabilities, not whether a particular ISR platform is airborne or in orbit. This is requisite to achieving true integration across any given collection of forces.

Doctrine is about ***effects*...not platforms.** This focuses on the desired outcome of a particular action, not on the system or weapon itself that provides the effect. Doctrine states that airmen should, for example, seek to achieve air superiority, but doctrine does not focus on which platforms should be used to achieve that effect. A parallel example of this is seen in the recognition that bombers are not "strategic," nor are fighters "tactical." Similarly, it does not matter if an F-16 or a B-52 accomplishes a given task, or whether a particular platform is manned or unmanned, or whether a C-17 or a C-130 delivers a certain load, or if a particular ISR platform is airborne or in orbit; the outcome of the mission, the effect achieved, is what's important. Thus, Air Force doctrine does not explicitly tie specific weapon systems to specific tasks or effects.

Doctrine is about ***using mediums*...not owning mediums.** This illustrates the importance of properly using a medium to obtain the best warfighting effects, not of carving up the battlespace based on Service or functional parochialism. Focusing on using a medium is a vital first step to integration of efforts. "Ownership" arguments eventually lead to suboptimal (and usually at best tactical) application of efforts at the expense of the larger, total effort.

Doctrine is about ***organization*...not organizations.** Modern warfare demands that disparate parts of different Services, different nations, and even differing functions within a single Service be brought together intelligently to achieve unity of effort and unity of command. However, merely placing different organizations together in a battlespace is insufficient to meet these demands. A single, cohesive organization is required with clearly defined lines of command and commanders with requisite authorities at appropriate levels. Doctrine explains why certain organizational structures are preferred over others and describes effective command relationships and command authorities; this facilitates the rapid standup of joint and Service organizations during rapidly evolving situations. Ultimately, doctrine is not about whether one particular element is more decisive than

another, nor about positing that element as the centerpiece of joint operations; it's the total, tailored joint force that's decisive. Getting to that effective joint force requires smart organization.

Doctrine is about ***synergy...not segregation.*** True integration of effort cannot be achieved by merely carving up the battlespace. While segregation may have some benefit and may appear the simplest way, from a command and control viewpoint, to manage elements of a diverse joint force, it may actually suboptimize the overall effort. It guarantees that the whole will never be greater than the sum of its parts. For example, airmen should have access to the entire theater of operations to maximize their ability to achieve the joint force commander's (JFC's) objectives; they should not be restricted from any area due to unnecessarily restrictive fire control measures. Also, segregating the battlespace into smaller areas of operation may create competition for scarce, high-demand, low-density capabilities and reduce combat effectiveness.

Doctrine is about ***integration*...not just synchronization.** Synchronization is "the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time." Integration, by comparison, is "the arrangement of military forces and their actions to create a force that operates by engaging as a whole" (Joint Publication [JP] 0-2). Synchronization is, in essence, deconfliction in time and space between different units. It is a useful means to plan and execute operations and to prevent fratricide (for example, "be out of area X by time Y, because of a preplanned artillery barrage at that time to support another ground unit's subsequent maneuver"). However, it doesn't scale up to the operational level and hence is not the best means for achieving the maximum potential of a joint force. Synchronization emphasizes timing, while integration considers priority and effect to be both efficient and effective with scarce resources. Synchronization is bottom-up; integration, on the other hand, starts at the top with a single cohesive plan and works downward. Synchronization is an additive "sum of the parts" model, while integration may produce geometric results. This is not to say that synchronization is bad. For surface forces, it is very useful for managing their scheme of maneuver. However, from an airman's perspective, synchronization is a tactical tool and doesn't necessarily scale up to the operational level. Thus, airmen should seek to integrate, not merely synchronize, joint operational planning.

Doctrine is about ***preserving national treasure*...not being a national treasure.** Good doctrine should not be an advertisement for a particular

aspect of the Air Force or for a Service. Doctrine is about warfighting, not bragging rights. It is about achieving the optimum effects with the minimum expenditure of manpower and material.

Doctrine is about ***what's important*...not who's important.** Good doctrine should point to the important things a commander should do and explain why they should be done. It should not be an advertisement for any particular element of the Air Force, nor assert the relative value of any one Service over another. Different parts of the United States Armed Forces do different things, and each has its own utility depending on the situation. It's all about the right capability to best accomplish the mission.

Doctrine is about ***the right force*…not just equal shares of the force.** This addresses the proper mix of Service components within a joint force. Some believe that a joint force requires equal parts of all the Services. This is an incorrect view. As one senior Air Force officer said, "joint warfighting is not like Little League baseball, where everybody gets a chance to play." Any given joint force should be tailored appropriately for the task at hand. Some operations will be ground-centric, others air-centric, and others maritime-centric. The composition of the joint force and the tasks assigned its various elements should reflect the needs of the situation.

LEVELS OF AIR AND SPACE DOCTRINE

The Air Force places air and space doctrine at different levels and depths in the form of basic, operational, and tactical doctrine.

- **Basic doctrine** states the most fundamental and enduring beliefs that describe and guide the proper use, presentation, and organization of air and space forces in military action. It describes the "elemental properties" of air and space power and provides the airman's perspective. Because of its fundamental and enduring character, basic doctrine provides broad and continuing guidance on how Air Force forces are organized, employed, equipped, and sustained. Because it expresses broad, enduring fundamentals, basic doctrine changes relatively slowly compared to the other levels of doctrine. As the foundation of all air and space doctrine, basic doctrine also sets the tone and vision for doctrine development for the future. AFDD 1 is the airman's basic doctrine.
- **Operational doctrine,** contained in AFDD 2-series publications, describes more detailed organization of air and space forces and applies the principles of basic doctrine to military actions. Operational doctrine

guides the proper organization and employment of air and space forces in the context of distinct objectives, force capabilities, broad functional areas, and operational environments. Operational doctrine provides the focus for developing the missions and tasks that must be executed through tactical doctrine. Doctrine at this level changes a bit more rapidly than basic doctrine, but usually only after deliberate internal Service debate.

A unique subset of operational level doctrine is Air Force operational tactics, techniques, and procedures (AFOTTP). AFOTTP describe how operations centers and other command and control nodes function and how they plan and employ air, space, and information capabilities to achieve desired effects and objectives at the operational level of war.

- **Tactical doctrine** describes the proper employment of specific Air Force assets, individually or in concert with other assets, to accomplish detailed objectives. Tactical doctrine considers particular objectives (stopping the advance of an armored column) and conditions (threats, weather, and terrain) and describes how Air Force assets are employed to accomplish the tactical objective (B-1s dropping anti-armor cluster munitions). Tactical doctrine is codified as tactics, techniques, and procedures (TTP) in Air Force TTP (AFTTP) -3 series manuals. Because tactical doctrine is closely associated with employment of technology, change may occur more rapidly than to the other levels of doctrine. Also, due to their sensitive nature, some of these documents are classified.

TYPES OF DOCTRINE

There are three types of doctrine: Service, joint, and multinational. Each is published at basic, operational, and tactical levels.

- **Service doctrine,** such as the AFDD and AFTTP series, outlines Service capabilities and guides the application of Service forces.
- **Joint doctrine,** as it applies to air and space power in joint operations, describes the best way to integrate and employ air and space forces with land and maritime forces in military action. Joint doctrine is published in the joint publication system.
- **Mulitinational doctrine,** as it applies to air and space doctrine, describes the best way to integrate and employ our air and space forces with the forces of our allies in coalition warfare. It establishes principles, organization, and fundamental procedures agreed upon between or among allied forces. When developed as a result of a treaty, as in North Atlantic Treaty Organization (NATO) doctrine, multinational doctrine is directive.

AIR FORCE DOCTRINE DEVELOPMENT AND REVISION

Air Force doctrine is developed through the Headquarters, Air Force Doctrine Center (AFDC). AFDC is involved in many levels of doctrine development. It is responsible for the development of Air Force doctrine, is the Air Force focal point for development of joint doctrine, and reviews the development of Air Force TTPs (AFTTP-3 series publications and AFOTTPs).

Air Force doctrine belongs to the user, the Air Force at large, not to AFDC. To ensure the credibility and relevance of doctrine, AFDC oversees a doctrine development process that brings in expertise from across the Service. Twice a year, AFDC convenes the Air Force Doctrine Working Group (AFDWG), a colonel-level executive body of major command (MAJCOM) and key Air Staff representatives, who deliberate and vote on doctrine development proposals to create or revise Air Force doctrine and to review Air Force positions within joint doctrine. During votes, AFDC remains neutral and does not vote except to break a tie.

When doctrine is to be created or revised, AFDC convenes an Air Force Doctrine Working Committee (AFDWC) composed of subject matter experts from across the Service on the topic under discussion. This committee identifies the key ideas to be expressed and develops the basic outline of the document. AFDC then develops a draft publication, coordinates it across the Air Force, resolves issues, obtains formal approval, and publishes the final publication. Capstone and keystone publications (AFDD 1, AFDD 2, and the AFDD 2-X series) are approved by the Chief of Staff of the Air Force; all others (AFDD 2-X.X series) by the AFDC commander.

Each AFDD is reviewed two years after its approval for currency. If the AFDWG votes for revision, the publication goes back into the development cycle. If circumstances warrant, an AFDD can be put into an out-of-cycle revision prior to its normal two-year review.

CHAPTER TWO

POLICY, STRATEGY, DOCTRINE, AND WAR

Now the first, the grandest, and most decisive act of judgment which the Statesman and General exercises is rightly to understand in this respect the war in which he engages, not to take it for something, or wish to make it something, which by nature of its relations it is impossible for it to be.

—General Carl von Clausewitz

RELATIONSHIP BETWEEN POLICY, STRATEGY, AND DOCTRINE

Policy, strategy, and doctrine are frequently used interchangeably when in fact they have different uses. Because each may impact or inform the others, it is important to understand the differences.

- **Policy is guidance that is directive or instructive, stating *what* is to be accomplished.** It reflects a conscious choice to pursue certain avenues and not others. Thus, while doctrine is held to be relatively enduring, policy is more mutable. Policies may change due to changes in national leadership, political considerations, or for fiscal reasons. At the national level, policy may be expressed in such broad vehicles as the National Security Strategy (NSS) or Presidential Executive Orders. Within military operations, policy may be expressed not only in terms of objectives, but also in rules of engagement (ROE)—what we may or may not strike, or under what circumstances we may strike particular targets.
- **Strategy defines how operations will be conducted to accomplish national policy objectives.** Strategy originates in policy and addresses broad objectives and the plans for achieving them. It is a plan of action, a matching of means to ends.
- **Military doctrine presents considerations on how a job should be done to accomplish military goals.** It is a storehouse of analyzed experience and wisdom. Military doctrine is authoritative, but unlike policy, is not directive.

Doctrine evolves from military experience and theory and addresses how best to use military power. In practice, as leaders develop strategies for particular contingencies, political, economic, or social considerations may dictate strategic and operational approaches that modify or depart from accepted doctrine. As an example, doctrine may support long-range, air-to-air engagements beyond visual range; ROE, however, may require visual identification of all targets before firing due to political concerns over fratricide or collateral damage. If policy seriously affects the application of doctrine, military commanders should describe for political leaders the military consequences of those adaptations. However, because war is "an instrument of policy," military commanders must ensure that policy governs the employment of military power and thus tailor their operations accordingly.

NATIONAL SECURITY STRATEGY

The National Security Strategy (NSS) aims to guarantee the sovereignty and independence of the United States, with our fundamental values and institutions intact. It provides a framework for creating and seizing opportunities that strengthen our security and prosperity. It provides unifying direction in the application of the diplomatic, economic, military, and informational instruments of national power. It encompasses national defense, foreign relations, and economic relations and assistance; and it aims, among other objectives, at providing a favorable foreign relations position and a defense posture capable of preventing and, when necessary, defeating hostile action.

The NSS provides the context that underpins our plans and actions by describing the security environment and threats and describing in general terms the nature and style of our response. As such, it evolves over time according to the international environment. During the Cold War, facing the Soviet Union as a peer competitor, a policy of containment dominated our strategy. During the '90s, when the threat to the Nation was more ambiguous, a new strategy evolved centered on engagement. More recently, faced with a worldwide terrorist threat, our strategy has evolved accordingly, to include an unprecedented emphasis on homeland security and a deliberate shift toward preemption as a viable consideration. These changes in overall strategy drive changes to military capabilities, worldwide posture, and functional and geographic focus of the US Armed Forces. In the event of armed conflict, national strategy will be tailored to meet national security objectives and terminate conflicts on terms favorable to US interests.

The new emphasis on homeland security has been deemed so important it warranted creation of a new, separate strategy document. The resulting National Strategy for Homeland Security outlines the requirements to **prevent** terrorist attacks within the United States, **protect** us and reduce our vulnerability to terrorism, and to quickly **respond** to minimize damage and recover from attacks that do occur. This was driven home by the 11 September 2001 terrorist attacks on our Nation and the recognition of our Nation's vulnerabilities to this new form of warfare. Military forces contribute to homeland security in their conduct of missions overseas, homeland defense, and support to civil authorities.

There is also a family of other, more specific strategies maintained by the United States that are subsumed within the twin concepts of national security and homeland security. The *National Strategy for Combating Terrorism* defines the US war plan against international terrorism. The *National Strategy to Combat Weapons of Mass Destruction (WMD)* coordinates efforts to deny terrorists and states the materials, technology, and expertise to make and deliver WMD. The *National Strategy to Secure Cyberspace* describes initiatives to secure information systems against deliberate, malicious disruption. The *National Defense Strategy* sets priorities for the military. All of these documents and other specific strategies fit into the framework established by the *National Security Strategy of the United States* and *National Strategy for Homeland Security,* which together take precedence over all other national strategies, programs, and plans.

NATIONAL MILITARY STRATEGY

The National Military Strategy (NMS) provides the advice of the Chairman of the Joint Chiefs of Staff, developed in consultation with the Joint Chiefs of Staff (JCS) and the combatant commanders, to the President and Secretary of Defense (SecDef) on the strategic direction of the Armed Forces. It assesses the strategic environment and describes the military's role—as an integral part of a national effort—in achieving the President's national security objectives and priorities. It also describes the critical objectives, tasks, force employment concepts, and capabilities necessary to execute the Secretary's National Defense Strategy.

The NMS describes the objectives, concepts, tasks, and capabilities necessary to implement the goals set for the military in the NSS and its supporting documents and forms the basis for formal planning within the

Joint Strategic Planning System. Like NSS, NMS evolves as the international environment, national strategy, and national military objectives change. As an example of evolving national military objectives, recent strategy documents contain new emphasis on defending the homeland and achieving military transformation.

To execute the NMS, our military forces must not only be trained, organized, and equipped to fight, but must also be ready to engage across the spectrum from war to military operations other than war (MOOTW), and as part of a joint, multinational, or interagency force.

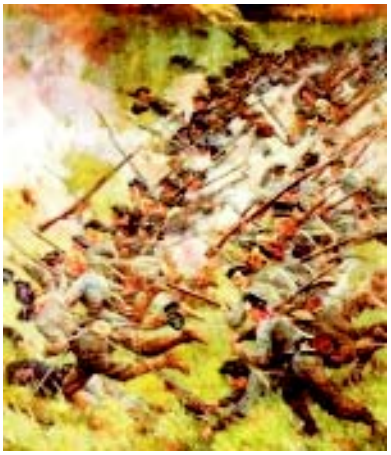
NATURE OF WAR

Three enduring truths describe the nature of war. These truths, Clausewitzian in origin, are not likely to change, even as technology provides what is often referred to as a "transformation" or "revolution in military affairs." Despite technological advances and the best of plans and intentions, war will never be as straightforward in execution as we planned, nor free of unintended consequences. The means may change, but the fundamental character and risks of warfare will remain.

The fundamental nature of war does not change.

- **War is an instrument of policy.** Victory in war is not measured by casualties inflicted, battles won or lost, number of tanks destroyed, or territory occupied, but by the achievement of (or failure to achieve) national policy objectives. More than any other factor, national policy objectives—one's own and those of the enemy—shape the scope, intensity, and duration of war. To support national policy objectives, military objectives and operations must be coordinated and orchestrated with nonmilitary instruments of power.
- **War is a complex and chaotic human endeavor.** Human frailties and irrationality shape war's nature. Uncertainty and unpredictability—what many call the "fog of war"—combine with danger, physical stress, and

human fallibility to produce "friction," a phenomenon that makes apparently simple operations unexpectedly and sometimes even insurmountably difficult. Sound doctrine, leadership, organization, moral values, and training can lessen the effects of uncertainty, unpredictability, and unreliability that are always present



National will and resolve can determine a conflict's outcome.

- **War is a clash of opposing wills.** An enemy can be highly unpredictable, even irrational. War is not waged against an inanimate or static object, but against a living, calculating enemy, one who often does not think as we think nor holds the same values we do. Victory results from creating advantages against a thinking adversary bent on creating his own advantages. This produces a dynamic interplay of action and reaction. While physical factors are crucial in war, national will and leadership are also critical components of war. National resolve—the determination to prosecute on one side and to resist on the other—can be a decisive element.

CHANGING CHARACTER OF THE AMERICAN WAY OF WAR

The US Air Force provides the Nation a unique capability to project national influence anywhere in the world on very short notice. Air and space forces, through their inherent speed, range, and flexibility, can respond to national requirements by delivering precise military power to create effects where and when needed. With expanding space and information capabilities, the Air Force is rapidly developing the ability to place an "information umbrella" over friends and foes alike. This provides national political and military leaders with unprecedented knowledge of world events; fosters rapid, accurate military decisions; and directly complements the Service's air and space power forces, while at the same time denying potential adversaries access to useful information on our own plans, forces, and actions. The US Air Force, in fielding advanced, highly effective, lethal and nonlethal systems, provides national leaders and joint force commanders (JFCs) unique capabilities across the range of military operations.

Early airpower advocates argued that airpower could be decisive and could achieve strategic effects. While this view of airpower was not proved during their lifetimes, the more recent history of air and space power application, especially since the 1991 Persian Gulf War, has proven that air and space power can be a dominant and frequently the decisive element of combat in modern warfare. Air and space power is a maneuver element in its own right, coequal with land and maritime power; as such, it is no longer merely a supporting force to surface combat. As a maneuver element, it can be supported by surface forces in attaining its assigned objectives. Air and space power has changed the way wars are fought and the manner in which the United States pursues peacetime efforts to protect the nation's vital interests.

In the late 20th Century, wars were traditionally conceived in three linear, sequential phases. First, in-place or rapidly-reacting forces halted the initial attack, perhaps trading space to buy time. Second, additional combat power was built up in theater while limited offensive action weakened the enemy. Finally, a decisive ground-centric counteroffensive was launched. Classically, the end-state was seen as the product of the ground-based counterattack. These three phases, while necessary in this view to complete military victory, were not time urgent but sequential and generally treated with equal urgency.

