

STRATEGY, REQUIREMENTS, AND FORCES

The Rising Imperative of Air and Space Power



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Special
Report**

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STRATEGY, REQUIREMENTS, AND FORCES

By John T. Correll
February 2003

After 20 years of service in the US Air Force, John Correll joined the staff of Air Force Magazine, journal of the Air Force Association, in 1982. He was editor in chief from 1984 to 2002. He continues to study and write about national defense and air and space power.

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TIMELINE 1989–2002

2

Events

- 1989** George H.W. Bush Administration begins
Tiananmen Square
Fall of the Berlin Wall
Operation Just Cause in Panama
- 1990** Iraq invades Kuwait
Germany reunifies
- 1991** Gulf War
Operation Provide Comfort (forerunner of Northern Watch) begins
Warsaw Pact collapses
Moscow coup attempt
USSR ceases to exist
- 1992** Operation Southern Watch begins
- 1993** Clinton Administration begins
Operation Deny Flight in Bosnia begins
Somalia mission fiasco
- 1994** Haiti intervention
- 1995** Operation Deliberate Force in Bosnia
US peacekeepers to Bosnia
- 1996** Attack on Khobar Towers in Saudi Arabia
- 1997**
- 1998** Cruise missile strikes in Sudan, Afghanistan
Operation Desert Fox, strikes in Iraq
- 1999** Czech Republic, Hungary, Poland join NATO
Air War over Serbia
- 2000** Attack on USS *Cole*
- 2001** George W. Bush Administration begins
9/11 terrorist attacks
Operations Noble Eagle and Enduring Freedom begin
- 2002** ABM treaty terminated
Crises: India–Pakistan/Israel–Palestine
International Criminal Court established
Confrontation with Iraq
North Korea reveals nuclear weapons program
Department of Homeland Security created

Strategy, Doctrine, Policy**Forces and Requirements**

3

Forward Presence/Crisis Response

“Regional Defense” strategy
 “New World Order”
 “Global Reach, Global Power”

The “Base Force”

“Revolution in Military Affairs”

SAC stands down from alert

“Limited Objectives” (Aspin)

Aspin’s “Option C”
 Involuntary separation of military personnel

Bottom-Up Review
 “2 MRC” force-sizing standard

Multilateral Peace Operations
 “Engagement and Enlargement”

Military Operations Other Than War
 Defend “important” but not necessarily “vital” interests

Commission on Roles and Missions
 Nuclear Posture Review
 Experimental Air Expeditionary Task Forces

Joint Vision 2010

Pilot shortage begins

“Shape, Respond, Prepare” defense strategy
 Transformation

Quadrennial Defense Review 1997
 National Defense Panel

Defense budget bottoms out after 13 reductions in a row

Aerospace Expeditionary Force Cycle 1

Joint Vision 2020

“Assure, Dissuade, Deter, Defeat” defense strategy
 Homeland Security
 No sanctuary for terrorism

Space Commission
 DOD designates USAF Executive Agent for Space
 Quadrennial Defense Review 2001
 “4-2-1” force-sizing standard

Preemption
 National Security Strategy 2002

Nuclear Posture Review

“Pentagon Needs a Few Good Enemies”

—Headline, *New York Daily News*, June 21, 1989

WHEN the Berlin Wall fell in November 1989, the Cold War was not quite over yet, but the end was in sight. Big changes lay ahead for the armed forces of the United States:

For more than 40 years, US forces had defined themselves in terms of a global confrontation with the Soviet Union. Anything else was regarded as a “lesser included contingency.” Even Vietnam, which cost 47,000 American lives, was strategically a secondary consideration. The Pentagon never lost its focus on deterring and containing the military power of the USSR.

In 1989, however, the Soviet Union and the Warsaw Pact were tottering, and the US forces faced fundamental questions about the future of their missions, size, force structure, and budgets.

Glasnost (“openness”) and *perestroika* (“restructuring”) had swept the Soviet Union. On Nov. 9, the East German government opened its borders and tore down barriers in the Berlin Wall, which had long stood as the most visible symbol of Soviet domination of Europe.

Celebrations of peace were underway.

Francis Fukuyama, a mid-level official at the State Department, created a sensation in the summer of 1989 with his theory of the “End of History,” in which he argued that alternatives to “Western liberalism” had been exhausted and that the centuries of ideological struggle were over.¹

The popular perception was that the US armed forces would soon be left with little or nothing to do. The feeling was captured by a *New York Daily News* headline: “Pentagon Needs a Few Good Enemies.”