More recently, however, the nature of the threats and the way we choose to deter and fight those conflicts have changed. The United States is faced with adversaries who may seek to offset our technological superiority through asymmetric means, threatening the use of chemical, biological, or radiological weapons; information attacks; terrorism; urban warfare; or antiaccess strategies, either overseas or at home. Therefore, we must seize the initiative from the aggressor as soon as possible. Military capabilities that are vulnerable to preset time lines risk attack of those time lines. Delay in decisively and quickly halting an enemy may force a difficult and costly campaign to recover lost territory. Additionally, the asymmetric threats of lost coalition support, diminished credibility, and emerging incentives for other adversaries to begin conflict elsewhere are real. Thus, a new way of looking at conflict is emerging.

NEW VIEW OF CONFLICT

Under the previous model, land- and sea-based airpower was frequently seen as instrumental in halting the enemy's initial moves. Once the enemy was halted, airpower was usually husbanded to support the eventual

surface counteroffensive. However, in this new view of warfare, the prompt, continued, aggressive application of air and space power in the opening phase may actually constitute the conflict's decisive phase. Thus, this first phase need not be a precursor to a buildup of ground forces and conventional counterattack. This early, aggressive application of air and space power, in parallel operations against many objectives simultaneously, may force the enemy beyond his offensive culminating point, resulting in a turnover in initiative in our favor. It may even be possible during this early phase to hold the enemy's war aims directly and immediately at risk or defeat them sooner rather than later in a conflict. As the initiative and options of the aggressor decrease over time, ours increase. In certain instances, we may attain our objectives during this initial phase, and follow-on diplomatic initiatives may conclude the conflict. If a buildup and counteroffensive are required, the application of air and space power can shape the size and nature of the follow-on ground action.

Assessing the impact point of a precision bomb through the dome of a key regime building, Operation IRAQI FREEDOM.

The "American way of war" has long been described as warfare based on either a strategy of annihilation or of attrition and focused on engaging the enemy in close combat to achieve a decisive battle. Air and space power, if properly focused, offers our national leadership alternatives to the annihilation and attrition options. These include the ability to coerce and compel adversaries in MOOTW, while risking relatively fewer American lives. This provides different avenues to influence potential adversaries in ways that are not necessarily connected to land warfare. It is possible to directly affect adversary sources of strength and will to fight by creating shock and destroying enemy cohesion without

close combat. While such attacks may not totally eliminate the need to directly engage the adversary's fielded military forces, it can shape those engagements so they will be fought at the time and place of our choosing under conditions more likely to lead to decisive outcomes with minimized risk to friendly forces. The aggressive use of air and space power can also reduce the size of forces needed for conflict termination, risking fewer American lives.

A vital part of the new approach to warfare is the emerging arena of effects-based operations (EBO). A further step away from annihilation or attrition warfare, EBO explicitly and logically links the effects of individual tactical actions directly to desired military and political outcomes. By focusing on effects—the full range of outcomes, events, or consequences that result from a specific action—commanders can concentrate on meeting objectives instead of managing target lists. Effects-based actions or operations are those designed to produce distinct, desired effects while avoiding unintended or undesired effects. This new conceptual model requires that airmen think through the full range of outcomes, choose those that will best achieve objectives, and find ways to mitigate those that will impede achieving them. Air and space power offers many different ways to achieve a given effect; the effort of thinking through actions in this manner should yield commanders and national leaders many options beyond attrition or annihilation. Therefore, adoption of EBO also requires that airmen advocate air and space power's capabilities in terms of desired effects rather than targets.

CHAPTER THREE

PRINCIPLES AND TENETS

Every art has its rules and maxims. One must study them: theory facilitates practice. The lifetime of one man is not enough to enable him to acquire perfect knowledge and experience. Theory helps to supplement it, it provides a youth with premature experience and makes him skillful through the mistakes of others.

—Frederick the Great

The role of the Air Force is to defend the United States and protect its interests through air and space power, guided by the principles of war and the tenets of air and space power. Airmen must understand these fundamental beliefs as they apply to operations in the air, space, and information realms. This chapter presents these principles and tenets.

PRINCIPLES OF WAR

Principles of war have governed conflicts since earliest times.

Throughout the history of conflict, military leaders have noted certain principles that tended to produce military victory. From ancient times to today, certain "truths" of warfare have emerged. Known as **the principles of war, they are "those aspects of warfare that are universally true and relevant"** (JP 1). As members of the joint team, airmen should appreciate how these principles apply to all forces, but must fully understand them as they pertain to air and space forces. Air and space forces, no matter which Service operates the systems and no matter which type of platform is used, provide unique capabilities through operations in the third dimension. The principles of war—**unity of command, objective, offensive, mass, maneuver, economy of force, security, surprise, and simplicity**—are guidelines that commanders can use to form and select courses of action and concepts of operation.

These principles, listed in Figure 3.1, represent generally accepted "truths" which have proven to be effective throughout history. Of course, even **valid principles are no substitute for sound, professional judgment—but to ignore them completely is to assume unnecessary risk.** The complexity of war in general, and the unique character of each war in particular, preclude commanders from using these principles as a checklist to guarantee victory. Rather, they serve as valuable guides to evaluate potential courses of action.

Principles of War

Unity of Command
Objective
Offensive
Mass
Maneuver
Economy of Force
Security
Surprise
Simplicity

Figure 3.1. Principles of War

The principles are independent, but tightly fused in application. **No one principle should be considered without due consideration of the others.** These principles are not all-inclusive; the art of developing air and space strategies depends upon the airman's ability to view these principles from a three-dimensional perspective and integrate their application accordingly. The principles of war, combined with the additional tenets of air and space power discussed later in this chapter, provide the basis for a sound and enduring doctrine for the air and space forces of America's joint force.

UNITY OF COMMAND

Unity of command ensures concentration of effort for every objective under one responsible commander. This principle emphasizes that all efforts should be directed and coordinated toward a common objective. Air and space power's operational-level perspective calls for unity of command to gain the most effective and efficient application. Coordination may be achieved by cooperation; it is, however, best achieved by vesting a single commander with the authority to direct all force employment in pursuit of a common objective. The essence of successful operations is a coordinated and cooperative effort toward a commonly understood objective. In many operations, the wide-ranging interagency and nongovernmental organization operations involved may dilute unity of command; nevertheless, a unity of effort must be preserved to ensure common focus and mutually supporting actions.

Unity of command is vital in employing air and space forces. Air and space power is the product of multiple capabilities, and centralized command and control is *essential* to effectively fuse these

capabilities. Airmen best understand the entire range of air and space power. The ability of airpower to range on a theater and global scale imposes theater and global responsibilities that can be discharged only through the integrating function of centralized control under an airman. That is the essence of unity of command and air and space power.

Objective

The principle of objective is concerned with **directing military operations toward a defined and attainable objective that contributes to strategic, operational, and tactical aims.** In application, this principle refers to unity of effort. Success in military operations demands that all efforts be directed toward the achievement of tactical, operational, and ultimately, strategic, aims. In a broad sense, this principle holds that **political and military goals should be complementary and clearly articulated**. A clear NMS provides focus for defining campaign or theater objectives. At the operational level, campaign or theater objectives determine military priorities. It is important to consider the impact time and persistence have on attaining the objective. Short-term solutions to long-term problems must be avoided when defining the force's objectives.

The objective is important due to the versatility of air and space forces. From the outset, **air and space forces can pursue tactical, operational, or strategic objectives, in any combination, or all three simultaneously.** From an airman's perspective, then, the principle of objective shapes priorities to allow air and space forces to concentrate on theater or campaign priorities and seeks to avoid the siphoning of force elements to fragmented objectives.

Offensive

The purpose of an offensive action is to **seize, retain, and exploit the initiative.** Offensive is to act rather than react and dictates the time, place, purpose, scope, intensity, and pace of operations. The initiative must be seized as soon as possible. The principle of the offensive holds that offensive action, or initiative, provides the means for joint forces to dictate battlespace operations. Once seized, the initiative should be retained and fully exploited.

This principle is particularly significant to air and space warfare because **air and space power is best used as an offensive weapon.** While defense may be dictated by the combat situation, success in war is

generally attained only while on the offensive. Even highly successful defensive air campaigns such as the World War II Battle of Britain were based upon selective offensive engagements.

Air and space forces are inherently offensive at the tactical level—even when employed in operational or strategic defense. Control of air and space is offensive in execution. History has generally shown that a well-planned and executed air attack is extremely difficult to stop. The speed and range of attacking air and space forces give them a significant offensive advantage over surface forces and even *defending* air and space forces. In an air attack, the defender often requires more forces to defend a given geospatial area than the attacker requires to strike a set of specific targets.

Although all military forces have offensive capabilities, airpower's ability to mass and maneuver, and its ability to operate independently or simultaneously at the tactical, operational, and/or strategic levels of warfare, provides JFCs a resource with global reach to directly and rapidly seize the initiative. Whether deploying forces and supplies into a region, conducting combat operations, or providing information superiority over an enemy, air forces provide the JFC the means to take the offensive. From the beginning of an operation, air forces can seize the initiative by flying over enemy lines and around massed defenses to attack the enemy directly. Through prompt and sustained offensive actions designed to attain operational and strategic objectives, air forces cause the enemy to react rather than act, deny them the offensive, and shape the remainder of the conflict.

Mass

The purpose of mass is to **concentrate the effects of combat power at the most advantageous place and time to achieve decisive results.** Concentration of military power is a fundamental consideration in all military operations. At the operational level, this principle suggests that superior, concentrated combat power is used to achieve decisive results.

Airpower is **singularly** able to launch an attack from widely dispersed locations and mass combat power at the objective. From an airman's perspective, mass is not based solely on the quantity of forces and materiel committed. **Mass is an effect that air and space forces achieve through effectiveness of attack, not just overwhelming numbers.** Today's air and space forces have altered the concept of massed forces. The speed, range, and flexibility of air and space forces—complemented by the accuracy and lethality of precision weapons and advances in information

Many Bombers: One Target | **One Bomber: Many Targets**

technologies—allow them to achieve mass faster than surface forces. In the past, hundreds of airplanes attacked one or two major targets each day. Massed bomber raids revisited targets often, intending their attacks to gradually attain cumulative operational- or strategic-level effects over time. Today, a single precision weapon that is targeted, based upon superior battlespace awareness, can often cause the destructive effect that took hundreds of bombs in the past. In an inversion of previous platform-to-target ratios, modern precision munitions now permit a single aircraft to confidently strike several targets. Emerging information warfare (IW) capabilities also present new opportunities to mass effects against critical targets.

Airlift and air refueling provide a significant and critical capability to mass lethal and nonlethal forces on a global scale. The rapid mobility of airlift enabled the airborne assault during Operation JUST CAUSE, which played a pivotal role in massing US forces in Panama. The capability of air forces to act quickly and mass effects, along with their capability to mass other lethal and nonlethal military power, combine the principle of mass with the next principle, maneuver.

Maneuver

Maneuver **places the enemy in a position of disadvantage** through the flexible application of combat power in a multidimensional combat space. Air and space power's ability to conduct maneuver is not only a product of its speed and range, but also flows from its flexibility and versatility during the planning and execution of operations. Maneuver, like the principle of offensive, forces the enemy to react, allowing the exploitation of successful friendly operations and reducing friendly vulnerabilities. The ability to quickly integrate a force and to strike directly at an adversary's strategic or operational centers of gravity is a key theme of air and space power's maneuver advantage. Air maneuver allows engagement anywhere, from any direction, at any time, forcing the adversary to be on guard everywhere.

Additionally, the principle of maneuver is not limited to simple weapons delivery. Airpower's global awareness, global reach, and global presence enabled the airlift operation in 1994 that provided combat power to deter Iraqi movements into Kuwait.

Whether it involves airlift or attack aircraft, in small or large numbers, **the versatility and responsiveness of airpower allow the simultaneous application of mass and maneuver.** Consider airlift operations such as SUPPORT HOPE in Rwanda, PROVIDE HOPE in the former USSR, or PROVIDE PROMISE in Bosnia, or combat operations such as ALLIED FORCE in Serbia, ENDURING FREEDOM in Afghanistan, or IRAQI FREEDOM in Iraq—airpower has played a critical role in American diplomacy by providing unmatched maneuverability.

Economy of Force

Economy of force is **the judicious employment and distribution of forces.** Its purpose is to allocate minimum essential resources to secondary efforts. This principle calls for the rational use of force by selecting the best mix of air and space power. To ensure overwhelming combat power is available, maximum effort should be devoted to primary objectives. At the operational level, commanders must ensure that any effort made towards secondary objectives does not degrade achievement of the larger operational or strategic objectives. This principle requires airmen to maintain a broader operational view even as they seek to obtain clearly articulated objectives and priorities.

Economy of force may require a commander to establish a balance in the application of airpower between attacking, defending, delaying, or conducting deception operations, depending on the importance of the area or the priority of the objective or objectives. Also, priorities may shift rapidly; friendly troops in contact might drive a change in priority from one type of mission (e.g., interdiction) to another (e.g., close air support). Although this principle suggests the use of overwhelming force in one sense, it also recommends guarding against the "overkill" inherent in the use of excessive force. This is particularly relevant when excessive force can destroy the gaining or maintaining of legitimacy and support for an operation.

While this principle was well developed before the advent of airpower, it highlights precisely the greatest vulnerability of air and space power employment. The misuse or misdirection of air and space power can reduce

its contribution even more than enemy action. Ill-defined objectives can result in the piecemeal application of air and space forces with the resultant loss of decisive effects.

Security

The purpose of security is to **never permit the enemy to acquire unexpected advantage.** Friendly forces and their operations must be protected from enemy action that could provide the enemy with unexpected advantage. The lethal consequences of enemy attack make the security of friendly forces a paramount concern. This principle also enhances our freedom of action by reducing the vulnerability of friendly forces. Gaining or maintaining control of the air, space, and information media provides friendly forces a significant advantage.

Air and space power is most vulnerable on the ground. Thus, force protection is an integral part of air and space power employment. Fixed bases are especially vulnerable as they not only must withstand aerial and ground attacks, but also must sustain concentrated and prolonged air activities against the enemy. This must be a particular focus of operations during peace support or crisis situations, when forces may operate from austere and unimproved locations, in small units, or in crowded urban settings and face threats to security from individuals and groups as well as possible military or para-military units. Security also may be obtained by staying beyond the enemy's reach. Air and space forces are uniquely suited to capitalize on this through their global capabilities. Not only can they reach and strike at extended range, but they also can distribute data and analysis as well as command and control across a worldwide span.

Security from enemy intrusion conceals our capabilities and intentions, while allowing friendly forces the freedom to gather information on the adversary—the type of information that creates the opportunity to strike the enemy where they will least expect it.

Security provides freedom from and to attack.

Critical to security is the understanding that **security embraces physical security and security of the information medium.** Information has always been part of air, land, and sea warfare; now, with the proliferation of information technologies, it becomes even more central to the outcome of a conflict.

Surprise

Surprise leverages the security principle by **attacking the enemy at a time, place, or in a manner for which they are not prepared.** The speed and range of air and space forces, coupled with their flexibility and versatility, allow air forces to achieve surprise more readily than surface forces. The final choice of timing and tactics rests with the commander of air and space forces, because terrain and distance are not inhibiting factors in the air and space environment.

Surprise is one of air and space power's strongest advantages. On 11 November 1940, Admiral Andrew Cunningham delivered a crushing air attack from the British aircraft carrier HMS *Illustrious* on the Italian naval base of Taranto. While the British lost 2 of 21 attacking aircraft, they left 3 battleships in sinking condition, 2 cruisers badly damaged, and 2 fleet auxiliaries sunk. The Japanese attack at Pearl Harbor, the US raid on Libya, and the opening day of the air campaign during DESERT STORM highlight other examples where airpower achieved resounding surprise.

Air and space forces can enhance and empower surface forces to achieve surprise. The rapid global reach of airpower also allows surface forces to reach foreign destinations quickly, thus seizing the initiative through surprise.

Simplicity

Military operations, especially joint operations, are often complex. Simplicity calls for **avoiding unnecessary complexity in organizing, preparing, planning, and conducting military operations.** This ensures that guidance, plans, and orders are as simple and direct as the objective will allow. Simple guidance allows subordinate commanders the freedom to operate creatively within their battlespace. Common equipment, a common understanding of Service and joint doctrine, and familiarity with procedures through joint exercises and training, can help overcome complexity. Straightforward plans and unambiguous organizational and comand relationships are central to reducing it.

TENETS OF AIR AND SPACE POWER

Tenets of Air & Space Power
Centralized Control & Decentralized Execution
Flexibility & Versatility
Synergistic Effects
Persistence
Concentration
Priority
Balance

Figure 3.2. Tenets of Air and Space Power

The application of air and space power is refined by several fundamental guiding truths. These truths are known as tenets. They reflect not only the unique historical and doctrinal evolution of airpower, but also the specific current understanding of the nature of air and space power. The tenets of air and space power, listed in Figure 3.2, complement the principles of war. **While the principles of war provide general guidance on the application of military forces, the tenets provide more specific considerations for air and space forces.** They reflect the specific lessons of air and space operations over history.

The tenets state that air and space power:

- Should be centrally controlled and decentrally executed
- Is flexible and versatile
- Produces synergistic effects
- Offers a unique form of persistence
- Must achieve concentration of purpose
- Must be prioritized
- Must be balanced

As with the principles of war, these tenets require informed judgment in application. They require a skillful blending to tailor them to the ever-changing operational environment. The competing demands of the principles and tenets, for example mass versus economy of force, concentration versus balance, and priority versus objective, require an airman's expert understanding in order to strike the required balance. In the last analysis, commanders must accept the fact that **war is incredibly complicated and no two operations are identical. Commanders must apply their professional judgment and experience to the principles and tenets as they employ air and space power in a given situation.**

Centralized Control and Decentralized Execution

Centralized control and decentralized execution of air and space power are critical to effective employment of air and space power. Indeed, they are the fundamental organizing principles for air and space power, having been proven over decades of experience as the most effective and efficient means of employing air and space power. Because of air and space power's unique potential to directly affect the strategic and operational levels of war, it must be controlled by a single airman who maintains the broad, strategic perspective necessary to balance and prioritize the use of a powerful, highly desired yet limited force. A single air commander, focused on the broader aspects of an operation, can best mediate the competing demands for tactical support against the strategic and operational requirements of the conflict.

Centralized control of air and space power is the planning, direction, prioritization, synchronization, integration, and deconfliction of air and space capabilities to achieve the objectives of the joint force commander. Centralized control of air and space power should be accomplished by an airman at the air component commander level who maintains a broad theater perspective in prioritizing the use of limited air and space assets to attain established objectives in any contingency across the range of operations. Centralized control maximizes the flexibility and effectiveness of air and space power; however, it must not become a recipe for micromanagement, stifling the initiative subordinates need to deal with combat's inevitable uncertainties.

Decentralized execution of air and space power is the delegation of execution authority to responsible and capable lower-level commanders to achieve effective span of control and to foster disciplined initiative, situational responsiveness, and tactical flexibility. It allows subordinates to exploit opportunities in rapidly changing, fluid situations. The benefits inherent in decentralized execution, however, are maximized only when a commander clearly communicates his intent.

The flexibility of an air force is indeed one of its dominant characteristics .... Given centralized control of air forces, this flexibility brings with it an immense power of concentration which is unequaled in any other form of warfare.

—Air Chief Marshal Sir Arthur Tedder

During LINEBACKER II in December 1972, B-52s were to provide the main strike effort against targets in Hanoi and Haiphong. B-52s had been employed in the theater since 1965, but mainly against targets in South Vietnam. Although Strategic Air Command (SAC) retained control of the bombers, most of the mission planning was performed in theater by 8th Air Force at Guam. Thus, by the time LINEBACKER II commenced, they had developed tactics and procedures for employing B-52s in the regional threat environment, as was shown during operations in Spring 1972 to stem the North Vietnamese offensive. However, when LINEBACKER II started, complete responsibility for mission planning was handed to SAC headquarters in Nebraska; 8th Air Force planners simply arranged for air refueling and fighter support. The first night's strikes sent the B-52s into Hanoi in three waves, each one a linear string of three-ship cells, all using the same attack azimuth, altitude, and timing, and employing the same post-release turn into headwinds at the precise time the bombers were over the heaviest surface-to-air missile (SAM) defenses. To the amazement of the 8th Air Force planners, these tactics, reminiscent of World War II bombing raids, were again employed on the second and third nights. After heavy losses the third night, and after protests from the theater, mission planning was handed over to 8th Air Force at Guam, although HQ SAC still controlled the targets. In contrast to the earlier stereotyped attacks, subsequent strikes used multiaxia attacks so that all the packages were over the target areas at the same time. This not only reduced the time the bombers were exposed to enemy defenses, but also simplified the planning requirements for the supporting jamming, chaff, refueling, and WILD WEASEL packages. Even though more B-52s were lost during the remainder of LINEBACKER II, the overall loss rate was much lower than the opening nights.

Although the lessons of LINEBACKER II have been and continue to be debated, one element stands out: overcentralization of planning and execution by a staff far removed from the battle can be deleterious. In contrast to the 8th Air Force planners in theater, HQ SAC planners, although thoroughly familiar with nuclear weapons delivery tactics, were unfamiliar with the threat environment and did not have a full appreciation of the conventional weapons tactics available to B-52 crews. This example illustrates the axiom of passing responsibillity for planning and execution down to the echelon best suited for the task.

Centralized control and decentralized execution of air and space power provide theater-wide focus while allowing operational flexibility to meet theater objectives. They assure concentration of effort while maintaining economy of force. They exploit air and space power's versatility and flexibility to ensure that air and space forces remain responsive, survivable, and sustainable.

Modern communications technology provides a temptation towards increasingly centralized execution of air and space power. Although several

recent operations have employed some degrees of centralized execution, such command arrangements will not stand up in a fully stressed, dynamic combat environment, and as such should not become the norm for all air operations. Despite impressive gains in data exploitation and automated decision aids, a single person cannot achieve and maintain detailed situational awareness when fighting a conflict involving many simultaneous engagements taking place throughout a large area. A high level of centralized execution results in a rigid campaign unresponsive to local conditions and lacking in tactical flexibility. For this reason, execution should be decentralized within a command and control architecture that exploits the ability of strike package leaders, air battle managers, forward air controllers, and other front-line commanders to make on-scene decisions during complex, rapidly unfolding operations. Nevertheless, in some situations, there may be valid reasons for execution of specific operations at higher levels, most notably when the JFC (or perhaps even higher authorities) may wish to control strategic effects, even at the sacrifice of tactical efficiency.

Flexibility and Versatility

Air and space power is flexible and versatile. Although often used interchangeably, flexibility and versatility are different. **Flexibility** allows air and space forces to exploit mass and maneuver simultaneously. Flexibility allows air and space operations to shift from one campaign objective to another, quickly and decisively; to "go downtown" on one sortie, then hit fielded enemy forces the next; to rerole assets quickly from a preplanned mission to support an unanticipated need for close air support of friendly troops in contact with enemy forces. **Versatility** is the ability to employ air and space power effectively at the strategic, operational, and tactical levels of warfare. Air and space forces, unlike other military forces, have the potential to achieve this unmatched synergy through asymmetric and parallel operations.

Parallel operations are operations coordinated to occur simultaneously and continuously against a broad spectrum of targets. Used appropriately, parallel operations can generate sufficient force to overwhelm the enemy, resulting in paralysis that provides the leverage to dominate operations in all mediums. Properly planned and executed in parallel attacks, air and space power can attain effects which present the enemy with multiple crises occurring so quickly that there is no way to respond to all or, in some cases, any of them. Such a strategy places maximum stress on both enemy defenses and the enemy as a whole.

Synergistic Effects

Air and space power produces synergistic effects. The proper application of a coordinated force can produce effects that exceed the contributions of forces employed individually. The destruction of a large number of targets through attrition warfare is rarely the key objective in modern war. Instead, the objective is the precise, coordinated application of the various elements of air, space, and surface power to bring disproportionate pressure on enemy leaders to comply with our national will. Air and space power's overwhelming ability to observe adversaries allows us to counter their movements with unprecedented speed and agility. Air and space power is unique in its ability to dictate the tempo and direction of an entire warfighting effort from MOOTW through major conflict.

Persistence

Air and space power offers a unique form of persistence. Air, space, and information operations may be conducted continuously against a broad spectrum of targets. Air and space power's exceptional speed and range allow its forces to visit and revisit wide ranges of targets nearly at will. Air and space power does not have to occupy terrain or remain constantly in proximity to areas of operation to bring force upon targets. Space forces in particular hold the ultimate high ground, and as space systems advance and proliferate, they offer the potential for "permanent presence" over any part of the globe; unmanned aerial vehicles (UAVs) are offering similar possibilities from the atmosphere. Examples of persistent operations might be maintaining a continuous flow of materiel to peacetime distressed areas; constantly monitoring adversaries to ensure they cannot conduct actions counter to those agreed upon; assuring that targets are kept continually out of commission; or ensuring that resources and facilities are denied an enemy or provided to an ally during a specified time. The end result would be to deny the opponent an opportunity to seize the initiative and to directly accomplish assigned tasks.

Factors such as enemy resilience, effective defenses, or environmental concerns may prevent commanders from quickly attaining their objectives. However, for many situations, air and space operations provide the most efficient and effective means to attain national objectives. Commanders must persist in air and space operations and resist pressures to divert resources to other efforts unless such diversions are vital to attaining theater goals or to survival of an element of the joint force. Given sufficient time,

Strategic air attack is wasted if it is dissipated piecemeal in sporadic attacks between which enemy has an opportunity to readjust defenses or recuperate.

—General H. H. "Hap" Arnold

even the most devastating strategic effects can be circumvented by resourceful enemies; the goal is to keep pressure on and not allow the enemy that time.

Concentration

Air and space power must achieve concentration of purpose. The versatility of air and space power makes it an attractive option for almost every combat task. Airmen must guard against the inadvertent dilution of air and space power effects resulting from high demand. One of the most constant and important trends throughout military history has been the effort to concentrate overwhelming power at the decisive time and place. The principles of mass and economy of force deal directly with concentrating overwhelming power at the right time and the right place (or places). With forces as flexible and versatile as air and space forces, the demand for them will often exceed the available forces and may result in the fragmentation of the integrated air and space effort in attempts to fulfill the many demands of the operation. Depending on the operational situation, such a course of action may court the triple risk of failing to achieve operational-level objectives, delaying or diminishing the attainment of decisive effects, and increasing the attrition rate of air forces—and consequently risking defeat.

Priority

Air and space power must be prioritized. Demands for air and space forces (because of their flexibility and versatility) will likely overwhelm air commanders in future conflicts unless appropriate priorities are established. Only **theater-level** commanders of land and naval components can effectively prioritize their individual air and space support requirements to the JFC, and only then can effective priorities for the use of air and space forces flow from an informed dialogue between the

JFC and the air component commander. The air commander should assess the possible uses of his forces and their strengths and capabilities to support the overall joint campaign, air operations, and the battle at hand. Limited resources require that air and space forces be applied where they can make the greatest contribution to the most critical current JFC requirements. The application of air and space forces must be balanced among their abilities to conduct operations at all levels of war, often simultaneously. The principles of mass, offensive, and economy of force, the tenet of concentration, and the airman's strategic perspective all apply to prioritizing air and space forces.

Balance

Air and space operations must be balanced. Balance is an essential guideline for air commanders. Much of the skill of an air commander is reflected in the dynamic and correct balancing of the principles of war and the tenets of air and space power to bring air and space power together to produce a synergistic effect. An air commander should balance combat opportunity, necessity, effectiveness, efficiency, and the impact on accomplishing assigned objectives against the associated risk to friendly air and space forces. An air commander is uniquely—and best—suited to determine the proper theaterwide balance between offensive and defensive operations, and among strategic, operational, and tactical applications. Commensurate with this capability is the air commander's responsibility to adequately communicate the intended effects of air and space power to the JFC and other component commanders, especially those schooled in surface operations. Technologically sophisticated air and space assets will be available only in finite numbers; thus, balance is a crucial determinant for an air commander.

CHAPTER FOUR

ROLES, MISSIONS, AND FUNCTIONS OF AIR AND SPACE POWER

The airplane is the only weapon which can engage with equal facility, land, sea, and other forces . . .

—Major General Frank M. Andrews
US Army Air Corps, 1938

In order to describe what air and space power in general, and the Air Force in particular, bring to the Nation, we must first explain the distinctions among roles, missions, and functions. Although these terms are frequently used interchangeably, each has a specific meaning.

In brief, the primary function of the Services is to organize, train, and equip forces to perform a role—to be provided to and employed by a combatant commander in the accomplishment of a mission to achieve a specific effect. Based upon the effect desired and the mission assigned, airmen accomplish a series of discrete tasks that cumulatively deliver the desired effects.

ROLES

Roles are the broad and enduring purposes for which the Services were established by law. The role of the Air Force is to organize, train, and equip aviation forces "primarily for prompt and sustained offensive and defensive air operations" (National Security Act, 1947). This basic charter has essentially remained unchanged to the present.

MISSIONS

Missions are the tasks assigned by the President or SecDef **to the combatant commanders.** Combatant commanders take these assigned tasks and develop mission statements, operational objectives, and concepts of operations; they then in turn assign specific tasks to subordinate

commanders. By tailoring these tasks to meet the commander's guidance and desired objectives, Air Force component commanders in turn develop component mission statements, objectives, and concepts of operations at their level.

FUNCTIONS

The functions of the Military Departments are those specific responsibilities that enable the Services to fulfill their legally established roles. The Air Force functions are based on the statutory responsibilities outlined in 10 USC § 8013 (b), which are known as "organize, train, and equip" activities. Specifically, these include "recruiting; organizing; supplying; equipping; training; servicing; mobilizing; demobilizing; administering (including the morale and welfare of personnel); maintaining; the construction, outfitting, and repair of military equipment; and the construction, maintenance, and repair of buildings, structures, and utilities; the acquisition, management and disposal; and the management of real property or natural resources" (Department of Defense Directive [DODD] 5100.1, *Functions of the Department of Defense and its Major Components*).

It is important to note that while DODD 5100.1 charges Air Force forces, for example, to "conduct … prompt and sustained combat operations in the air" and to "gain and maintain general air supremacy," **DODD 5100.1 does not determine exactly how these functions are to be accomplished.** These details are left to the Service to develop, based on available technologies and operational experience, much of which is eventually expressed in doctrine and, pursuant to 10 USC § 153(a)(5), the Chairman of the Joint Chiefs of Staff in joint matters.

One way to think about the difference between functions and missions is to distinguish between the functions a Service performs under the auspices of the administrative branch of the chain of command and those functions provided to a joint force commander via the operational branch of the chain of command. Along these lines, it is useful to make a distinction between "organizational functions" (those activities required to develop and sustain the Air Force as a corporate entity) and "operational functions" (those warfighting activities involving the application of air and space power to achieve specific military effects).

Organizational Functions

Organizational functions span the range of activities that provide the institutional infrastructure underpinning a modern air force. These include such activities as accessions, training, and education; research, development, and acquisition; budget preparation and submission; general administration; logistics support; conducting operational testing and evaluation; determining Service force requirements and making recommendations concerning force requirements to support national security objectives; as well as operating vehicles, systems, and craft. Many of these activities directly relate to the "organize, train, and equip" responsibilities assigned to each Service.

Implicit in these functions is the creation and maintenance of forces and organizations necessary to fulfill the assigned role. Specifically, the Air Force "is responsible for the preparation of the air and space forces necessary for the effective prosecution of war and military operations short of war, and, … for the expansion of the peacetime components of the Air Force to meet the needs of war" (DODD 5100.1).

The **key organizational functions** of the Air Force include the following: (Note: This is an abbreviated list extracted from DODD 5100.1.)

- To organize, train, equip, and provide forces for the conduct of prompt and sustained offensive and defensive combat operations in the air and space—specifically, forces to defend the United States against air and space attack in accordance with doctrines established by the JCS, gain and maintain general air and space supremacy, defeat enemy air and space forces, conduct space operations, control vital air areas, and establish local air and space superiority, except as otherwise assigned herein.
- To organize, train, equip, and provide forces for **appropriate air and missile defense and space control operations,** including the provision of forces as required for the **strategic defense of the United States.**
- To organize, train, equip, and provide forces for **strategic air and missile warfare.**
- To organize, train, equip, and provide forces for **close air support** and **air logistic support to the Army and other forces,** as directed, including airlift, air and space support, resupply of airborne operations, **aerial photography, tactical air reconnaissance, and air interdiction of enemy land forces and communications.**

- To organize, train, equip, and provide forces for **air transport** for the Armed Forces, except as otherwise assigned.
- **To provide launch and space support** for the Department of Defense, except as otherwise assigned.
- To develop appropriate Service doctrine and TTP.
- To organize, train, equip, and provide land-based tanker forces for the in-flight refueling support of strategic operations and deployments of aircraft of the Armed Forces and Air Force tactical operations.
- To organize, train, equip, and provide forces for the support and conduct of **special operations, psychological operations, and electronic warfare operations.**
- In support of maritime operations, conduct, through air and space operations, surface **sea surveillance** and **antisurface ship warfare;** antisubmarine warfare and antiair warfare operations to protect sea lines of communications; **aerial minelaying operations;** and air-to-air **refueling in support of naval campaigns.**
- To organize, train, equip, and provide forces to support space operations.

Operational Functions

The organizational functions assigned to the Services are broadly written and do not prescribe the operational paradigms to fulfill these tasks. This allows the Services the flexibility to develop the best operational models based on the available technology and the lessons of experience. These operational functions are the next intellectual level in describing how the Air Force fulfills its role.

Operational functions are tied to achieving specific effects. Effects are outcomes, events, or consequences resulting from specific actions; effects should contribute directly to desired military and political outcomes. This requires commanders and planners to explicitly and comprehensively link, to the greatest extent possible, each tactical action to strategic and operational objectives. This linkage is at the heart of effects-based operations (EBO), which are those actions taken against enemy systems designed to achieve specific effects that contribute directly to objectives. Commanders and planners must have a clear understanding of national security and campaign objectives and those actions necessary to create effects that cumulatively result in the desired end state.

Air and space power is tremendously flexible and can perform many tasks. In terms of describing those key functions air and space power presents to the joint force, an operational function should meet several criteria:

- It must be **planned and executed at the operational level** by a component commander
- It must be a **warfighting** (operational) **task,** not an organizational (administrative) task
- It should create **an effect at the operational level**
- It should **describe a finite operation** that delivers air and space power **to the JFC**

Using these criteria, the following list of **seventeen key operational functions** is derived:

- Strategic Attack
- Counterair
- Counterspace
- Counterland
- Countersea
- Information Operations (IO)
- Combat Support
- Command and Control (C2)
- Airlift
- Air Refueling
- Spacelift
- Special Operations
- Intelligence
- Surveillance and Reconnaissance
- Combat Search and Rescue (CSAR)
- Navigation and Positioning
- Weather Services

OPERATIONAL FUNCTIONS OF AIR AND SPACE POWER

The principles of war provide a foundation of warfighting principles universally held by the joint community. The tenets of air and space power refine these further by adding context, from the airman's perspective, about how air and space power should best be applied. The functions of air and space power take this discussion to the next level of granularity, by describing the actual operational constructs airmen use to apply air and space power to achieve objectives.

The Air Force's operational functions, shown in Figure 4.1, are **the broad, fundamental, and continuing activities of air and space power.** They

are not necessarily unique to the Air Force; elements of other Services may perform them or similar activities to varying degrees, but together they do represent the means by which Service forces accomplish the missions assigned to joint force commanders by the President, SecDef, and combatant commanders. These basic functions have evolved steadily since airpower's inception. Air Force forces employ air and space power globally through these basic functions to achieve strategic-, operational-, and tactical-level objectives. These battle-proven functions can be conducted at any level of war and enable the Air Force to shape and control the battlespace.

Air & Space Power Functions

Strategic Attack
Counterair
Counterspace
Counterland
Countersea
Information Operations
Combat Support
Command & Control
Airlift
Air Refueling
Spacelift
Special Operations
Intelligence
Surveillance & Reconnnaissance
Combat Search & Rescue
Navigation & Positioning
Weather Services

Figure 4.1. Air and Space Power Functions

Strategic Attack

Strategic attack is defined **as offensive action conducted by command authorities aimed at generating effects that most directly achieve our national security objectives by affecting the adversary's leadership, conflict-sustaining resources, and strategy.** Strategic attack is a concept, not just a function. As a concept, strategic attack builds on the idea that it is possible to directly affect an adversary's sources of strength and will to fight without first having to engage and defeat their military forces. Strategic attack may also be used to prevent the enemy from attacking our vulnerable points, essentially denying them their war aims. Adding in the concept of effects-based operations takes it further.

Air and Space power provides strategic force to the nation

Military forces are highly interconnected entities. Through strategic attack, military commanders can directly affect adversary leadership

perceptions (either by isolation, deception, or exploitation) and cut off their fielded forces from their leadership and societies, as well as directly attack the adversary's capacity to sustain military forces in the field. While strategic attack may not totally eliminate the need to directly engage the adversary's fielded military forces, it can shape those engagements so they will be fought at the time and place of our choosing under conditions more likely to lead to decisive outcomes with the least risk for friendly forces.

Understanding strategic attack is critically important to future joint operations. **Air and space power is inherently a strategic force and an offensive weapon. Unlike other forms of military power, air and space power may simultaneously hold all of an enemy's instruments of power at risk—military, economic, and diplomatic.** Employed properly, it offers the capability of going to the heart of the enemy sources of strength, avoiding prolonged attrition-based surface combat operations as a precursor. Strategic attack is not an argument for replacing ground combat with airpower; the ground battle will often still be necessary. Strategic attack simply offers JFCs another option, a flexible one that can go to the heart of an enemy and attain a variety of effects directly at the strategic level. It is thus the articulation of what modern air and space power can bring to the joint table as a maneuver force in its own right. **Strategic attack, as envisioned today, is more than just a function—it is also a different approach for thinking about war. It is the manifestation of the airman's perspective: thinking about defeating the enemy as a system.**

Counterair

Even though strategic attack best describes the airman's overall vision for striking at the enemy, counterair is the pivotal prerequisite for success. Counterair consists of **operations to attain and maintain a desired degree of air superiority by the destruction, degradation, or disruption of enemy forces.** Counterair's two elements, offensive counterair (OCA) and defensive counterair (DCA), enable friendly use of contested airspace and disable the enemy's offensive air and missile capabilities to reduce the threat posed against friendly forces. The entire offensive and defensive counterair effort should be controlled by one air officer, under the unity of command principle and the centralized control-decentralized execution tenet, in order to assure that concentration of effort and economy of force requirements are met. Air and space superiority normally should be the JFC's first priority for air and space forces.