Unbeknownst to the public, similar thoughts were in the mind of the new Chairman of the Joint Chiefs of Staff, Army Gen. Colin L. Powell. Within a month of taking office in October 1989, he was developing a slide presentation entitled “Strategic Overview—1994: When You Lose Your Best Enemy.”²

Powell looked ahead to a new strategy

and a reduced force structure. Throughout the Cold War, US forces were based overseas in large numbers under an operational doctrine of forward defense. He thought it was time to reduce the numbers of forces permanently stationed abroad and to rely more on periodic deployments to demonstrate commitment and protect American interests.

The Base Force

The new concept Powell proposed was “Forward Presence/Crisis Response.” Initially, the Army, supported by the Air Force, vigorously opposed abandoning the concept of forward defense.³ The force structure, dubbed the “Base Force,” would be about 25 percent smaller than the force in 1989.

In the ensuing months, Powell overcame the objections of the services and convinced Secretary of Defense Richard B. Cheney. In June 1990, Cheney endorsed Powell’s proposal, and President George W. Bush agreed to the new strategy and force structure.⁴

Meanwhile, the US Air Force was exploring ideas that would be critically important to the evolving defense strategy. An Air Force white paper introduced the phrase, “Global Reach, Global Power,” and emphasized the long reach and effectiveness of airpower and aerospace technologies “in an era in which we believe the American people will have low tolerance for prolonged combat operations or mounting casualties.”⁵

Air Force thinkers in the Pentagon were expressing an even bolder concept: the projection of “global power from American shores.”⁶ Long-range Air Force aircraft, operating from bases in the United States, could reach objectives anywhere in the world. During the Cold War, bombers had been assigned against targets in the Soviet Union. With the Cold War ending, they could take on long-range conventional missions as well.

These views would soon look prophetic. They were also consistent with Powell’s “Crisis Response” theme, although Powell, no great fan of airpower, may not have seen it that way. Years later,

¹ Francis Fukuyama, “The End of History,” *The National Interest*, Summer 1989.

² Colin Powell, *My American Journey*. Ballantine, 1996, p. 437-438.

³ Lorna S. Jaffe, “The Development of the Base Force, 1989–1992,” OJCS, July 1993.

⁴ Jaffe.

⁵ “Global Reach—Global Power,” US Air Force, June 1990.

⁶ James W. Canan, “Global Power From American Shores,” *Air Force Magazine*, October 1989.

Powell would say, “When I hear someone tell me what airpower can do, I head for the bunker.”⁷

Under ordinary circumstances, a major change in defense policy would have been big news. In a speech Aug 2, 1990, Bush proclaimed a new strategy, emphasizing the shift to a regional emphasis.

“In a world less driven by an immediate threat to Europe and the danger of global war—in a world where the size of our forces will increasingly be shaped by the needs of regional contingencies and peacetime presence—we know that our forces can be smaller,” Bush said, forecasting that “by 1995 our security needs can be met by an active force 25 percent smaller than today’s.”⁸

However, Bush’s announcement was overshadowed by even bigger news. The same day, Iraqi dictator Saddam Hussein invaded Kuwait, setting off the chain of events that would culminate in the Persian Gulf War.

The United States initiated Operation Desert Shield, pouring forces and equipment into the Gulf area over the next six months. Bush began recruiting a coalition of nations to join the effort of ejecting Saddam from Kuwait.

Bush continued to reposition US foreign policy. In September, looking beyond the gravity of the crisis in the Gulf, Bush cited a new relationship with the Soviet Union and declared the emergence of “a new world order.”⁹ It would be “an era in which the nations of the world, East and West, can prosper and live in harmony.”

In November, the UN Security Council, which had already condemned the invasion of Kuwait, authorized the use of “all necessary means” if Iraq did not withdraw by Jan. 15. The resolution passed, 12-2-1. Cuba and Yemen voted against it, and China abstained.

Desert Storm

Saddam did not withdraw, and the Gulf War—Operation Desert Storm—began on Jan. 17, 1991. Airpower pounded Iraq for 42 days, during which almost half of Iraq’s armor was destroyed outright. Between 50 and 75 percent of Iraq’s troops in the first two echelons were either casualties or deserters.

On the first night of the war, B-52s took off from Barksdale AFB, La., conducted attacks in Iraq, flying 35 hours before landing again at Barksdale. (“Projecting power from American shores,” although the full demonstration

was still eight years in the future, in Serbia.)