The field for air superiority is not a straightforward issue like a naval battle or a land battle; it is not even a series of combats between fighters; it is frequently a highly complex operation which may involve any or all types of aircraft. It is a campaign rather than a battle, and there is no absolute finality to it so long as enemy aircraft are operating.

—Air Chief Marshal Sir Arthur Tedder

Offensive counterair (OCA) consists of operations to destroy, degrade, or disrupt enemy air and missile power as close to its source as possible and at a time and place of our choosing. Because air and space forces are inherently offensive and yield the best effect when so employed, OCA is often the most effective and efficient method for achieving the appropriate degree of air superiority. OCA operations include the suppression of enemy air defense targets, such as aircraft and surface-to-air missiles or local defense systems, and their supporting C2. OCA operations protect friendly forces and vital interests by destroying or degrading enemy offensive air and missile threats before they bring their effects to bear against us. This is freedom from attack that enables action by friendly forces—freedom to attack. The aircraft and missile threat may include fixed- and rotary-wing attack aircraft, reconnaissance aircraft, unmanned aerial vehicles, air-, land-, and sea-launched cruise missiles, ballistic missiles, and air-to-surface missiles.

Defensive counterair (DCA) entails detection, identification, interception, and destruction of attacking enemy air and missiles and normally takes place over or close to friendly territory. DCA concentrates on defeating the enemy's offensive plan and on inflicting unacceptable losses on attacking enemy forces. DCA is synonymous with air defense and consists of active and passive operations to defend friendly airspace and protect friendly forces, materiel, and infrastructure from enemy air and missile attack.

Counterspace

Counterspace involves those kinetic and nonkinetic operations conducted to attain and maintain a desired degree of space superiority by the destruction, degradation, or disruption of enemy space capability.

Such operations may include operations against a third-party nation with space capabilities supporting an adversary's interests. The main objectives

of counterspace operations are to allow friendly forces to exploit space capabilities, while negating the enemy's ability to do the same. They can be conducted by air, space, land, sea, information, or special operations forces (SOF). Effective counterspace operations depend on space situational awareness to provide an understanding of global space operations and is derived from C2, ISR, and environmental information. Like counterair, counterspace operations have an offensive and a defensive component.

Space capabilities are a vital aspect of air and space power.

Offensive counterspace (OCS) operations deny, degrade, disrupt, destroy, or deceive an adversary's space capability or the service provided by a third-party's space asset(s) to the adversary at a time and place of our choosing through attacks on the space nodes, terrestrial nodes, or the links that comprise a space system. These operations range from dropping ordnance on terrestrial nodes of space systems to jamming enemy satellite uplink or downlink frequencies. OCS operations initiated early in a contingency can result in an immediate advantage in space capabilities and control of the space medium.

Defensive counterspace (DCS) operations preserve space capabilities, withstand enemy attack, restore/recover space capabilities after an attack, and reconstitute space forces. DCS operations should be proactive in nature to protect our capabilities and prevent the adversary from disrupting overall friendly operations. Suppression of threats to friendly space capabilities is a key of DCS operations. An example of DCS operations from Operation IRAQI FREEDOM was the destruction of adversary, ground-based global positioning system (GPS) jammers to preserve freedom to employ GPS-aided munitions by friendly forces.

Counterland

Counterland is defined as air and space operations against enemy land force capabilities to create effects that achieve JFC objectives. The main objectives of counterland operations are to dominate the surface environment and prevent the opponent from doing the same. Although historically associated with support to friendly surface forces, counterland operations may encompass the identical missions, either without the presence of friendly surface forces or with only small numbers of surface forces

providing target cueing. This independent or direct attack of adversary surface operations by air and space forces is the key to success when seizing the initiative during early phases of a conflict. Counterland provides the JFC two discrete air operations for engaging enemy land forces: air interdiction (AI), in which air maneuver indirectly supports land maneuver or directly supports an air scheme of maneuver, and close air support (CAS), in which air maneuver directly supports land maneuver.

Air and space power can dominate the surface environment.

Interdiction is a form of joint maneuver with joint means. Interdiction consists of operations to divert, disrupt, delay, or destroy the enemy's surface military potential before it can be used effectively against friendly forces. Joint force interdiction needs the direction of a single commander who can exploit and coordinate all the forces involved, whether air-, space-, surface-, or information-based. **Air interdiction** is air and space power's application of interdiction. Air interdiction is a form of aerial maneuver that destroys, disrupts, diverts, or delays the enemy's surface military potential before it can be used effectively against friendly forces, or otherwise achieve its objectives. The joint force air and space component commander (JFACC) is normally the supported commander for AI. Using the JFC's priorities, the JFACC executes AI to provide effects for friendly forces executing a land scheme of maneuver. Joint air forces provide responsive AI across the theater, unconstrained by battlefield boundaries. They should be free to attack the right targets with the right munitions at the right time. AI is directed against enemy land force capabilities and associated infrastructure that contribute directly to or are maneuvering to reinforce the ground battle. AI affects the enemy's ability to command, mass, maneuver, supply, and reinforce available combat power. Surface, air, and special operations commanders need to assist in identifying the crucial targets; decide when, where, and how to attack them; and determine how surface operations and interdiction can best complement each other to achieve the JFC's objectives and to create opportunities for other maneuver elements

to exploit. AI levies requirements on air planners and air and space operations center (AOC) personnel to plan, execute, and assess AI in coordination with surface components, when appropriate.

CAS creates devastating tactical effects.

Close air support (CAS) provides direct support to help friendly surface forces in contact with enemy forces carry out their assigned tasks. These operations require detailed integration of each air mission with the fire and movement of those forces. Commanders can build on the tactical effects of close air support by orchestrating it with other surface and air operations to produce operational-level effects. In fluid, high-intensity warfare, the need for tight control, the unpredictability of the tactical situation, the risk of fratricide, and the proliferation of lethal ground-based air defenses make close air support especially challenging.

CAS can provide a tremendous tactical advantage when supporting ground forces. Although in isolation it rarely achieves campaign-level objectives, at times it may be the more critical mission due to its contribution to campaign objectives. CAS should be planned to prepare the conditions for success or reinforce successful attacks of surface forces. CAS can halt attacks, help create breakthroughs, cover retreats, and guard flanks. To be most effective, however, CAS should be used at decisive points in a battle and should normally be massed to apply concentrated combat power and saturate defenses.

Countersea

Countersea functions are **an extension of Air Force capabilities into a maritime environment.** The identified specialized collateral tasks are sea surveillance, antiship warfare, protection of sea lines of communications through antisubmarine and antiair warfare, aerial minelaying, and air refueling in support of naval campaigns. Many of these collateral tasks translate to primary functions of air and space forces such as interdiction, counterair, and strategic attack. As with the air and space functions, countersea operations are designed to achieve strategic-, operational-, or

tactical-level objectives in the pursuit of joint force objectives. The objective is to gain control of the medium and, to the extent possible, dominate operations either in conjunction with naval forces or independently.

Information Operations

Information operations (IO) are actions taken to **influence, affect, or defend information, systems, and/or decision-making** to create effects across the battlespace. IO must be integrated into air and space component operations in the same manner as traditional air and space capabilities. IO can create effects across the entire battlespace and provide advantages to a commander assigned an operational mission.

IO is an integrated effects-based approach to provide the mechanism to plan, task, command, and control these capabilities. More specifically, it is those activities that influence or affect the adversary's "observe-orient-decide-act" (OODA) loop while protecting our own. Whether the target is national-level decision making, military C2, or an automated industrial process, the target's OODA loop process dictates the opportunities and vulnerabilities. IO is not focused on making decision loops work; rather, it defends our loops and influences or affects the adversary's loops. Information operations primarily include non-kinetic actions. IO is performed through the integration of influence operations, network warfare operations, and electronic warfare operations.

Influence operations employ capabilities to affect behaviors, protect operations, communicate commander's intent, and project accurate information to achieve desired effects across the cognitive battlespace. These effects should result in differing behavior or a change in the adversary decision process, which aligns with the commander's objectives. The elements of influence operations are counterpropaganda operations, psychological operations, military deception, operations security, counterintelligence operations, and public affairs operations. These elements allow the commander to convey information and indicators to audiences; shape the perceptions of decision makers; secure critical friendly information; protect against espionage, sabotage, and other intelligence gathering activities; and communicate unclassified information about Air Force activities to the global audience.

Electronic warfare operations are those military actions involving the use of electromagnetic and directed energy to control the electromagnetic

spectrum or to attack the enemy across the electromagnetic battlespace. Control of the electromagnetic spectrum is gained by protecting friendly systems and countering adversary systems. The electronic warfare spectrum is not limited to radio frequencies; it also includes optical and infrared regions. The operational elements of electronic warfare operations are electronic attack, electronic protection, and electronic warfare support.

Network warfare operations are the integrated planning and employment of military capabilities to achieve desired effects across the digital battlespace. Network warfare operations are conducted in the information domain, which is composed of hardware, software, data, and human components. Within this domain are the networks on which our information and information systems operate. Networks in this context are defined as any collection of systems transmitting information. This includes but is not limited to radio nets; satellite links; tactical digital information links (TADIL); telemetry; digital track files and supervisory control and data acquisition (SCADA) systems; telecommunications; and wireless communications networks and systems. The operational elements of network warfare operations are network attack, network defense, and network support.

Combat Support

Combat support is **the essential capabilities, functions, activities, and tasks necessary to create and sustain air and space forces.** It includes the procurement, maintenance, distribution, and replacement of personnel and materiel. In warfighting terms, combat support is "the science of planning and carrying out the movement, maintenance, and protection of forces, as well as ensuring an effective combat support command and control process of those forces." Air Force combat support consists of those activities designed to field and support a specific military capability across the full spectrum of military operations and includes logistics, personnel, communications, financial management, security forces, services, safety, civil engineering, health services, historian's office, public affairs, legal services, and chaplaincy. Operations are those functions that employ military capabilities. For the Air Force, this means aircrew members, missile launch officers, etc., using their aircraft, missiles, munitions, and other weapons systems to achieve military objectives. Combat support and operations together create combat capability.

Agile combat support (ACS) is the timely concentration, employment, and sustainment of US military power anywhere—at our initiative, speed, and tempo—that our adversaries cannot match. Agility in combat support is crucial to meeting the demands of today's rapidly changing environment. With the cold war over and new threats springing up in every corner of the globe, combat support must have the capability to quickly focus and refocus support activities and resources. The need to establish operations in days instead of weeks or months and to support massive operations that are executed at lightning speed with almost daily changes in requirements demands a combat support capability that is responsive and flexible.

Agile combat support allows the Air Force to meet changing needs.

Combat support creates, sustains, and protects all air and space capabilities to accomplish mission objectives across the spectrum of military operations. It ensures responsive right-sized expeditionary support forces for joint operations that are achievable within resource constraints. Thus, ACS provides the foundation to support air and space expeditionary task force (AETF) operations enabling the capabilities that distinguish air and space power—speed, flexibility, and global perspective.

ACS supports mission accomplishment.

Expeditionary combat support (ECS) comprises the expeditionary subset of ACS. ECS includes the essential capabilities, functions, activities, and tasks necessary to employ and sustain all elements of aviation and ground combat

operations forces in a deployed location. ECS provides those capabilities associated with deployment, reception, beddown, employment, sustainment, and redeployment in support of Air Force or joint operations.

ECS efficiently provides essential support while minimizing footprint forward. Comprehensive analysis and advance force structuring enable planners to assess mission requirements, operating environment, aircraft and munitions configurations, and other sustainment requirements. The core combat support portion of an AETF is identified and generically prioritized well in advance of any tasking. The AETF is shaped based on specific mission requirements. This factor enables leaders and their planners at every level to assess preparation, training, movement, support, and sustainment on a routine basis. Additionally, given this task force structure, lift is fully optimized in a balanced push/pull system that anticipates as well as rapidly responds to sustainment requirements.

Command and Control (C2)

Command is the legal authority exercised over subordinates by virtue of rank or assignment. Command is also the art of motivating and directing people and organizations into action to accomplish missions.

Control is the process and system by which commanders plan and guide operations. Commanders should rely on delegation of authorities and commander's intent as methods to control forces. However, although commanders may delegate authority to accomplish the mission, they cannot delegate the responsibility for the attainment of mission objectives.

C2 is the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. C2 includes both the **process** by which the commander decides what action is to be taken and the **systems**

C2 is vital to all Air Force operations.

that facilitate planning, execution, and monitoring of those actions. Specifically, C2 includes the battlespace management process of planning, directing, coordinating, and controlling forces and operations.

C2 involves the integration of a system of procedures, organizational structures, personnel, equipment, facilities, information, and communications designed to enable a commander to exercise authority and direction across the range of military operations. Air and space forces conduct the C2 function to meet strategic, operational, and tactical objectives.

Air Force forces are employed in a joint force context by a joint force commander. C2 of those forces can be through a Service component commander or a functional component commander if more than one Service's air and space assets are involved. This officer, the JFACC, should normally be the Service commander with the preponderance of air and space assets and the capability to plan, task, and control joint air and space operations. **Centralized C2 of air and space forces under a single airman is a fundamental principle of air and space doctrine.**

Airlift

Airlift is the transportation of personnel and materiel through the air, which can be applied across the entire range of military operations to achieve or support objectives and can achieve tactical through strategic effects. Airlift provides rapid and flexible mobility options that allow military forces as well as national and international governmental agencies to respond to and operate in a wider variety of circumstances and time frames. It provides US military forces the global reach capability to quickly apply strategic global power to various crisis situations worldwide by delivering necessary forces. The power projection capability that airlift supplies is vital since

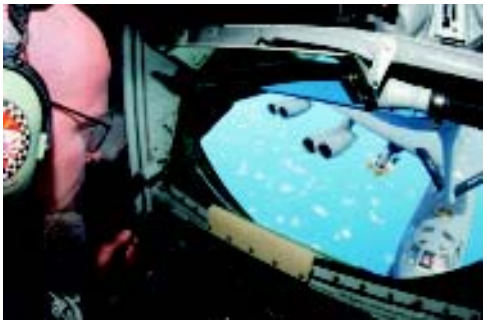
Airlift supports global reach and global power.

it provides the flexibility to get rapid-reaction forces to the point of a crisis with minimum delay. Airlift can serve as American presence worldwide, demonstrating our resolve, as well as serve as a constructive force during times of humanitarian crisis or natural disaster.

Air Force airlift missions encompass passenger and cargo movement, combat employment and sustainment, aeromedical evacuation, special operations support, and operational support airlift. These missions can be tasked in a variety of ways: Channel, Air Mobility Express (a special category of Channel), special assignment airlift mission (SAAM), special air mission (SAM), joint airborne/air transportability training (JA/ATT), or exercise and contingency missions. These missions are executed using four delivery concepts that work together to provide efficient and effective mobility: airland, airdrop, hub-and-spoke, and direct delivery.

Air Refueling

Air refueling is the in-flight transfer of fuel between tanker and receiver aircraft. It forms one leg of the air mobility triad and contributes it missions to the accomplishment of air mobility tasks. An aircraft's ability to remain airborne is limited by the amount of available fuel. Air refueling increases the range, payload, loiter time, and ultimately the flexibility and versatility of combat, combat support, and mobility aircraft. By increasing range or endurance of receivers, it is a force enabler; by allowing aircraft to take off with higher payloads and not sacrifice payload for fuel, it is a force multiplier.



Air refueling contributes to mission accomplishment.

Air Force air refueling assets employ to accomplish six missions: nuclear operations support, global strike, airbridge support, aircraft deployment, theater support, and special operations support. Air refueling assets are versatile and can accomplish either boom or drogue refueling. A variety of refueling rendezvous techniques can be planned to facilitate operations, including point parallel, en route, anchor, radar, and receiver directed.

Spacelift

Spacelift supports new and existing systems.

Spacelift delivers satellites, payloads, and materiel to space. Assured access to space is a key element of US national space policy and a foundation upon which US national security, civil, and commercial space activities depend. The Air Force is the DOD Service responsible for operating US launch facilities.

During periods of increased tension or conflict, spacelift's objective is to deploy new and replenishment space assets as necessary to meet US space goals and achieve national security objectives. To satisfy this requirement, spacelift must be functional and flexible, capable of meeting the Nation's full range of national security, commercial, and civil launch requirements. Equally important, spacelift must be timely and responsive to the users' needs.

The Air Force provides spacelift for four basic purposes:

- Deploying space systems to fulfill new requirements for satellite service.
- Sustaining existing space systems whose individual satellites are nearing the end of their useful life, predicted to fail, or have failed.
- Augmenting existing space systems with redundant or additional capability to enhance space system performance or increase system survivability should national security dictate.
- Servicing and maintaining existing or newly deployed space systems.

Spacelift can be pursued from two approaches:

- Launch-on-schedule. Due to requirements to ensure spacelift availability for all US users, the Air Force conducts launch operations based on a launch-on-schedule approach. All users are scheduled for spacelift based on priority as well as launch vehicle and payload readiness. Changes to published schedules require the formal coordination and approval from all parties affected, or preemption of the existing schedule by the Secretary of Defense.

- Launch-on-demand. This approach provides an alternative means of spacelift whereby launches may occur when required to accommodate user needs. Launch-on-demand dictates spacelift capability must be obtained in advance of specific requirements.

Special Operations

Special operations are the use of special airpower operations (denied territory mobility, surgical firepower, and special tactics) to conduct the following special operations functions: unconventional warfare, direct action, special reconnaissance, counterterrorism, foreign internal defense, psychological operations, and counterproliferation. To execute special operations, Air Force special operations forces (AFSOF) are normally organized and employed in small formations capable of independent, supported, and supporting operations, with the purpose of enabling timely and tailored responses across the range of military operations.

Distinctive from normal conventional forces, AFSOF may accomplish tasks at the strategic, operational, or tactical levels of war or other contingency operations through the conduct of low-visibility, covert, or clandestine military actions. Air Force special operations are usually conducted in enemy-controlled or politically sensitive territories and may complement or support general-purpose force operations. AFSOF are normally part of a joint special operations forces (SOF) team that provides combatant commanders with a synergistic capability to accomplish specialized tasks. AFSOF may also be employed as an integral part of a joint task force's (JTF) conventional air component.

The difference between special operations and conventional operations lies in the degree of physical and political risk, degree of overtness, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets. That setting is one often dominated by high risk and political, environmental, and operational constraints. In addition, governments often view the use of SOF as a means

SOF operate at all levels of war.

to control escalation in situations in which the use of conventional forces is unwarranted or undesirable. Accordingly, theater combatant commanders may choose to employ SOF, working either independently or in support of conventional forces, to operate in rear areas to exploit enemy weaknesses or collect intelligence that would not otherwise be available. However, SOF can also operate as a strategic force independent of theater combatant commanders. Such employment should be carefully coordinated to prevent conflict with other operations.

AFSOF provides a synergistic capability to a JTF.

Intelligence

Intelligence is the product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas. Specifically, intelligence efforts will focus on: foreign military capabilities; political groups; political, social, and technological developments; or particular geographic regions. The art of intelligence is rapidly turning information gathered through surveillance and reconnaissance into an accurate, predictive, and actionable format that can be used to assist planning, execution, and evaluation of air and space operations.

The overall objective of intelligence is to provide battlespace awareness to commanders and combat forces to enable them to successfully plan, operate, and assess results across the range of military operations. Effective air intelligence results when actionable information derived from a detailed understanding of adversary systems, capabilities, and intentions is delivered in time to make germane planning and operational decisions on how, when, and where to engage enemy forces. Intelligence provides accurate, relevant, timely, and predictive analysis to support military operations to achieve the desired effects of the commander. Air

intelligence evaluates the adversary as a "system of systems" to predict likely effects on key adversary capabilities when action is taken against them to meet military objectives. It integrates surveillance and reconnaissance assets to reduce uncertainties while planning, provides timely information during execution, and provides combat assessment through battle damage and munitions effectiveness assessments.

Intelligence provides battlespace awareness.

Intelligence organizations integrate technical and quantitative assessments with analytical judgments based on detailed knowledge of the way the enemy thinks and operates. Intelligence personnel also must maintain an independent perspective. Commanders anticipate that even the best intelligence doesn't guarantee a complete picture, especially when the enemy is practicing camouflage, concealment, and deception, or when the intelligence is derived from a single source. Still, accurate and timely intelligence gives commanders the best available estimate of enemy capabilities, centers of gravity, and courses of action to plan future air and space operations.

Surveillance and Reconnaissance

Surveillance is the function of systematically observing air, space, surface, or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means. Surveillance is a continuing process, not oriented to a specific target. In response to the requirements of military forces, surveillance must be designed to provide warning of enemy initiatives and threats and to detect changes in enemy activities.

Air and space-based surveillance assets exploit elevation to detect enemy initiatives at long range. For example, its extreme elevation makes space-based missile-launch detection and tracking indispensable for defense against ballistic missile attack. Surveillance assets are now essential to national and theater defense and to the security of air, space, subsurface, and surface forces.

Reconnaissance complements surveillance by **obtaining specific information about the activities and resources of an enemy or potential enemy through visual observation or other detection methods; or by securing data concerning the meteorological, hydrographic, or geographic characteristics of a particular area.** Reconnaissance generally has a time constraint associated with the tasking.

Surveillance and reconnaissance forces possess many capabilities.

Surveillance and reconnaissance capabilities and their associated support systems are tailored to provide the flexibility, responsiveness, versatility, and mobility required by the strenuous demands of fluid, global taskings. Intelligence critical to the prosecution of current combat operations is evaluated and transmitted in near-real time to those elements having a need for that information.

Reconnaissance forces possess multiple and diverse capabilities. Because these capabilities are valuable across all levels of war, their specific employment at any one level should consider possible effects on other levels. Intelligence, surveillance, and reconnaissance must operate together, enabling commanders to preserve forces, achieve economies, and accomplish campaign objectives. They are integral to gaining and maintaining information superiority.

Combat Search and Rescue (CSAR)

Air Force CSAR **is a specific task performed by rescue forces to recover isolated personnel during war or MOOTW.** Accomplished with a mix of dedicated and augmenting assets, CSAR is an element of personnel recovery (PR). PR is the umbrella term for operations focusing on recovering captured, missing, or isolated personnel from danger. The Air Force organizes, trains, and equips personnel to conduct CSAR operations, using the fastest and most effective means, across the range of military operations. Air Force combat rescue forces deploy to conduct CSAR with dedicated rotary- and fixed-wing aircraft, specially trained aircrews, and support personnel in response to geographic combatant

commander taskings. Rescue forces may also conduct collateral missions such as non-combat search and rescue (SAR), emergency aeromedical evacuation, humanitarian relief, international aid, noncombatant evacuation operations, counterdrug activities, support for National Aeronautics and Space Administration flight operations, and other missions as directed by the combatant commander and the commander, Air Force forces (COMAFFOR).

CSAR operates across the range of military operations.

CSAR is an integral part of US combat operations and must be considered across the range of military operations. CSAR consists of those air operations conducted to recover distressed personnel during wartime or contingency. It is a key element in sustaining the morale, cohesion, and fighting capability of friendly forces. It preserves critical combat resources and denies the enemy potential sources of intelligence. Although all USAF weapon systems have the inherent capability to support CSAR operations, the USAF maintains certain forces specifically dedicated for search, rescue, and recovery operations.

Navigation and Positioning

Navigation and positioning **provide accurate location and time of reference in support of strategic, operational, and tactical operations.** For example, space-based systems provide the global positioning system, airborne-based systems provide air-to-surface radar, and ground-based systems provide various navigation aids. Navigation and positioning help air forces by: accurate rendezvous for air refueling; synchronization of effort via a common timing capability; and position, location, and velocity for accurate weapons delivery, ingress/egress, as well as search and rescue.

Navigation and positioning are vital to Air Force operations.

Navigation and positioning are key elements of information superiority and global awareness.

Weather Services

Weather services provided by the Air Force **supply timely and accurate environmental information, including both space environment and atmospheric weather,** to commanders for their objectives and plans at the strategic, operational, and tactical levels. It gathers, analyzes, and provides meteorological data for mission planning and execution. Environmental information is integral to the decision process and timing for employing forces and planning and conducting air, ground, and space launch operations. Weather services also influence the selection of targets, routes, weapon systems, and delivery tactics, and are a key element of information superiority.

Timely and accurate weather information supports decision-making processes.

CHAPTER FIVE

EXPEDITIONARY AIR FORCE ORGANIZATION

It appears that, when Germany determined to go into Norway, the staff of the supreme command determined what proportion of air, ground, and naval elements would comprise this expeditionary force. It then designated a commander and thereafter there was complete unity of command, and no interference from the three arms of the service thus combined. Here is a lesson which we must study well.

—General H. H. "Hap" Arnold

During much of the cold war, most Air Force officers did not have to seriously think about warfighting organization. War plans generally focused on either a NATO/Warsaw Pact conflict in Europe or a rematch in Korea. If not already overseas, a unit's deployment was scripted; it would fall in on a predesignated base overseas, under the control of a predesignated commander, and would perform an expected set of missions in a certain region of the theater. Units trained according to their role in a given operation plan (OPLAN). Thus, since most scenarios were "canned," airmen had little need to think about how to organize and operate without established bases and support.

Things have changed considerably since the end of the cold war. With fewer forces forward, the US relies much more heavily on projecting forces from the continental United States (CONUS). Also, the NATO-centric "major theater war" scenario has given way to more numerous, ad hoc deployments for unanticipated missions. As a result, we became "expeditionary." Forces no longer deploy according to a fixed script. There may not be a mature command structure to fall in on, much less a "warm" base ready for operations. Indeed, the entire joint force may have to be assembled on the fly with a mix of in-theater and deploying forces, even as

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Note: This chapter presents the basics of Service and joint expeditionary organization. See AFDD 2, *Organization, Planning, and Employment of Aerospace Power,* for more detailed discussion.

a crisis unfolds. But this is no excuse for poor preparation. We have to think things through before we are called, even if we are not as certain where or when we will be called upon to act.

The Air Force is an expeditionary force.

Since the first Persian Gulf War in 1991, the Air Force has deployed forces numerous times, either for new contingencies or while rotating forces in support of standing operations. These lessons were captured in Service doctrine publications in time for Operation ALLIED FORCE, which saw the first test of our expeditionary organizational model—the AETF. The good news: in principle, it worked. Since then, we have fine-tuned it. We have also learned much about how to integrate a joint force efficiently and effectively. While sometimes things didn't always work as well as we hoped, we noted the lessons and adjusted our doctrine. Now, when called upon—as we recently were in Afghanistan and Iraq—we have a set of proven organizational principles to build on. When intelligently applied, the AETF model can assist some of the heavy thinking during the early stages of a contingency.

Effective organization is critically important to effective and efficient operations. Service and joint force organization and command relationships—literally, who owns what, and who can do what with whom, and when—easily create the most friction within any operation. Therefore, it is absolutely imperative that airmen understand the fundamentals of Air Force and joint organization and command relationships.

AIR AND SPACE EXPEDITIONARY FORCE

To alleviate pressures created by post-cold war downsizing and an unexpected growth in smaller but diverse regional commitments, the Air Force established the air and space expeditionary force (AEF) concept as a means to provide forces and support on a rotational, and thus, a relatively more predictable basis. These AEFs, however, only provide a source of readily trained operational and support forces. Because they do not provide for a commander (specifically, a COMAFFOR) or the necessary command

and control mechanisms (AOC and A-Staff), they, by themselves, are not discrete, employable entities. Forces sourced from AEFs will fall in on in-theater command structures, which are usually provided by regional numbered air forces (NAFs), and may link up with in-theater Air Force forces. Thus, while AEF forces may deploy, they will stand up as part of an AETF, not as their own warfighting entity. In short, **the AEF is the mechanism for managing and scheduling forces for expeditionary use; the AETF is the Air Force warfighting organization presented to a JFC.**

AIR AND SPACE EXPEDITIONARY TASK FORCE

The AETF is the organizational structure for deployed Air Force forces. The AETF presents a JFC with a task-organized, integrated package with the appropriate balance of force, sustainment, control, and force protection. Regardless of the size of the Air Force element, it will be organized along the lines of an AETF. While the task force model itself is not new, its emphasis within the Air Force is recent. To understand its basis, we should first look at the joint definition of a task force:

> **task force—**1. A temporary grouping of units, under one commander, formed for the purpose of carrying out a specific operation or mission. 2. A semipermanent organization of units, under one commander, formed for the purpose of carrying out a continuing specific task. (JP 0-2)

The AETF leverages this fundamental concept, presenting a scalable, tailorable organization with **three elements: a single commander, embodied in the COMAFFOR; appropriate command and control mechanisms; and tailored and fully supported forces.** Each of these elements will be examined in detail.

✪ "Single Commander . . ."

A single commander presents a single Air Force face to the JFC and results in clear lines of authority both ways. Within the task force, there is only one person clearly in charge; for the superior commander, there is only one person to deal with on matters regarding Air Force issues. **The axiom that "airmen work for airmen, and the senior airman works for the JFC" not only preserves the principle of unity of command, it also embodies the principle of simplicity. The AETF commander—the COMAFFOR—is the senior Air Force warfighter and exercises the**

appropriate degree of control over the forces assigned, attached, or in support of the AETF. Within the joint force, these degrees of control are formally expressed as operational control (OPCON), tactical control (TACON), or support. Within Service lines, the COMAFFOR exercises administrative control (ADCON).

AETFs, when established, will form up within a NAF. In almost all instances, a NAF will be the most senior Air Force warfighting echelon to be offered to a joint commander. If the entire NAF is engaged, the NAF commander will be the COMAFFOR; smaller operations may be scaled appropriately. Thus, depending on the size of the AETF, the rank of the COMAFFOR may run from lieutenant general to lieutenant colonel. Within the AETF, units will form up as expeditionary wings, groups, squadrons, flights, detachments, or elements, as necessary to provide reasonable spans of internal control and maintain unit cohesion. The COMAFFOR should normally be designated at a command level above the operating forces and should not be dual-hatted as commander of one of the subordinate operating units. This allows the COMAFFOR to focus at the operational level of war, while subordinate commanders lead their units at the tactical level.

✪ "Appropriate Command and Control Mechanisms . . ."

The COMAFFOR requires command activities to exercise operational control and Service control. OPCON is usually exercised through an AOC; ADCON is exercised through an A-Staff.

The character of the AOC may vary, depending on the type of operation. It may be one of the large, fixed combined air and space operations centers (CAOCs) found overseas, or a new AOC deployed for that operation. For mobility-centric operations, the operations center may be one of the regional air mobility operations control centers or even the tanker airlift control center (TACC) at Scott AFB. Space operations may leverage the Space AOC at Vandenberg AFB. Frequently, these centers will work together in a mutually supporting command arrangement, with one of them designated as the supported center. While the AOC is organic to Air Force operations, with proper augmentation from the other Services and coalition partners, it may evolve into a joint or combined air and space operations center (JAOC or CAOC), depending on the type of operation and whether the COMAFFOR is also acting as the joint or combined force air and space component commander (JFACC or CFACC).

The A-Staff oversees the deployment and sustainment of Air Force forces and is the mechanism through which the COMAFFOR exercises ADCON responsibilities. These sustainment activities are sometimes referred to as "beds, beans, and bullets."

The AOC and the A-Staff should be tailored in size and function according to the operation. Not all operations require a "full-up" AOC with over 1,000 people or a large A-Staff. Smaller operations, such as some humanitarian operations, can in fact make do with a small control center that does little more than scheduling and reporting. Also, not all elements of the AOC and A-Staff need be forward; some may operate "over the horizon," providing distributed support to the forward element electronically, reducing the forward footprint.

✪ "Tailored and Fully Supported Forces . . ."

The AETF will be tailored to the mission. It should draw first from in-theater resources, if available. If augmentation is needed, or if in-theater forces are not available, the AETF will draw as needed from the AEF currently on rotation. These forces, whether in-theater or deployed from out of theater, should be fully supported with the requisite maintenance, logistical, health services, and administrative elements. These forces will form up within the AETF as expeditionary wings, groups, squadrons, flights, detachments, or elements, as necessary to provide reasonable spans of control and command elements at appropriate levels.

In summary, the AETF is an expeditionary force formed under a JFC for a temporary period of time to perform a specified mission. The AETF provides the JFC with a tailored package of air, space, and information capabilities in a structure that preserves Air Force unity of command. An AETF can be sized as a NAF, wing, group, or a mix of echelons as appropriate, depending on the level and nature of the conflict and the size of the air and space component required.

JOINT ORGANIZATION FUNDAMENTALS

When a crisis requires a military response, the regional combatant commander will usually form a joint task force (JTF) to provide that response. If Air Force forces are part of that JTF, they will stand up as an AETF within the JTF. The AETF will normally coalesce around the NAF in that particular region. The AETF commander, as the COMAFFOR, will

provide the single Air Force face to the JTF commander. Other Services may also provide forces and will stand up as separate Army, Navy, and Marine forces, each with their respective commander (COMARFOR, COMNAVFOR, and COMMARFOR). This JTF organization, along purely Service lines, is the most basic joint force organization (see Figure 5.1). Each separate Service component commander usually exercises OPCON over his/her forces, as delegated from the JFC.

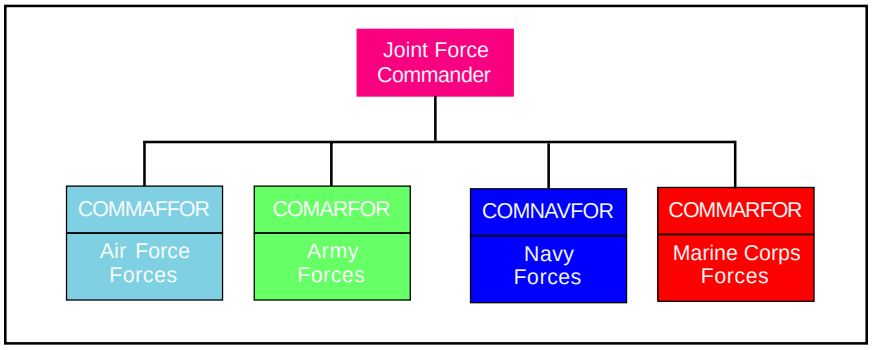


Figure 5.1. Joint task force organization along purely Service lines. This is the most basic joint force organization.

Organizing by Service, however, does not allow for the true integration of key functional activities—especially air and space power. Further, Army, Navy, and Marine forces are usually assigned individual areas of operation (AOs), which are subsets of the JFC's joint operating area (JOA); this less-than-total view of the battlespace presents a tactical perspective. By comparison, an air component commander has the same JOA-wide perspective as the JFC.

Because all four Services have forces that operate in the air medium, and two of them have land forces, the designation of functional commanders allows greater synergy by integrating similar activities across Service boundaries. Functional component commanders can also focus their planning and execution above the tactical, AO level, at the operational level of war. However, the designation of joint force air, land, maritime, and special operations component commanders (JFACC, JFLCC, JFMCC, and JFSOCC respectively) is at the discretion of the JFC (see Figure 5.2).

If a functional component commander is designated, he/she will normally be selected from the Service component providing the preponderance of those forces **and** the ability to command and control those forces. **The Air**

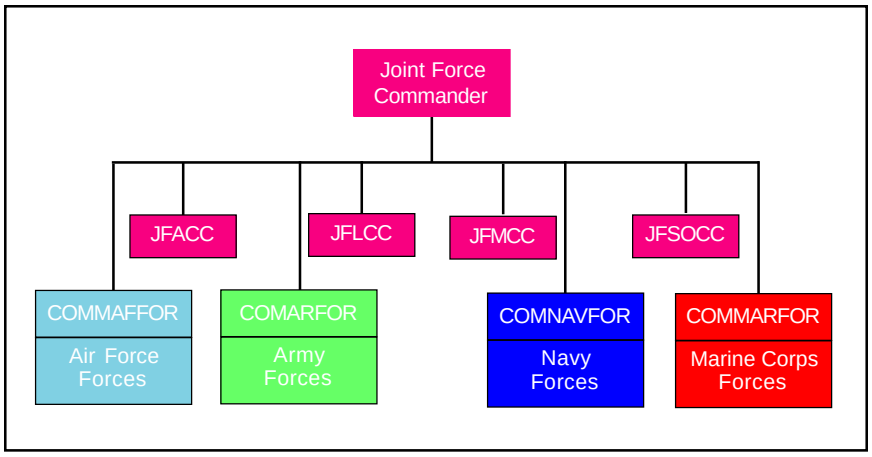


Figure 5.2. A joint task force organization with functional and Service component commanders. This represents the Air Force's preferred joint force organization.

Force prefers—and in fact, plans and trains—to employ forces through a COMAFFOR who is also dual-hatted as a JFACC. Functional component commanders normally exercise OPCON of their own Service forces and TACON of other Services' forces made available to them. Thus, a COMAFFOR acting as a JFACC exercises OPCON of Air Force forces and TACON of any Navy, Army, and Marine aviation assets made available to the JFACC (i.e., those forces not retained for their own Service's organic operations).

Commanders and Staffs

"Commanders command; staffs support." Within a joint force, only those with the title of "commander"—i.e., the joint force commander, the Service component commanders, and the functional component commanders—may exercise any degree of operational control over forces. Only commanders have the legal and moral authority to place personnel in harm's way. Under no circumstance should staff agencies, including those of the JFC's staff, attempt to direct forces unless specifically delegated that responsibility by the JFC.