In the final four days of the war, coalition ground troops, supported by airpower, surged into Kuwait and drove out the staggering Iraqis, inflicting more damage on them in the “Mother of All Retreats.”

The fighting stopped on Feb. 28. Iraq agreed on April 11 to accept all of the terms imposed by the United Nations. Saddam had been thrown out of Kuwait, as the UN had authorized, but the settlement and the outcome of the Gulf War left him in power in Iraq. Ten years later, that decision would have dire ramifications.

US leaders, both in the White House and the Pentagon, studied what had happened in the Gulf and drew conclusions. For his part, Bush said that “Lesson number one from the Gulf War was the value of airpower.”¹⁰ That was fairly obvious at the time, although it would soon come under challenge and heavy reinterpretation by ground power advocates.

It was further noted that the Gulf War—in sharp contrast to Vietnam—precisely followed the Weinberger Doctrine (referred to often but erroneously as the “Powell Doctrine”).

In 1984, Caspar Weinberger, then Secretary of Defense, announced a new policy on the use of military force. Troops would not be committed to combat unless a vital national interest was at stake, and until other options had been exhausted. Political and military objectives had to be clearly defined and achievable. If we went to war, it would be with sufficient force and a determination to win. There should be “some reasonable assurance” of support from the American public and Congress.¹¹

Weinberger’s doctrine had taken considerable criticism, much of it from diplomats and newspaper columnists, but the Gulf War vindicated his position.

Unfortunately, the nation did not absorb all of the lessons indicated or confirmed by the Gulf War. For example, the United States has a history of underestimating in peacetime the forces that it will require in wartime. The Gulf War ultimately required a third more fighter forces than the strategy estimated. It required most of the Air Force’s best aircraft and the largest coalition air fleet to see combat since World War II.¹²

⁷David Halberstram, *War in a Time of Peace: Bush, Clinton, and the Generals*. Scribner, 2001, p 42.

⁸George H.W. Bush, speech at the Aspen Institute Symposium, Aug. 2, 1990. The new national defense strategy was promulgated formally by Powell in January 1992 and restated by Cheney in January 1993.

⁹George H.W. Bush, “Toward a New World Order,” Address to Joint Session of Congress, Sept. 11, 1990.

¹⁰James W. Canan, “Lesson Number One,” *Air Force Magazine*, October 1991.

¹¹Caspar Weinberger, “The Uses of Military Power,” National Press Club, Nov. 28, 1984.

¹²Gen. John Michael Loh, remarks at Air Force Association symposium, Orlando, Fla., Jan. 31, 1992.

RAND Corp. analysts, studying regional conflict for the Pentagon, reported a pattern in which “US ability to forecast future force needs has been far from perfect. Peak US force deployments in Korea, Vietnam, and Iraq exceeded planners’ prewar expectations by a factor of two in critical areas.”¹³

Drawdown in Wartime

The Gulf War was the only war the United States had ever fought in the middle of a force drawdown. The Administration stuck to its Base Force plans, which held that, by 1995, operations would end or forces would be drawn down at 314 European sites, and forces in Europe would be cut in half.¹⁴

In February 1991, with the Gulf War still in progress, the services began major strength reductions, including the involuntary separation of personnel. Many of the people forced out were veterans who did not want to go.¹⁵

By 1992, the drawdown had left the Air Force with a surplus of pilots at a time when the airlines were not hiring—circumstances that would flip flop into a wrenching pilot shortage a few years later. Congress provided cash incentives to experienced veterans in various specialties to induce separations.¹⁶

Some critics saw this as a waste of money. Congressional Budget Office analysts, surveying military compensation and analyzing options,¹⁷ calculated coldly that, “If fewer personnel are needed in the future, military pay could be even lower than it is today and still be competitive.” CBO further said that, “large-scale personnel reductions create the problem of how to encourage experienced personnel to leave the military rather than how to convince them to stay,” and that “limiting military pay raises could accomplish the same goal of increasing voluntary separations, but, unlike the incentives, would offer additional savings rather than offsetting costs.”

Also cheering on the drawdown were the critics who still could not imagine any significant need for military power in the years to come. “Pentagon Imagines New Enemies to Fight in Post-Cold War Era,” sneered a *New York Times* headline Feb. 17, 1992. The *Times* had supposedly seen leaked documents revealing “vigorous attempts within the military establishment to invent a menu of alarming war scenarios that can be used to prevent further

reductions in forces or cancellations of new weapon systems.”¹⁸

Aspin Enters the Fray

The issue of strategy and force requirements took a critical fork when Les Aspin, chairman of the House Armed Services Committee and a future Secretary of Defense, swung into action.