Span of Control/Command

Caution should be applied when multihatting commanders. Too many "hats" may distract a commander from focusing on the right level of war at

the right time, or may simply overwhelm him/her with detail; of equal importance is the fact that a commander's staff can usually operate effectively only at one level of war at a time. If a commander must wear several hats, it is generally safer if the several responsibilities lie at the same level of war. Thus, it is entirely appropriate for a JFACC to also serve as the area air defense commander (AADC), the airspace control authority (ACA), and the space coordinating authority, since all four functions lie at the operational level, and all four functions are supported through the same control node (the AOC). To alleviate the overload, a multihatted commander may delegate some functions (but not the ultimate responsibility) to appropriate deputies.

More challenging are those instances when a commander's hats span several levels of war, as in the case when the JFC (normally acting at the theater-strategic level) is also acting as a functional component commander (operational level), and also as the commander of one of the operating (tactical) units. In such cases, the commander may be inadvertently drawn to the tactical level of detail at the expense of the operational-level fight. Also, dual- or multihatting a functional or Service component commander as the JFC raises a special caution in itself, as it

> "... may place this commander in an unwieldly position, foster a parochial single-Service or component view of overall joint operations and component contributions, and create potential conflicts of interest." (JP 5-00.2, *Joint Task Force Planning Guidancc and Procedures*)

Thus, caution is needed when multihatting commanders, as it tends to create "part-time commanders."

COMMAND RELATIONSHIPS AND AUTHORITIES

Clear and effective command relationships are central to effective operations and organizations. In order to apply the principles of war and tenets of air and space power to any organization, airmen must fully understand the terms of command and support that underpin today's organizations and operations. A working understanding of command terminology is essential to understanding the relationships among components and the responsibilities inherent in organizations.

The authority vested in a commander must be commensurate with the responsibility assigned. In other words, the commander with responsibility

for a particular mission should have the necessary authority to carry out that mission. Levels of authority include the four types of command relationships—combatant command (command authority) (COCOM), operational control (OPCON), tactical control (TACON), and support. These are "warfighting" authorities that flow through joint channels, from the SecDef to the combatant commanders, to JFCs, and to component commanders. The combatant commander will attach various forces to the JFC and will specify the degree of control over each force element in terms of OPCON, TACON, or support. The JFC should in turn delegate appropriate authorities to the various component commanders. Thus, a COMAFFOR/JFACC actually exercises only those authorities delegated to him by the JFC.

Administrative control (ADCON) is a Service command authority, and flows through Service, not joint, channels. This authority is not an operational command authority, but provides the requisite authority for Services to execute their individual "organize, train, and equip" functions.

COCOM is non-transferable command authority established by law (Title 10 ["Armed Forces"], United States Code, section 164.) **COCOM is exercised by commanders of combatant commands** as directed by the President or the SecDef **and cannot be delegated.** COCOM is the authority of a combatant commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command.

OPCON is command authority exercised by commanders at any echelon at or below the level of combatant command. OPCON may be delegated within the chain of command. When forces are transferred between combatant commands, the command relationship the gaining commander will exercise over these forces must be specified by the SecDef. **OPCON normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions.** OPCON should not, however, include the authority to change the Service's internal organization of its forces. Component forces (e.g., the AETF and its subordinate mix of expeditionary wings, groups, or squadrons) "should remain organized as designed and in the manner accustomed through training" (JP 0-2, *UNAAF*). OPCON is inherent in COCOM.

OPCON is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. OPCON includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. OPCON should be exercised through the commanders of subordinate organizations and is normally exercised through subordinate joint force commanders and Service and/or functional component commanders. OPCON does not include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training (it does, however, include authority for joint training). JFCs exercise OPCON of assigned and attached Air Force forces through the COMAFFOR.

TACON is the command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed and, usually, local direction and control of movements or maneuvers necessary to accomplish missions or tasks assigned. TACON is inherent in OPCON. TACON may be delegated to, and exercised at, any level at or below the level of combatant command. It includes sufficient authority for controlling and directing the application of force or tactical use of supporting forces. Unless otherwise specified, TACON involves no responsibilities for organization, logistics, training, or discipline. A visible example of TACON is the COMAFFOR, when acting as the JFACC, produces an air tasking order (ATO) that provides detailed instructions for joint air assets made available by other Service components for tasking. TACON also includes the authority to command and position forces to achieve mission objectives. For example, a JFACC functioning as the AADC with TACON over Army PATRIOT forces would have the authority to specify which asset/battery will be responsible for providing which portion of the air defense coverage for the joint force (exact placement of the assets/battery should normally be left to the Army component commander). The commander exercising TACON is responsible for ensuring communications with the controlled unit.

Support is a command authority that **aids, protects, complements, or sustains another force.** It is usually used when neither OPCON nor TACON is appropriate, normally when a functional combatant commander is assisting a regional combatant commander (for example, United States Strategic Command (USSTRATCOM) and United States Transportation Command (USTRANSCOM) forces placed in support of

United States Central Command (USCENTCOM)). The SecDef specifies support relationships between combatant commanders.

The **supported commander** has primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan or other joint operations planning authority. In the context of joint operations planning, this term refers to the commander who prepares operation plans or operation orders in response to requirements of the Chairman of the Joint Chiefs of Staff. The **supporting commander** provides augmentation forces or other support to a "supported commander" or develops a supporting plan. This includes the designated combatant commands and defense agencies as appropriate.

JFCs establish support relationships within their own organizations to emphasize or clarify priorities, provide a subordinate with an additional capability, and/or combine the effects of similar assets. This is normally done by directing one force (the "supporting force") to provide support to another force (the "supported force"). The supported commander has the authority to exercise general direction of the supporting effort. General direction includes the designation and prioritization of targets or objectives, timing and duration of the supporting action, and other instructions necessary for coordination and efficiency. A supported relationship does not include authority to position supporting units but does include authority to direct missions or objectives for those units. In contrast to the previous TACON example, the JFACC/AADC (as supported commander for counterair) is interested in the support provided by other assets (Army SAMs) rather than where they are positioned. Another example would be a JFACC's request for Army Tactical Missile System (ATACMS) support to engage a time sensitive target, but he is not involved with where the ATACM launchers are positioned. Under a supported relationship, the supporting unit is responsible for ensuring connectivity.

ADCON is the **direction or exercise of authority over subordinate or other organizations with respect to administration and support,** to include organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual/unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate command or other organizations. **ADCON is not a warfighting authority like that found in COCOM, OPCON, TACON, or support relationships.** Normally the COMAFFOR will exercise ADCON of all Air Force personnel assigned

or attached to the Air Force component command. G-series orders implement Service ADCON authority by detailing those aspects of support that are necessary for the mission, and the relationship the gaining organization possesses over assigned or attached units and personnel. For example, the authority to exercise ADCON could include such elements as building a tent city, ordering supplies and equipment, authorizing training sorties, conducting exercises, working assignment actions for personnel, developing budget requests, protecting personnel, and recommending awards and decorations. Uniform Code of Military Justice (UCMJ) authority is inherent in command authority, and is distinct from ADCON. However, G-series orders implementing ADCON may incorporate references to UCMJ authority. In specific contingency operations, the G-series order may retain one or more of these authorities in the parent unit.

ADCON of Guard and Reserve Forces: Normally, the COMAFFOR will exercise full ADCON over all active Air Force units and personnel assigned or attached to the Air Force component. However, ADCON over personnel of the Air Reserve Components (ARCs) (the Air Force Reserve and Air National Guard) is assigned as follows: (1) under full mobilization (10 U.S.C. #12301(a)) of the ARCs, the active Air Force will assume full ADCON over all mobilized ARC forces; (2) under less than full mobilization, ADCON will be *specified* as follows: the respective ARC will retain full ADCON over all unit personnel and individual mobilization augmentees (IMAs). Full mobilization of the ARCs requires specific action by Congress. While the ARCs normally retain full ADCON over their respective forces in cases of less than full mobilization ("volunteer" status or selective or partial mobilization), they have agreed to transfer specific ADCON elements to the gaining active Air Force organization in appropriate cases.

Coordinating authority is the **authority delegated to a commander or individual for coordinating specific functions and activities** involving forces of two or more Military Departments, two or more joint force components, or two or more forces of the same Service (e.g., joint rear area coordinator exercises coordinating authority for rear area operations among the component commanders). Coordinating authority may be exercised by commanders or individuals at any echelon at or below the level of combatant command. Coordinating authority may be granted and modified through a memorandum of agreement to provide unity of command and unity of effort for operations involving National Guard, Reserve Component (RC), and active component forces engaged in interagency activities. The commander or individual has the authority to require consultation between

the agencies involved but does not have the authority to compel agreement. The common task to be coordinated will be specified in the establishing directive without disturbing the normal organizational relationships in other matters. **Coordinating authority is a consultation relationship between commanders, not an authority by which command may be exercised.** It is more applicable to planning and similar activities than to operations. Coordinating authority is not in any way tied to force assignment. Assignment of coordinating authority is based on the missions and capabilities of the commands or organizations involved.

Direct liaison authorized (DIRLAUTH) is that **authority granted by a commander (any level) to a subordinate to directly consult or coordinate an action with a command or agency within, or outside of, the granting command.** DIRLAUTH is more applicable to planning than operations and always carries with it the requirement of keeping the commander granting DIRLAUTH informed. DIRLAUTH is a coordination relationship, not an authority through which command may be exercised. It is most appropriately used to streamline communications and operations between tactical elements without relinquishing command by the higher authority.

CHAPTER SIX

CORE COMPETENCIES AND DISTINCTIVE CAPABILITIES

Air power is not made up of airplanes alone. Air power is a composite of airplanes, air crews, maintenance crews, air bases, air supply, and sufficient replacements in both planes and crews to maintain a constant fighting strength, regardless of what losses may be inflicted by the enemy. In addition to that, we must have the backing of a large aircraft industry in the United States to provide all kinds of equipment, and a large training establishment that can furnish the personnel when called upon.

—General H. H. "Hap" Arnold

The Air Force's fundamental service to the Nation is to develop, train, sustain, and integrate the elements of air and space power to execute its functions across the spectrum of operations. Core competencies, shown in Figure 6.1, and their supporting distinctive capabilities are at the forefront of the Air Force's strategic perspective and therefore at the heart of the Service's contribution to our Nation's total military capabilities and strategic vision. **They are not doctrine, but are enablers of our doctrine. They begin to translate the central beliefs of doctrine into understandable concepts, and thus contribute to a greater understanding of doctrine.**

Core Competencies

Developing Airmen
Technology-to-Warfighting
Integrating Operations

Figure 6.1. Core Competencies

The history of the Air Force reveals fundamental competencies that are at the core of our ability to develop and deliver air and space power. These unique institutional qualities set the Air Force apart from the other Services and every other military force in the world. By identifying and keeping these competencies foremost in our vision, we can more effectively advance these unique capabilities, as well as the ultimate effects we provide to the Nation. The Air Force continually nurtures these areas of expertise, making us the preeminent air and space force in the world. Previously, we distilled these into six distinctive capabilities which

we referred to as our "core competencies"—air and space superiority, information superiority, global attack, precision engagement, rapid global mobility, and agile combat support. Upon reflection and discussion, we learned that certain elements are more fundamental to who we are as an Air Force; how leaders, commanders, and colleagues view us; and how we develop our capabilities for joint warfighting. These are our institutional air and space core competencies—those that, in fact, make the six distinctive capabilities possible: developing airmen, technology-to-warfighting, and integrating operations. These three air and space core competencies form the foundation upon which we organize, train, and equip, and are the cornerstone of our strength as a military Service.

CORE COMPETENCIES

Developing Airmen

Air Force men and women are the ultimate source of combat capability.

The ultimate source of combat capability resides in the men and women of the Air Force. The value of strategy, technology, and organization is diminished without professional airmen to leverage their attributes. Our total force of active, Guard, Reserve, and civilian personnel is our largest investment and most critical asset. Our airmen are steeped in an expeditionary ethos. Therefore, from the moment they step into the Air Force, we are dedicated to ensuring they receive the education, training, and professional development necessary to provide a quality edge second to none. The full spectrum capabilities of our Service stem from the collective abilities of our personnel; and the abilities of our people stem from a career-long focus on the development of professional airmen.

Technology-to-warfighting

The vision of airmen fundamentally altered the way in which we approach military operations. As a leader in the military application of air, space, and intelligence, surveillance, and reconnaissance technology,

the Air Force is committed to innovation to guide research, development, and fielding of unsurpassed capabilities. Just as the advent of powered flight revolutionized joint warfighting, recent advances in low observable technologies; space-based systems; manipulation of information; precision; and small, smart weapons offer no less dramatic advantages for combatant commanders. The Air Force nurtures and promotes its ability to translate our technology into operational capability—to prevail in conflict and avert technological surprise.

The Air Force uses technology to prevail in conflict and avert technology surprise.

Integrating Operations

Effectively integrating the diverse capabilities found in all four Service branches remains pivotal to successful joint warfighting. Innovative operational concepts and the efficient integration of all military systems—air, land, maritime, space, and information—ensure maximum flexibility in the delivery of desired effects across the spectrum of conflict. The Air Force contributes to this enduring objective as each element of air and space power brings unique and essential capabilities to the joint force. Our innate ability to envision, experiment, and ultimately, execute the union of a myriad of platforms and people into a greater, synergistic whole is the key to maximizing these capabilities. Yet, effective integration involves more than smart technology investment—it also requires investigation of efficient joint and Service organization, and innovative operational thinking. Thus, continued investment in our people to foster critical analysis and intellectual flexibility is equally important to our technology development. Collectively, our air and space core competencies reflect the visions of the founders of airpower, are recognized by our joint "customers," and serve to realize the potential of air and space forces. We foster ingenuity and adventure in the development of the world's most professional airmen. We thrive on transitioning new technologies into practical systems while we encourage intellectual innovation at every level of war. And, we drive relentlessly toward integration to realize the potential and maturation of air and space capabilities.

Our proficiency in these three air and space core competencies underpin our ability to contribute to joint warfighting, producing effects across the spectrum of conflict. Our continued focus on and nurturing of these core

competencies will enable us to remain the world's greatest air and space force.

DISTINCTIVE CAPABILITIES

Our distinctive capabilities, listed in Figure 6.2, represent the combination of professional knowledge, air and space power expertise, and technological fluency that, when applied, produces superior military capabilities or effects. These capabilities stem from two sources: functions that are best accomplished only by air and space forces and functions that achieve the most benefit to the Nation when performed by air and space forces. They are the basic areas of expertise that the Air Force brings to any activity across the spectrum of military operations, whether as a single Service or in conjunction with other Services in joint operations. As with the core competencies, these capabilities also are not doctrinal constructs.

Distinctive Capabilities
Air and Space Superiority
Information Superiority
Global Attack
Precision Engagement
Rapid Global Mobility
Agile Combat Support

Figure 6.2. Distinctive Capabilities

The distinctive capabilities are not necessarily unique to the Air Force, but represent what the Air Force does better than any other organization. They make possible the effective integration of platforms, people, weapons, bases, logistics, and all supporting infrastructure. What distinguish the Air Force's distinctive capabilities from those of the other Services are the speed and the global nature of our reach and perspective. In this context, the distinctive capabilities represent air and space power capability embodied in a well-trained and equipped Air Force. Fulfilling the premise of a distinctive capability may require employment of more than one air and space power function. Likewise, a particular function may be employed to provide its element to more than one distinctive capability. For example, the function of airlift may apply to global mobility or precision engagement, and reconnaissance may apply to both information superiority and precision engagement.

Air and Space Superiority

Gaining air and space superiority is a vital first step in military operations. Control of air and space enhances and may secure freedom of action for friendly forces in all geographical environments—land and sea as well as air and space. **Air and space superiority provides freedom *to* attack**

as well as freedom *from* attack. Success in air, land, sea, and space operations depends upon air and space superiority.

Air and space superiority is critical to any operation.

Various degrees of control are possible. **Superiority** is that degree of dominance that permits friendly land, sea, air, and space forces to operate at a given time and place without prohibitive interference by the opposing force. **Supremacy** is that degree of superiority wherein opposing air and space forces are incapable of effective interference anywhere in a given theater of operations. While air and space supremacy is most desirable, it may exact too high a price. Superiority, even local or mission-specific superiority, may provide sufficient freedom of action to accomplish assigned objectives.

To gain control of the air, friendly forces must counter enemy air, missile, and air-defense artillery threats not only to assure full force protection for surface forces, but also to enable full flexibility to conduct parallel warfare across the theater of operations. The flexibility of air and space power may tempt commanders to divert it to other tasks. The theater commander must correctly balance requirements; it is the role of the air component commander to articulate the crucial enabling role of air and space superiority. Relaxing pressure on the enemy's air forces may allow them to gain air superiority, with disastrous results. As an example, Hitler's decision during World War II to divert the Luftwaffe from direct attack of the Royal Air Force (RAF) to the bombing of cities allowed the RAF the breathing space it desperately needed to reconstitute.

A parallel construct applies to space. Like air superiority, space superiority provides the freedom to conduct operations without significant interference from enemy forces. In future conflicts, other nations may have a variety of space-based capabilities, from force application and information warfare to sophisticated imaging and communications systems. To ensure our forces maintain the ability to operate without being seen, heard, or interfered with from space, it is essential to gain and maintain space

superiority. Defensive counterspace operations are a major concern of the JFC today in order to preserve his or her ability to conduct ISR, to command and control forces, and to communicate and navigate.

Information Superiority

Information superiority is the ability to collect, control, exploit, and defend information while denying an adversary the ability to do the same. Like air and space superiority, information superiority includes gaining control over the information realm and fully exploiting military information functions. Information superiority was the first function of the Air Force. Early balloons and airplanes became spotters for Army commanders who wanted information in order to gain an advantage over an adversary and improve their decisions on the battlefield. Today, the Air Force is the major operator of sophisticated air- and space-based intelligence, surveillance, and reconnaissance systems and is the Service most able to quickly respond to the information they provide. The instantaneous global reach of modern information systems is as vital to the Air Force's strategic perspective as any air or space weapon. Today, advanced microchips and communications allow the concept of information superiority to be a strategic component of warfare. For example, information superiority enabled the US to make a timely response to the October 1994 Iraqi force buildup that threatened Kuwait, possibly preventing a second invasion of that country. In 2003, it enabled coalition air forces to respond with remarkable speed and agility to a series of time-sensitive targets against senior Iraqi leadership.

Additionally, information technology can directly or indirectly affect national or group leadership, population, and infrastructure, bypassing direct military confrontation. Information superiority contributed to convincing the belligerents in Bosnia to negotiate and conclude the Dayton Accords.

Dominating the information spectrum is as critical to conflict now as controlling air and space, or as occupying land was in the past, and is seen as an indispensable and synergistic component of air and space power. Whoever has the best ability to gather, understand, control, and use information has a substantial strategic advantage. Emerging concepts and

Information superiority allows the Air Force to operate most effectively.

tools of information warfare allow commanders to deny, destroy, corrupt, or otherwise manipulate an adversary's information and command and control.

One of a commander's primary tasks is to gain and maintain information superiority, with the objective of achieving an effective command and control of assigned forces that functions faster than that of the adversary. The eventual goal of information superiority is greater than just having more information than an opponent; information must be accurate, usable, and tailored for the user. Information superiority effects include the ability of our commanders to consistently make accurate decisions more rapidly than the enemy. This places increasing strain on enemy leaders and forces, causing ever-increasing "friction" of war and shock at unexpected events. Dominating the information spectrum not only holds the promise of improving the speed and quality of our OODA loop, but also suggests the emerging opportunity to significantly degrade and influence our adversary's cycle time, as well as the quality of the information within the cycle—and ultimately shape his perception of the situation and courses of action open to him.

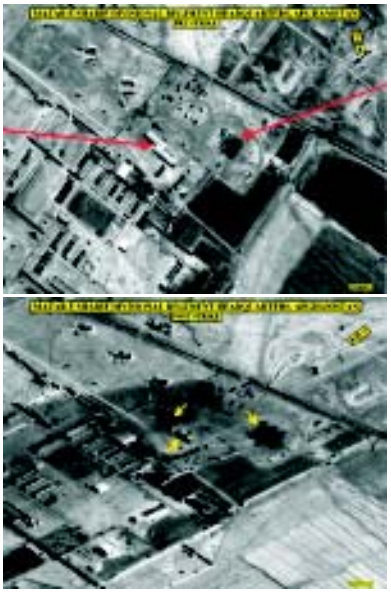
Global Attack

All military Services provide strike capabilities, but the ability of the Air Force to attack rapidly and persistently with a wide range of munitions anywhere on the globe at any time is unique. Depending on the assigned mission and the specific system required, the responsiveness of air and space forces can be instantaneous. The decline of both total force structure and worldwide bases has decreased the size of our forward presence and forced the US military to become primarily an expeditionary force. The Air Force, with its growing space forces, its intercontinental ballistic missiles, and its fleet of multirole bombers and attack aircraft supported by a large tanker fleet, is ideally suited to such operations. Our Service is able to rapidly project power over global distances and maintain a virtually indefinite "presence" over an adversary. When combined with our inherent strategic perspective, Air Force operations can be the first and potentially most decisive element in

Air Force power projection.

countering an adversary's aggression. The ability to continuously observe an adversary's actions from space and then, when provoked, to swiftly respond with a wide variety of capabilities provides the true essence of deterrence.

Precision Engagement



Target—before and after.

Increasingly, air and space power is providing the "scalpel" of joint Service operations—the ability to apply discriminate force precisely where required. Precision engagement is the ability to command, control, and employ forces to cause specific strategic, operational, or tactical effects. The Air Force is clearly not the only Service capable of precise employment of its forces, but it is the Service with the greatest capacity to apply the technology and techniques of precision engagement anywhere on the face of the Earth in a matter of hours. In addition to the traditional application of force, precision engagement includes nonlethal as well as lethal force. Functions such as the close surveillance of peace agreements between belligerents by airborne and space-based assets, the employment of AFSOF in small-scale but precise operations, or the rapid response of airlift to the source of an erupting humanitarian disaster are prime examples of precision engagement. Precision engagement represents a global capability not only to win wars, but also the ability to drive crises to peace. As demonstrated in recent operations in Afghanistan and Iraq, air and space power's ability to concentrate in purpose—whether or not massing in location or concentrating in time—challenges traditional understandings of precision and creates opportunity for a different approach to harnessing military power to policy objectives.

Rapid Global Mobility

Rapid global mobility refers to the timely movement, positioning, and sustainment of military forces and capabilities through air and space, across the range of military operations. Today, global mobility has increased in

importance to the point where it is required in virtually every military operation. US forces overseas have been reduced significantly, while rapid power projection based in the CONUS has become the predominant military concept of operation. Operations ENDURING FREEDOM and IRAQI FREEDOM showed America's adversaries just how quickly our air forces can mobilize, deploy, and prepare for war. Advanced elements were provided within hours of the decision to deploy. New, lean logistics measures have shifted the emphasis from large parts inventories to rapid resupply through intertheater and intratheater airlift. Improvements in communications systems allow us to better manage the massive volume of information required to keep track of widely dispersed force deployments and shifting supply inventories. The result has been greater efficiency in the ability to support operations with a smaller force and support structure.

Global lift maximizes effective operations.

In theaters where only minimal forces are forward deployed, the value of global mobility is maximized since the key to successful contingency operations is the capability of the US to rapidly deploy forces to aid friendly nations. It is the particular competence of air and space forces to most rapidly provide what is needed, where it is needed. Bombers, fighters, missiles, airlifters, and space systems can transit global distances in minimum time to directly achieve strategic objectives, whether to dissuade, deter, contain, inhibit, disrupt, destroy, supply, or support.

Agile Combat Support

How the Air Force supports the forces we deploy forward is as critical as what is deployed and how it gets there. The need to provide highly responsive force support is certainly not unique to the Air Force, but a force poised to respond to global taskings within hours must also be able to support that force with equal facility. This includes all elements of a forward base-support structure: maintenance, supply, transportation, communications, services, engineering, security, health services, finance, legal services, and chaplaincy. Each of these areas must be integrated to form a seamless, agile, and responsive combat support system of systems.

Many of the same recent improvements in communications that have allowed the Air Force to provide precise global-engagement capabilities have also provided the ability to integrate information and transportation technologies achieving rapid improvements in the ability to provide truly responsive support. The objective of the agile combat support concept is to support operations more responsively and effectively, while reducing the overall "footprint" of forward-deployed support elements.

Agile combat support is critical to operational success.

Although support to contingency operations is absolutely critical to our success as a force, agile combat support is not just a concept for deployed operations. Every facet of our Service must be focused on providing what ultimately is combat support, whether it is better educated warriors, better home-base support for members and their families, better methods to manage our personnel system, or more efficient processes with which to conduct business—those things that keep our people trained, motivated, and ready. Equally important to a technologically dependent Service like our own is agility—in our acquisition and modernization processes, our educational courses, our organizations, our innovation to meet future challenges, and our ability to adapt to the changing world around us.

CHAPTER SEVEN

LINKING THE FUTURE TO THE PRESENT: VISION, OPERATING CONCEPTS, AND DOCTRINE

New conditions require, for solution—and new weapons require, for maximum application—new and imaginative methods. Wars are never won in the past.

—General Douglas MacArthur

The doctrinal maxims of this document are based on experience, hard-won with the blood of airmen, and tempered by advances in technology. If properly employed, doctrine can lead to great success, and if ignored, can lead (and has led) to disaster. Therein lies the challenge: doctrine must convey the lessons of the past to guide current operations, but still must be flexible enough to adapt to change. Yet while forming that baseline for current operations, doctrine also provides a baseline for future thinking. One way to put this relationship into perspective is to understand the different uses of vision, operating concepts, and doctrine.

If placed along a continuum, vision, operating concepts, and doctrine provide a model for thinking about future technology, operating constructs, and doctrine in a coherent framework.

- **Vision** statements focus the Service on key operating constructs and desired operational capabilities from about **fifteen years out and beyond.** Vision serves to focus technology investments toward achieving these capabilities. Emerging technologies are best investigated through **wargaming** techniques. As future concepts are envisioned, it is important to also examine doctrine to support these potential capabilities. Vison provides the basis for wargaming, and the results of wargaming may point to doctrinal considerations requiring further examination.
- As technologies mature to the point where their performance can be reasonably bounded as a new, separate system or part of another

system, they can be examined within the framework of an **operating concept.** An operating concept generally looks out from **five to fifteen years,** and postulates reasonable operating scenarios that, through analytical means, examine a range of issues such as employment, operating environment, command and control, logistics, organization, and planning considerations. **Experiments** are the most useful method for evaluating operating concepts. Operating concepts define the parameters of envisioned capabilities, and experiments provide a basis for doctrinal considerations.

- **Doctrine** is focused on near-term operational issues and talks to the proper employment of **current capabilities** and **current organizations.** Doctrine addresses how best to employ, how to organize, and how to command today's capabilities. Doctrine is best examined and validated in **exercises,** which train current forces and personnel in current procedures and missions. Through wargaming and experiments, doctrinal concepts can be tested to assist in matching envisioned capabilities to sound doctrinal practices.

Using the vision-operating concepts-doctrine construct, the Air Force can look into the future and consider the long-term impacts of advanced technologies such as laser weapons, unmanned aerial combat vehicles, and new space capabilities, and conceptual advancements such as global strike. As this framework builds from the general (long term) to the specific (near term), airmen can investigate a wide range of doctrine, organization, training, materiel, logistics, personnel, and facilities issues at the appropriate point during technology development, concept exploration, and systems acquisition.

VISION

Vision statements and vision documents do not address capabilities that are immediately at hand; instead, they leverage the promise of emerging technologies to describe desired operational capabilities. As an example, in the mid-1990's the Air Force stated a vision to attain the ability to find, fix, target, track, and engage anything that moves on the Earth's surface. Such a capability was obviously not attainable anywhere in the immediate near term. However, this vision served to focus resource investment to attain that capability, for example, on sensor technologies, on data collection and assessment tools, on command and control across great distances, etc. Similarly, the US Army many years ago saw the potential of emerging night vision technologies. Guided by a corporate vision to be able to fight at night,

the Army made necessary technology investments. Eventually, these resulted in a wide array of night vision equipment, underpinned by the necessary tactics, techniques, and procedures, that now allow the Army to fight around the clock, effectively giving no pause to the enemy.

Vision-type capabilities are best investigated through wargames. In such evaluations, current doctrinal principles need not apply to allow a free range of investigation. However, current doctrine, especially in terms of missions and organization, can be used to provide a baseline from which to gauge relative degrees of success and change.

OPERATING CONCEPTS

As technologies mature to the point where their performance may be reasonably bounded (e.g., quantified in terms of range, speed, effectiveness, etc.) and their employment may be adequately described as a finite system, they may be examined within a model that places them in a reasonably realistic operational scenario. Within that scenario, metrics may be applied to gauge the relative effectiveness of the new system and the impact to other elements in the scenario, such as command and control structures, sustainability, and force structure trade-offs.

Doctrine can assist in initially developing a new operating concept. As an example, the airborne laser (ABL), designed to destroy enemy ballistic missiles shortly after launch, can be placed in an operating concept that explores its place within the existing defensive counterair mission. Since the overall counterair mission is normally assigned to the JFACC, the operating concept could explore how a JFACC might integrate the ABL into the existing suite of DCA capabilities, looking at such issues as decision aids, planning factors, employment trade-offs among other DCA capabilities, and basing issues. Similarly, if the Service decided to also examine the ABL in an antisatellite role, operating concept developers could use existing counterspace doctrine to examine the impact to the existing decision making and C2 structures, similarly looking at information and planning requirements. Based on a rigorous analysis, Air Force planners could also use the operating concept to develop the initial baseline for the tactical doctrine (TTP) necessary to support the new weapon system as it enters the active inventory. When initial prototypes eventually are available through the acquisition process, test organizations can fine-tune the TTP for that specific system so that the TTP is ready when the system enters active service.

Operating concepts are not limited to examinations of new technology; they may also be used to examine new operational paradigms. Examples include the operating concepts the Air Force is currently exploring, such as global strike, global response, global mobility, integrated base defense, and others. An operating concept places these new paradigms in the context of an operational-level model and explores their relative effectiveness within the joint force.

The best venue for investigating operating concepts is through experiments. As in wargaming, current doctrine again need not apply, but it still can provide a baseline against which to assess the outcomes.

DOCTRINE

Doctrine deals with the best operating practices for current forces, using currently accepted organizational structures, C2 arrangements, functions, and missions. By the time new technology is ready to come on-line, it should have already been examined, via an operating concept-like process, for impact to existing doctrine. Ideally, doctrine, and especially tactical doctrine as expressed in TTP, should be ready when the new system or technology enters the inventory.

Doctrine is not fixed; any given doctrinal position reflects a snapshot in time. Doctrine can and should evolve based on experience. In circumstances when the Air Force cannot find a unanimous doctrinal consensus, it may settle on an "agreed-to, least-common-denominator" position that all players are willing to sign up to. This frequently occurs in emerging mission areas, where new concepts and terms have yet to solidify across the Service. It may also occur within joint doctrine when two or more Services propose conflicting changes to joint doctrine; to avoid deadlock, and to keep the joint doctrine development process in motion, the Services may consent to "agreed-to" language.

EPILOGUE

Victory smiles upon those who anticipate the changes in the character of war, not on those who wait to adapt themselves after the changes occur.

—Giulio Douhet

More and more often, our national leadership is calling upon air and space power as the military instrument of first choice, and they are asking it to accomplish tasks previously held unworkable—to coerce and to compel. Air and space power offers joint force commanders more options, including the ability to go to the heart of an enemy and attain a variety of effects directly at the strategic level. To support our national leadership, we as military professionals must think about how to accomplish a spectrum of missions. We must understand the potential of air and space power, and be able to plan and employ it to its maximum, and to articulate it within the context of joint operations.

Air Force doctrine development is never totally complete—it is a continuous work in progress. We must remain aware of the lessons of the past—alert and receptive to future technologies and paradigms that may alter the art of air and space warfare. We must not assume that things have not or will not change; above all, doctrine must be continually interpreted in light of the present situation. A too-literal reading of doctrine may fail to accommodate new operational realities. Conversely, the success of air and space power in the skies over Bosnia, Afghanistan, and Iraq illuminates the ability of the Air Force to creatively adapt.

But the lessons of the last war are always suspect in the present, because all conflicts are different—doctrine application requires informed judgment. Certain principles—like unity of command, objective, and offensive—have stood the test of time. Other ideas—like unescorted daytime bombing, decentralized command, and the preeminence of nuclear weapons—have not. If we ignore the potential of space and information operations and the global and strategic natures of air and space power, we

may commit the same sins as our forebears. If we ignore the reality that adaptive, thinking adversaries will seek asymmetric strategies, antiaccess capabilities, and favorable arenas within which to influence and engage us, we risk catastrophic surprise. Tomorrow, a new set of conditions and requirements will prevail. In fact, new conditions and environments are already emerging. The best hedge is an institutional commitment to learn from experience and to exploit relevant ideas and new technologies so we may be the masters of our future, while maintaining those fundamental principles that remain constant over time.

At the very heart of warfare lies doctrine . . .

Suggested Readings

Air Force Publications (Note: All Air Force doctrine documents are available on the Air Force Doctrine Center web page at https://www.doctrine.af.mil)

AFDD 2, *Organization and Employment of Aerospace Power*

AFDD 2–1, *Air Warfare*

AFDD 2–2, *Space Operations*

AFDD 2–3, *Military Operations Other Than War*

AFDD 2–4, *Combat Support*

AFDD 2–5, *Information Operations*

AFDD 2–6, *Air Mobility*

AFDD 2–7, *Special Operations*

AFDD 2–8, *Command and Control*

Joint Publications

JP 1, *Joint Warfare of the Armed Forces of the United States*

JP 0–2, *Unified Action Armed Forces (UNAAF)*

JP 3–0, *Doctrine for Joint Operations*

JP 3–30, *Command and Control for Joint Operations*

JP 5–00.2, *Joint Task Force Planning Guidance and Procedures*

Joint Publications

DODD 5100.1, *Functions of the Department of Defense and its Major Components*

Other Publications

Boyne, Walter J., *Clash of Wings: Airpower in WWII* (Simon & Schuster) 1994.

Cowley, Robert, editor, *No End Save Victory* (G. P. Putnam's) 2001.

Griffith, Thomas E., *MacArthur's Airmen: General George C. Kenney and the War in the Southwest Pacific* (University Press of Kansas) 1998.

Hanson, Victor David, *Carnage and Culture: Landmark Battles in the Rise of Western Power* (Doubleday) 2001.

Michel, Marshall L., *The Eleven Days of Christmas: America's Last Vietnam Battle* (Encounter Books) 2002.

Momyer, William W., *Air Power in Three Wars* (Government Printing Office) 1978.

Murray, Williamson and Allen R. Millet, *A War to be Won* (Belknap Press of Harvard University) 2000.

Weinberg, Gerheard L., *A World at Arms* (Cambridge University Press) 1994.

Chief of Staff of the Air Force (CSAF) Reading List

CSAF's professional reading list, with links to book reviews, is available on the Air Force web site at: http://www.af.mil/lib/csafbook/readinglist.shtml. The list is subject to revision. Readers are encouraged to check the web site for the most current information.