Aspin had been a Rhodes scholar, an economics professor, and for a short time in the 1960s, was a systems analyst in the Pentagon for Secretary of Defense Robert S. McNamara. He had been in Congress since 1970, and was a leading voice on defense matters.

Not satisfied with the Base Force projections, Aspin developed four options for sizing the armed forces. Some of his options were more extreme than others, but Aspin signaled that the one to be taken seriously (“the most prudent and promising,” he called it) was Option C.¹⁹

Option C proposed to cut the Base Force by eight more Air Force wings, three more Army divisions, and 110 more ships. It called for a further reduction of 233,000 military personnel, 93 percent of them to come from the active duty forces.²⁰

Aspin developed a benchmark he called “the Desert Storm Equivalent,” the force that was supposedly employed in the Gulf War and approximately the force that would be required for a major regional conflict in the future.²¹

He said that the Desert Storm Equivalent, “the force that mattered,” consisted of “six heavy divisions, an air-transportable, early arriving light division, one Marine division on land and an excess of one brigade at sea, 24 Air Force fighter squadrons, 70 heavy bombers, and two early arriving carrier battle groups building up over time to four carrier battle groups including surface combatants providing AEGIS defenses and capability for launching large numbers of cruise missiles.”

Desert Drizzle

Powell and others objected to Aspin’s numbers and conclusions. Gen. Merrill A. McPeak, the Air Force Chief of Staff, said that Aspin’s figure of 24 fighter squadrons amounted to “Desert Drizzle,” not Desert Storm. He said the actual Desert Storm force had about 11 US Air Force fighter wing equivalents (33

¹³ Christopher Bowie et. al. *The New Calculus*. RAND, 1993.

¹⁴ “An Overview of the Changing Department of Defense: Strategy, Budgets, and Forces,” DOD, October 1991.

¹⁵ Bruce D. Callander, “Going: A Fifth of the Force,” *Air Force Magazine*, February 1991.

¹⁶ Bruce D. Callander, “Drawdown and Pain,” *Air Force Magazine*, January 1992; John T. Correll, “The Troop Losses Mount,” *Air Force Magazine*, May 1992.

¹⁷ CBO, “Reducing the Deficit: Spending and Revenue Options,” February 1993.

¹⁸ Patrick E. Tyler, “Pentagon Imagines New Enemies to Fight in Post-Cold War era,” *New York Times*, Feb. 17, 1992.

¹⁹ Les Aspin, “An Approach to Sizing American Conventional Forces for the Post-Soviet Era: Four Illustrative Options,” Feb. 25, 1992; Aspin, letter to Air Force Association, March 24, 1992.

²⁰ Les Aspin, “Defense 1997 Alternatives: Supplemental Materials,” March 24, 1992.

²¹ Aspin, “Four Illustrative Options,” Feb. 25, 1992.

fighter squadrons) plus eight FWEs from allies for a total of 57 land-based fighter squadrons.²²

Aspin shrugged off criticism. "McPeak is wrong and the Desert Storm equivalent could do the job," he said.²³

The Base Force had become a ceiling rather than a floor, as Powell had originally conceived it.²⁴ The future force could be smaller than the Base Force, but it could not be larger.

²² John T. Correll, "The Base Force Meets Option C," *Air Force Magazine*, June 1992.

²³ Les Aspin, "Pentagon's 'Weinbergerization' of Defense Debate," April 2, 1992.

²⁴ Lorne S. Jaffe, "The Development of the Base Force, 1989-1992," OJCS, July 1993.

²⁵ The Bottom-Up Review did not specify personnel strength. However, Aspin's defense budget, submitted six months later, forecast 1999 active duty levels at 390,000 for the Air Force, 495,000 for the Army, 394,000 for the Navy, and 174,000 for the Marine Corps. an overall reduction of 133,000 reserve personnel was projected from 1994 through 1999.