GLOSSARY

Abbreviations and Acronyms

AADC	area air defense commander
ABL	airborne laser
ACA	airspace control authority
ACS	agile combat support
ADCON	administrative control
AEF	air and space expeditionary force
AETF	air and space expeditionary task force
AFDC	Air Force Doctrine Center
AFDD	Air Force Doctrine Document
AFDWC	Air Force Doctrine Working Committee
AFDWG	Air Force Doctrine Working Group
AFSOC	Air Force Special Operations Command
AFSOF	Air Force special operations forces
AFTTP	Air Force Tactics, Techniques, and Procedures
AO	area of operations
AOC	air operations center (JP 1-02); air and space operations center (USAF)
ARC	Air Reserve Components
ATACMS	Army Tactical Missile System
ATO	air tasking order
C2	command and control
CAOC	combined air operations center (JP 1-02); combined air and space operations center (USAF)
CAS	close air support
CFACC	combined force air component commander (JP 1-02); combined force air and space component commander (USAF)
COCOM	combatant command (command authority)
COMAFFOR	commander, Air Force forces
COMARFOR	commander, Army forces
COMMARFOR	commander, Marine Corps forces
COMNAVFOR	commander, Navy forces
CONOPS	concept of operations
CONUS	continental United States
CSAF	Chief of Staff, United States Air Force
CSAR	combat search and rescue

DCA	defensive counterair
DCS	defensive counterspace
DIRLAUTH	direct liaison authorized
DOD	Department of Defense
DODD	Department of Defense Directive
EBO	effects-based operations
ECS	expeditionary combat support
GPS	global positioning system
IMA	individual mobilization augmentee
ISR	intelligence, surveillance, and reconnaissance
IW	information warfare
JA/ATT	joint airborne/air transportability training
JAOC	joint air operations center (JP 1-02); joint air and space operations center (USAF)
JCS	Joint Chiefs of Staff
JFACC	joint force air component commander (JP 1-02); joint force air and space component commander (USAF)
JFC	joint force commander
JFLCC	joint force land component commander
JFMCC	joint force maritime component commander
JFSOCC	joint force special operations component commander
JOA	joint operations area
JP	joint publication
JTF	joint task force
MAJCOM	major command
MOOTW	military operations other than war
NAF	numbered air force
NATO	North Atlantic Treaty Organization
NMS	national military strategy
NSS	national security strategy
OAF	Operation ALLIED FORCE
OCA	offensive counterair
OCS	offensive counterspace
OEF	Operation ENDURING FREEDOM

OODA	observe, orient, decide, act
OPCON	operational control
OPLAN	operation plan
PR	personnel recovery
RAF	Royal Air Force (UK)
RC	Reserve Component
ROE	rules of engagement
SAAM	special assignment airlift mission
SAM	special air mission; surface-to-air missile
SAR	search and rescue
SCADA	supervisory control and data acquisition
SecDef	Secretary of Defense
SOF	special operations forces
TACC	tanker airlift control center
TACON	tactical control
TADIL	tactical digital information link
TTP	tactics, techniques, and procedures
UAV	unmanned aerial vehicle
UCMJ	Uniform Code of Military Justice
US	United States
USCENTCOM	United States Central Command
USSR	Union of Soviet Socialist Republics
USSTRATCOM	United States Strategic Command
USTRANSCOM	United States Transportation Command
WMD	weapons of mass destruction

Definitions

administrative control. Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations. Also called **ADCON.** (JP 1-02)

air and space expeditionary force. An organizational structure to provide forces and support rotationally, and thus on a relatively more predictable basis. They are composed of force packages of capabilities that provide rapid and responsive air and space power. Also called **AEF.** (AFDD 1)

air and space expeditionary task force. A deployed numbered air force (NAF) or command echelon immediately subordinate to a NAF provided as the US Air Force component command committed to a joint operation. Also called **AETF.** (JP 1-02) [*The organizational manifestation of Air Force forces afield. The AETF provides a joint force commander with a task-organized, integrated package with the appropriate balance of force, sustainment, control, and force protection.*] (AFDD 1) {Italicized definition in brackets applies only to the Air Force and is offered for clarity.}

air and space power. The synergistic application of air, space, and information systems to project global strategic military power. (AFDD 1)

Air Force core competencies. Developing airmen, technology-to-warfighting, and integrating operations are the Air Force core competencies. Core competencies are not doctrine, but are enablers of our doctrine. They begin to translate the central beliefs of doctrine into understandable concepts, and thus contribute to a greater understanding of doctrine. (AFDD 1)

airlift. Operations to transport and deliver forces and materiel through the air in support of strategic, operational, or tactical objectives. (AFDD 1-2)

airmen. Air Force airmen are those people who formally belong to the US Air Force and employ or support some aspect of the US Air Force's air and space power capabilities. The term airman is often used in a very narrow sense to mean pilot. An airman is any person who understands and appreciates the full range of air and space power capabilities and can employ or support some aspect of air and space power capabilities. (AFDD 1)

assign. 1. To place units or personnel in an organization where such placement is relatively permanent, and/or where such organization controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel. 2. To detail

individuals to specific duties or functions where such duties or functions are primary and/or relatively permanent. (JP 1-02)

attach. 1. The placement of units or personnel in an organization where such placement is relatively temporary. 2. The detailing of individuals to specific functions where such functions are secondary or relatively temporary, e.g., attached for quarters and rations; attached for flying duty. (JP 1-02)

basic doctrine. States the most fundamental and enduring beliefs that describe and guide the proper use, presentation, and organization of air and space forces in military action. It describes the "elemental properties" of air and space power and provides the airman's perspective. Because of its fundamental and enduring character, basic doctrine provides broad and continuing guidance on how Air Force forces are organized, employed, equipped, and sustained. Because it expresses broad, enduring fundamentals, basic doctrine changes relatively slowly compared to the other levels of doctrine. As the foundation of all air and space doctrine, basic doctrine also sets the tone and vision for doctrine development for the future. AFDD 1 is the airman's basic doctrine. (AFDD 1)

centralized control. In joint air operations, placing within one commander the responsibility and authority for planning, directing, and coordinating a military operation or group/category of operations. (JP 1-02) [*The planning, direction, prioritization, allocation, synchronization, integration, and deconfliction of air and space capabilities to achieve the objectives of the joint force commander.*] (AFDD 1) {Italicized words in brackets apply only to the Air Force and are offered for clarity.}

channel airlift. Common-user airlift service provided on a scheduled basis between two points. There are two types of channel airlift. A requirements channel serves two or more points on a scheduled basis depending upon the volume of traffic; a frequency channel is time-based and serves two or more points at regular intervals. (JP 1-02)

combatant command. A unified or specified command with a broad continuing mission under a single commander established and so designated by the President, through the Secretary of Defense and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities. (JP 1-02) **combatant command (command authority).** Nontransferable

command authority established by title 10 ("Armed Forces"), United States Code, section 164, exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense. Combatant command (command authority) cannot be delegated and is the authority of a combatant commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. Combatant command (command authority) should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Combatant command (command authority) provides full authority to organize and employ commands and forces as the combatant commander considers necessary to accomplish assigned missions. Operational control is inherent in combatant command (command authority). Also called **COCOM.** (JP 1-02)

combat search and rescue. A specific task performed by rescue forces to effect the recovery of distressed personnel during war or military operations other than war. Also called **CSAR.** (JP 1-02) [*Air Force CSAR is a specific task performed by rescue forces to recover isolated personnel during war or military operations other than war. Accomplished with a mix of dedicated and augmenting assets, CSAR is an element of personnel recovery (PR). PR is the umbrella term for operations focusing on recovering captured, missing, or isolated personnel from danger. Air Force combat rescue forces deploy to conduct CSAR with dedicated rotary- and fixed-wing aircraft, specially trained aircrews, and support personnel in response to geographic combatant commander taskings.*] (AFDD 2-1) {Italicized words in brackets apply only to the Air Force and are offered for clarity.}

combat support. Fire support and operational assistance provided to combat elements. Also called **CS.** (JP 1-02) [*Provides the foundation for and is the enabler of the Air Force core competencies. It includes the actions taken to ready, sustain, and protect personnel, assets, and capabilities through all peacetime and wartime military operations. Furthermore, it supports the unique contributions of air and space power: speed, flexibility, versatility, and global reach.*] (AFDD 2-4) {Italicized words in brackets apply only to the Air Force and are offered for clarity.}

command and control. The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called **C2.** (JP 1-02)

coordinating authority. A commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more Military Departments, two or more joint force components, or two or more forces of the same Service. The commander or individual has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event that essential agreement cannot be obtained, the matter shall be referred to the appointing authority. Coordinating authority is a consultation relationship, not an authority through which command may be exercised. Coordinating authority is more applicable to planning and similar activities than to operations. (JP 1-02)

coordination. The necessary action to ensure adequate exchange of information to integrate, synchronize, and deconflict operations between separate organizations. Coordination is not necessarily a process of gaining approval but is most often used for mutual exchange of information. Normally used between functions of a supporting staff. Direct liaison authorized (DIRLAUTH) is used to coordinate with an organization outside of the immediate staff or organization. (AFDD 1)

counterintelligence. Information gathered and activities conducted to protect against espionage, other intelligence activities, sabotage, or assassinations conducted by or on behalf of foreign governments or elements thereof, foreign organizations, or foreign persons, or international terrorist activities. Also called **CI.** (JP 1-02)

decentralized execution. Delegation of execution authority to subordinate commanders. (JP 1-02) [*Decentralized execution of air and space power is the delegation of execution authority to responsible and capable lower-level commanders to achieve effective span of control and to foster disciplined initiative, situational responsiveness, and tactical flexibility.*] (AFDD 1) {Italicized words in brackets apply only to the Air Force and are offered for clarity.}

direction. Guidance to or management of support staff functions. Inherent within command but not a command authority in its own right. In some cases, can be considered an explicit instruction or order. Used by commanders and their designated subordinates to facilitate, channel, or motivate support staff to achieve appropriate action, tempo, or intensity. Used by directors of staff agencies on behalf of the commander to provide guidance to their staffs on how best to accomplish stated objectives IAW the commander's intent. (AFDD 1)

distinctive capabilities. US Air Force distinct areas of expertise are: air and space superiority, global attack, rapid global mobility, precision engagement, information superiority, and agile combat support. (AFDD 1)

doctrine. Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application. (JP 1–02)

effects. A full range of outcomes, events, or consequences that result from a specific action. (AFDD 1)

effects-based. Action taken with the intent to produce a distinctive and desired effect. (AFDD 1)

effects-based operations. Actions taken against enemy systems designed to achieve specific effects that contribute directly to desired military and political outcomes. Also called **EBO.** (AFDD 1)

electronic attack. See electronic warfare.

electronic protect. See electronic warfare.

electronic warfare. Any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. Also called **EW.** The three major subdivisions within electronic warfare are: electronic attack, electronic protection, and electronic warfare support.

a. electronic attack. That division of electronic warfare involving the use of electromagnetic energy, directed energy, or antiradiation weapons to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability and is considered a form of fires. Also called **EA.** EA includes: 1) actions taken to prevent

or reduce an enemy's effective use of the electromagnetic spectrum, such as jamming and electromagnetic deception, and 2) employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism (lasers, radio frequency weapons, particle beams).

b. electronic protection. That division of electronic warfare involving passive and active means taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare that degrade, neutralize, or destroy friendly combat capability. Also called **EP.**

c. electronic warfare support. That division of electronic warfare involving actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate or localize sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition, targeting, planning and conduct of future operations. Thus, electronic warfare support provides information required for decisions involving electronic warfare operations and other tactical actions such as threat avoidance, targeting, and homing. Also called **ES.** Electronic warfare support data can be used to produce signals intelligence, provide targeting for electronic or destructive attack, and produce measurement and signature intelligence. (JP 1-02)

force protection. Actions taken to prevent or mitigate hostile actions against Department of Defense personnel (to include family members), resources, facilities, and critical information. These actions conserve the force's fighting potential so it can be applied at the decisive time and place and incorporate the coordinated and synchronized offensive and defensive measures to enable the effective employment of the joint force while degrading opportunities for the enemy. Force protection does not include actions to defeat the enemy or protect against accidents, weather, or disease. Also called **FP.** (JP 1-02) [*An integrated application of offensive and defensive actions that deter, detect, preempt, mitigate, or negate threats against or hazards to Air Force air and space operations and assets, based on an acceptable level of risk.*] {Italicized definition in brackets applies only to the Air Force and is offered for clarity.}

functions. The appropriate or assigned duties, responsibilities, missions, or tasks of an individual, office, or organization. As defined in the National

Security Act of 1947, as amended, the term "function" includes functions, powers, and duties (5 United States Code 171n (a)). (JP 1-02)

influence operations. The integrated planning and employment of military capabilities to achieve desired effects across the cognitive battlespace. (AFDD 2-5)

information operations. Actions taken to affect adversary information and information systems while defending one's own information and information systems. Also called **IO.** (JP 1-02) [*Information operations are the integrated employment of the core capabilities of Influence Operations, Electronic Warfare Operations, Network Warfare Operations, in concert with specified Integrated Control Enablers, to influence, disrupt, corrupt, or usurp adversarial human and automated decision making while protecting our own.*] (AFDD 2-5) {Italicized definition in brackets applies only to the Air Force and is offered for clarity.}

joint doctrine. Fundamental principles that guide the employment of forces of two or more Military Departments in coordinated action toward a common objective. It is authoritative; as such, joint doctrine will be followed except when, in the judgment of the commander, exceptional circumstances dictate otherwise. It will be promulgated by or for the Chairman of the Joint Chiefs of Staff, in coordination with the combatant commands and Services. (JP 1-02)

joint force. A general term applied to a force composed of significant elements, assigned or attached, of two or more Military Departments operating under a single joint force commander. (JP 1-02)

joint force air component commander. The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking air forces; planning and coordinating air operations; or accomplishing such operational missions as may be assigned. The joint force air component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. Also called **JFACC.** See also **joint force commander.** (JP 1-02) [*The joint air and space component commander (JFACC) uses the joint air and space operations center to command and control the integrated air and space effort to meet the joint force commander's objectives. This title*

emphasizes the Air Force position that air power and space power together create effects that cannot be achieved through air or space power alone.] (AFDD 2) {Words in brackets apply only to the Air Force and are offered for clarity.}

joint force commander. A general term applied to a combatant commander, subunified commander, or joint task force commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called **JFC.** (JP 1-02)

joint force land component commander. The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking land forces; planning and coordinating land operations; or accomplishing such operational missions as may be assigned. The joint force land component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. Also called **JFLCC.** (JP 1-02)

joint force maritime component commander. The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking maritime forces and assets; planning and coordinating maritime operations; or accomplishing such operational missions as may be assigned. The joint force maritime component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. Also called **JFMCC.** (JP 1-02)

joint publication. A publication containing joint doctrine and/or joint tactics, techniques, and procedures that involves the employment of forces prepared under the cognizance of Joint Staff directorates and applicable to the Military Departments, combatant commands, and other authorized agencies. It is approved by the Chairman of the Joint Chiefs of Staff, in coordination with the combatant commands and Services. Also called **JP.** (JP 1-02)

joint task force. A joint force that is constituted and so designated by the Secretary of Defense, a combatant commander, a subunified commander, or an existing joint force commander. Also called **JTF.** (JP 1-02)

maneuver. 1. A movement to place ships, aircraft, or land forces in a position of advantage over the enemy. 2. A tactical exercise carried out at sea, in the air, on the ground, or on a map in imitation of war. 3. The operation of a ship, aircraft, or vehicle, to cause it to perform desired movements. 4. Employment of forces in the battlespace through movement in combination with fires to achieve a position of advantage in respect to the enemy in order to accomplish the mission. (JP 1-02) [*Air and space power is a maneuver element in its own right, co-equal with land and maritime power; as such, it is no longer merely a supporting force to surface combat. As a maneuver element, it can be supported by surface forces in attaining its assigned objectives.*] (AFDD 1) {Words in brackets apply only to the Air Force and are offered for clarity.}

military operations other than war. Operations that encompass the use of military capabilities across the range of military operations short of war. These military actions can be applied to complement any combination of the other instruments of national power and occur before, during, and after war. Also called **MOOTW.** (JP 1-02)

network attack. Those operations to disrupt, deny, degrade, or destroy information resident in computers and computer networks, to include the computers and networks themselves. (AFDD 2-5)

network warfare operations. The integrated planning and employment of military capabilities to achieve desired effects across the digital battlespace. Network warfare operations are conducted in the information domain, which is composed of hardware, software, data, and human components. (AFDD 2-5)

network defense. Those defensive measures to protect and defend information, computers, and networks from disruption, denial, degradation, or destruction. (AFDD 2-5)

network warfare support. Those operations to provide information to find, fix, track and assess both adversaries and friendly sources of access and vulnerability for the purpose of immediate defense, threat recognition, targeting, planning and engaging in network operations. (AFDD 2-5)

operational control. Command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority) and may be delegated within the command. When forces are

transferred between combatant commands, the command relationship the gaining commander will exercise (and the losing commander will relinquish) over these forces must be specified by the Secretary of Defense. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called **OPCON.** (JP 1-02)

operational doctrine. Operational doctrine guides the proper organization and employment of air and space forces in the context of distinct objectives, force capabilities, broad functional areas, and operational environments. Operational doctrine provides the focus for developing the missions and tasks that must be executed through tactical doctrine. Doctrine at this level changes a bit more rapidly than basic doctrine, but usually only after deliberate internal Service debate. (AFDD 1)

operational level of war. The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics; they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives. See also strategic level of war; tactical level of war. (JP 1-02)

operations security. The process of identifying critical information and subsequently analyzing friendly actions attendant to military operations and other activities to identify those actions that can be observed by adversary

intelligence systems; determine indicators hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries; and select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation. Also called **OPSEC.** (JP 1-02)

policy. Guidance that is directive or instructive, stating what is to be accomplished. It reflects a conscious choice to pursue certain avenues, and not others. Policies may change due to changes in national leadership, political considerations, or for fiscal reasons. At the national level, policy may be expressed in such broad vehicles such as the National Security Strategy. Within military operations, policy may be expressed not only in terms of objectives, but also in rules of engagement (ROE)—what we may or may not strike, or under what circumstances we may strike particular targets. (AFDD 1)

reconnaissance. A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area. (JP 1-02)

strategic attack. Offensive action conducted by command authorities aimed at generating effects that most directly achieve our national security objectives by affecting the adversary's leadership, conflict-sustaining resources and strategy. (AFDD 1)

strategic level of war. The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) security objectives and guidance, and develops and uses national resources to accomplish these objectives. Activities at this level establish national and multinational military objectives; sequence initiatives; define limits and assess risks for the use of military and other instruments of national power; develop global plans or theater war plans to achieve these objectives; and provide military forces and other capabilities in accordance with strategic plans. (JP 1-02)

strategy. The art and science of developing and employing instruments of national power in a synchronized and integrated fashion to achieve theater, national, and/or multinational objectives. (JP 1-02)

support. 1. The action of a force that aids, protects, complements, or sustains another force in accordance with a directive requiring such action. 2. A unit that helps another unit in battle. 3. An element of a command that assists, protects, or supplies other forces in combat. (JP 1-02)

supported commander. 1. The commander having primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan or other joint operation planning authority. In the context of joint operation planning, this term refers to the commander who prepares operation plans or operation orders in response to requirements of the Chairman of the Joint Chiefs of Staff. 2. In the context of a support command relationship, the commander who receives assistance from another commander's force or capabilities, and who is responsible for ensuring that the supporting commander understands the assistance required. (JP 1-02)

supporting commander. 1. A commander who provides augmentation forces or other support to a supported commander or who develops a supporting plan. Includes the designated combatant commands and Defense agencies as appropriate. 2. In the context of a support command relationship, the commander who aids, protects, complements, or sustains another commander's force, and who is responsible for providing the assistance required by the supported commander. (JP 1-02)

surveillance. The systematic observation of aerospace, surface, or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means. (JP 1-02)

synchronization. 1. The arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time. 2. In the intelligence context, application of intelligence sources and methods in concert with the operation plan. (JP 1-02)

tactical control. Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command. When forces are transferred between combatant commands, the command relationship the gaining commander will exercise (and the losing commander will relinquish) over these forces must be

specified by the Secretary of Defense. Tactical control provides sufficient authority for controlling and directing the application of force or tactical use of combat support assets within the assigned mission or task. Also called **TACON.** (JP 1-02)

tactical doctrine. Describes the proper employment of specific Air Force assets, individually or in concert with other assets, to accomplish detailed objectives. Tactical doctrine considers particular objectives (stopping the advance of an armored column) and conditions (threats, weather, and terrain) and describes how Air Force assets are employed to accomplish the tactical objective (B-1s dropping anti-armor cluster munitions). Tactical doctrine is codified as tactics, techniques, and procedures (TTP) in Air Force TTP (AFTTP). Because tactical doctrine is closely associated with employment of technology, change may occur more rapidly than to the other levels of doctrine. (AFDD 1)

tactical level of war. The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives. (JP 1-02)

task force. 1. A temporary grouping of units, under one commander, formed for the purpose of carrying out a specific operation or mission. 2. A semipermanent organization of units, under one commander, formed for the purpose of carrying out a continuing specific task. (JP 1-02)

war. Open and often prolonged conflict between nations (or organized groups within nations) to achieve national objectives. (AFDD 1)

warfighters. The air and space expeditionary task force (AETF) commander—the COMAFFOR—is the lead Air Force warfighter and exercises control over forces, assigned, attached, and in support. These AETF forces that are engaged in the operational and tactical levels of warfare are the COMAFFOR's warfighters. (AFDD 1)