DOWN TO THE BOTTOM-UP REVIEW²⁵

	The Force 1991	Base Force 1997	Option C 1997	BUR Force 1999
Air Force				
Fighter Wing Equivalents (active/reserve)	22/12	15/11	10/8	13/7
Personnel (active/reserve)	511,000/202,000	430,000/200,000	364,000/193,000	
Bombers	268	181	—	Up to 184
ICBMs	1,000	550	—	500
Army				
Divisions (active/reserve, cadre)	16/10/0	12/6/2	9/6/0	10/15
Personnel (active/reserve)	725,000/741,000	536,000/567,000	476,000/550,000	
Navy				
Total ships	528	450	340	346
Carriers	15	13	12	12
Attack submarines	87	80	40	
Assault ships	65	50	50	
Personnel (active/reserve)	571,000/150,000	501,000/118,000	432,000/112,000	
Marine Corps				
Divisions (active/reserve)	3/1	2.3/1	2/1	3/1
Personnel (active/reserve)	195,000/44,000	159,000/35,000	137,000/49,000	

“The biggest cold war relic of all is the excessive size of American forces. ... Unless Mr. Clinton finds the courage to trim defense, he will be forced to shortchange domestic investment for years to come.”

—*New York Times* editorial, Feb. 9, 1994²⁶

²⁶ “More Is the Pity at the Pentagon,” *New York Times*, Feb. 9, 1994.

²⁷ David Halberstram. *War in a Time of Peace: Bush, Clinton, and the Generals*. Scribner, 2001, p. 168.

²⁸ Colin Powell. *My American Journey*. Ballantine, 1996, p. 571.

²⁹ Gramm-Rudman-Hollings, originally passed in 1985 and modified in 1987, allocated budget reductions automatically by predetermined formula in any year when the government failed to meet a pre-set deficit ceiling.

³⁰ “Decoding the New Defense Budget,” Air Force Association/*Air Force Magazine* special report, April 19, 1993.

³¹ “FY 1994 Defense Budget Begins New Era,” Department of Defense, March 27, 1993.

³² “FY 1994 Defense Budget Begins New Era.”

³³ Les Aspin, Pentagon briefing on the defense budget, March 27, 1993.

³⁴ Barton Gelman, “Defense Budget ‘Treading Water,’” *Washington Post*, March 28, 1993.

PRESIDENT William J. Clinton came to office without much interest in foreign policy and spring-loaded to cut defense. When a member of Congress sought to engage him in a discussion about Russia and China, Clinton interrupted, saying, “I just went through the whole campaign and no one talked about foreign policy at all, except for a few members of the press.”²⁷

Powell recalled that, at his first meeting with defense leaders, the only defense issue of interest to Clinton was gays in military, and so “we spent the next 105 minutes solely on homosexuals in the armed forces.”²⁸

Clinton had chosen Aspin to be his Secretary of Defense, and Aspin had honed and polished his Option C theories. It set the stage for reducing for cutting back on the armed forces. Even so, what happened next—an instinctive, arbitrary cut of the defense budget, followed by a “Bottom-Up” review in search of a strategy to fit and justify the cut—was astounding.

Defense cuts had begun in 1986, but the federal deficit continued, with no politically acceptable way to resolve it. At a “Budget Summit” in 1990, the Administration and Congress suspended the Gramm-Rudman-Hollings deficit reduction act²⁹ and in its place established reduction targets for specific categories of spending.

The Budget summit projected defense cuts of \$325 billion between FY 1993 and FY 1997. However, the Bush Administration ordered more cuts. Bush’s final five-year budget, proposed

in January 1993, took defense \$113.5 billion below the Budget Summit baseline.³⁰

The Blind Budget Cut

That was not enough cutting for Aspin. In March 1993, he announced a further reduction of \$131.7 billion. Aspin’s proposal roughly doubled the cumulative reductions since 1990, and put defense \$245.2 billion below the Budget Summit. “This budget begins to use resources freed by the end of the Cold War to help at home,” Aspin said. “The President has made clear that the chief threat we face is failure to revitalize our economy.”³¹

Incredibly, Aspin did not know what kind of force the new budget would buy. That would be determined later in a “Bottom-Up Review.”³² For the moment, Aspin said, “what we’re doing is kind of treading water.”³³ However, the general inspiration for his plan was Option C.

Sam Nunn, chairman of the Senate Armed Services Committee, and Aspin’s fellow Democrat, was appalled. “We have been dealing with numbers grabbed out of the air,” he said. “No one knows where these cuts are going to come from.”³⁴

As it turned out, the people working on the Bottom-Up Review did not know either where the cuts were to be found. Through the summer of 1993, the Joint Staff worked on force structure options that might fulfill Aspin’s arbitrary budget projections. Details soon leaked to the press.

CUTBACKS FROM THE BUDGET SUMMIT

Defense Budget Authority Projected for 1994–1998 (In Current \$ Billions)

Budget Summit Baseline 1990	\$1,523.3
Bush/Cheney, January 1993	\$1,409.8
Clinton/Aspin, March 27, 1993	\$1,278.1

The five-year budgets forecast by the Budget Summit in 1990 incorporated a substantial reduction for defense. Bush’s “Base Force” budgets were substantially lower. Then Clinton doubled the Bush cuts, taking the FYDP \$245.2 billion below the Budget Summit baseline.

One of the possibilities under consideration was a concept called “Win-Hold-Win,”³⁵ in which US forces would fully prosecute one regional conflict and conduct a holding action on a second front. The second front would not get full attention until victory on the first front.

Two MRCs

Win-Hold-Win was subjected to withering criticism, ridiculed as “Win-Lose-Lose” and “Win-Hold-Oops.” Within weeks, it became an untenable position. Aspin soon gave up on Win-Hold-Win, declaring that “After much discussion, we’ve come to the conclusion that our forces must be able to fight and win two major regional conflicts, and nearly simultaneously.”³⁶

An assumption of the Bottom-Up review, Aspin said, was that “we don’t know where trouble might break out first, or second. We can predict, however, that wherever it does, we don’t have sufficient forces there.”³⁷

The Bottom-Up Review³⁸ envisioned that deploying US forces would respond to regional crisis in four stages:

Phase 1: Halt the Invasion. Minimize the territory and critical facilities an invader can capture. US forces deploy rapidly to the theater and enter battle as quickly as possible.

Phase 2: Build up US combat power in the theater while reducing the enemy’s.

Phase 3: Decisively defeat the enemy in large-scale air-land counteroffensive.

Phase 4: Provide for postwar stability.

Of these tasks, Aspin said, “achieving an ability to stop an attack quickly is the most critical element in dealing with multiple contingencies.”³⁹ Airpower was obviously critical in this formulation.

The Four-Option Fig Leaf

The Joint Staff studied requirements for response to two major regional conflicts (MRCs) simultaneously, one MRC at a time, and Win-Hold-Win. Their initial conclusions are shown on the accompanying “Three Alternatives” chart.

When Aspin moved from Win-Hold-Win to two MRCs, he was cornered. On the one hand, he could not walk away from his budget cuts. On the other hand, the two-MRC standard was the minimum he could get away with. But the reduced budget he had announced in March was not enough to pay for the two-MRC force.

In the formal publication of the Bottom-Up Review, this problem was covered by a fig leaf of sorts. “Simultaneous MRCs” had become “nearly simultaneous MRCs.” (See chart, “A Fourth Choice.”) There were now four options instead of three for the force sizing standard.⁴¹ A new level, “2 Nearly Simultaneous MRCs *Plus*,” had been added at the top. It was there, obviously, for the purpose of being rejected.

The Bottom-Up Review would go, as Aspin said, with the standard of 2 near-simultaneous MRCs. However, the number of Air Force fighter wing equivalents was now the same as for Win-Hold-Win. The previously-calcu-

³⁵ Michael R. Gordon, “Cuts Force Review of War Strategies,” *New York Times*, May 30, 1993; Art Pine, “US May Limit Its Wars to One at a Time,” *Los Angeles Times*, May 31, 1993.

³⁶ Les Aspin, Andrews AFB, June 24, 1993.

³⁷ Les Aspin, Fort McNair, June 16, 1993.

³⁸ Les Aspin, “Report on the Bottom-Up Review,” Oct. 15, 1993.

³⁹ Aspin, Fort McNair, June 16, 1993.

⁴⁰ Gordon, *New York Times*, May 30, 1993. However, *Air Force Magazine* obtained independent confirmation.

⁴¹ Les Aspin, Bottom-Up Review briefing, Sept. 1, 1993.

THE BUR PONDERS THREE ALTERNATIVES⁴⁰

(FWE = Fighter Wing Equivalent, MRC = Major Regional Conflict)

Sizing Standard	Force Structure
2 simultaneous MRCs	24 FWE 12 active Army div. 12 carriers
Win-Hold-Win	20 FWE 10 active Army div. 10 carriers
1 MRC at a time	16 FWE 8 active Army div. 8 carriers

Trying to match the budget cuts with a credible strategy, Aspin initially floated a concept called “Win-Hold-Win,” but it met with such derisive epithets as “Win-Lose-Lose.” He then shifted to the “2-MRC” option.

A FOURTH CHOICE—AND A DECISION

2 Nearly Simultaneous MRCs <i>Plus</i>	14 active FWE 10 reserve FWE 12 active Army divisions 12 carriers
2 Nearly Simultaneous MRCs	13 active FWE 7 reserve FWE 10 active Army divisions 12 carriers
Win-Hold-Win	13 active FWE 7 reserve FWE 10 active Army divisions 10 carriers
1 MRC	10 active FWE 6 reserve FWE 8 active Army divisions 8 carriers
Bottom-Up Review Force Decision	13 active FWE 7 reserve FWE 10 active Army divisions 12 carriers (11 active)

In September 1993, the Bottom-Up Review reported four force-sizing alternatives instead of three. The new top category, 2 MRCs *Plus*, was an obvious throwaway, setting up 2 MRCs as a reasonable-looking choice. However, the numbers associated with 2 MRCs had changed, and for the Air Force, were the same as for Win-Hold-Win. USMC force structure constant in all options: 5 active brigades, 1 reserve division.

lated requirement for 24 wings had been shifted to the new “Plus” level

Aspin’s Bottom-Up Review force was basically the same as the Win-Hold-Win force, except for the addition of one active and one reserve aircraft carrier. The Bottom-Up Review found 10 carriers sufficient for two nearly simultaneous MRCs, but added the others for “overseas presence.”

Even with the cutting and re-labeling, the Bottom-Up Review failed to produce a credible defense program to match the arbitrary budget cuts. Aspin revealed in October that his budget (“the President’s target”) was still \$13 billion short of covering the Bottom-Up force.⁴²

The Flaw That Persisted

It soon became obvious to almost everyone, that neither the budgets nor the forces projected were sufficient to cover two MRCs. Defense analyst Anthony Cordesman reported that, “Senior officials in the Comptroller’s office of the Department of Defense and the Office of Management and Budget privately admit that the Bottom-Up Review is

underfunded by at least \$100 billion in outlays over the period through FY 1999, or by a total of at least seven percent to 10 percent.”⁴³

Senator Nunn pointed out the fundamental imbalance of requirements and forces: “Our military forces are not capable of carrying out the tasks assumed in the Bottom-Up Review with this kind of eroding defense budget,” he said. “We are either going to have to adjust the resources or our expectation of what military forces will be able to do, because the two are going in opposite directions.”⁴⁴

Rep. Ike Skelton (D-Mo.), chairman of the House Armed Services subcommittee on Military Forces and Personnel, said that “simple third grade arithmetic” showed that the Bottom-Up Review force could not cover two major regional conflicts.⁴⁵

Nevertheless, and despite the critical flaws, the Bottom-Up Review configuration and the two MRC force sizing standard were the basis for the defense program through the 1990s.

⁴² Les Aspin, “Report on the Bottom-Up Review,” Oct. 15, 1993, p. 108.

⁴³ Anthony Cordesman, “US Defense Policy: Resources and Capabilities,” Woodrow Wilson International Center, December 1993.

⁴⁴ Sam Nunn, speech to Senate, Oct. 21, 1993.

⁴⁵ Ike Skelton, opening statement at committee hearing, Oct. 27, 1993.

THOSE who wondered how the armed forces would occupy themselves after the end of the Cold War got their answer in the 1990s.

Hard on the heels of the Gulf War, Saddam Hussein began flexing the military power he had left, using it against dissidents in his own country.

On April 10, 1991, to carry out UN mandates, the US established a no-fly zone (the future “Northern Watch”) in the airspace north of 36 degrees north latitude. A corresponding “Southern Watch” no-fly zone was established over the area south of 32 degrees north latitude on Aug. 26, 1992.

In addition, the Clinton Administration lowered the threshold of combat. It began with Aspin. During the Presidential election campaign of 1992, he drew a distinction between two schools of military employment. He described them as “Limited Objectives vs. “All or Nothing.”⁴⁶ It was a deliberate challenge to the Weinberger Doctrine, which had set rigorous standards for committing US forces to combat.

Aspin cited the rise of the Limited Objectives school, which he favored, and disparaged the All-or-Nothing school. “This school says that if you aren’t ready to put the pedal to the floor, don’t start the engine,” he said. “People may not be willing to pay \$250 billion or even \$200 billion a year for a military that is not very useful. It may be that to maintain a military for the extreme contingencies, it will be necessary to show that it is useful for the lesser contingencies, too.”⁴⁷

Another believer in Limited Objectives was Madeleine Albright, initially Clinton’s ambassador to the UN, later Secretary of State. Soon after the inauguration, she asked Powell: “What’s the point of having this superb military that you’re always talking about if we can’t use it?”⁴⁸

During Clinton’s first year in office, the armed forces used force against Iraq six times and once, disastrously, in Somalia.

Operation Restore Hope (Dec. 9, 1992–May 4, 1993) overlapped the Bush

and Clinton Administrations. It was a UN-sponsored, US-led humanitarian mission to relive famine in Somalia.⁴⁹

US Rangers and a Delta Force contingent were sent to Somalia in August 1993 at the urging of Jonathan Howe, retired admiral and former White House advisor, who was head of the UN mission to Mogadishu. The Pentagon objected, but the White House approved the deployment.⁵⁰ This was a considerably more dangerous mission, but Aspin denied a request for supporting armor

On Oct. 3–4, in the “Black Hawk Down” incident, later the subject of a book and a movie, 18 Army Rangers and Delta Force troopers died trying to capture minions of a Somali warlord. By Dec. 2, US troops were acting as bodyguards for that same warlord (no longer described as a “thug” in shifting Administration parlance) and flying him to a meeting on Army aircraft. Public and Congressional outrage led to Aspin’s dismissal in December.⁵¹

Shalikhshvili’s Adjustments

Army Gen. John M. Shalikhshvili replaced Powell as Chairman of the Joint Chiefs of Staff Oct. 25, 1993. He was more amenable to Administration thinking than Powell had been. Shalikhshvili went to some length, for example, in disagreeing with the Weinberger Doctrine, declaring that he had no right to put a sign on his door saying, “I’m sorry—we only do the big ones.”⁵²

The new national security strategy, published by the White House in July 1994 was entitled “A National Security Strategy of Engagement and Enlargement.” Under this policy, the United States would engage actively abroad and try to enlarge the community of free and open societies.

Shortly thereafter, the United States almost went to war in Haiti. In the summer of 1994, the Pentagon was told to begin planning for an invasion of Haiti. The purpose was to restore President Jean-Bertrand Aristide, whose regime had been overthrown by a junta. There was considerable dissent,

⁴⁶ Les Aspin, Jewish Institute for National Security Affairs (JINSA), Sept 21, 1992.

⁴⁷ House Armed Services Committee, Sept. 21, 1992.

⁴⁸ Colin Powell, *My American Journey*, page 576.

⁴⁹ “Operation Restore Hope,” FAS Military Analysis Network, March 4, 2000.

⁵⁰ Mark Bowden, *Black Hawk Down*. Grove/Atlantic, 1999, pp 90-96. Some 500 Somalis were also killed.

⁵¹ John Correll, “Roots of Failure,” *Air Force Magazine*, February 1994.

⁵² David Halberstram, *War in a Time of Peace*, p. 390-391.

even within Clinton's own policy ranks, to this move, but the armed forces prepared to carry out the operation.⁵³

Land, sea, and air forces were poised to strike on Sept. 19, but the conflict was averted when the junta agreed, six hours before H-hour, to Aristide's return.⁵⁴

The Administration was not quite finished dismantling the Weinberger Doctrine. One of its tenets was that the United States would go to war only to defend its vital national interests. In February 1995, Secretary of Defense William J. Perry, who replaced Aspin, said the nation would also defend interests that were important but not necessarily vital.⁵⁵

"There are three basic categories of cases in which the United States may use its armed forces," Perry said. "The first involves cases in which US vital interests are threatened. The second involves cases in which the United States has important, but not vital, national interests at stake. The third involves cases of strictly humanitarian concern."

In the important-but-not-vital category, he said, "Options range from using US military assets for logistical operations to employing US combat forces."

Shalikashvili's first national military strategy, published in February 1995, was subtitled "A Strategy of Flexible and Selective Engagement."⁵⁶ It reflected the national security strategy of "Engagement and Enlargement." There was also an echo of Aspin's "Limited Engagement" beliefs. Shalikashvili recognized that "On occasion, US forces may be directed to participate in peace enforcement operations or other operations which stand in the gray zone between peace and war."

Non-War Combat

The notion of "Military Operations Other Than War" gained considerable currency in the 1990s. MOOTW—pronounced "Mootwah" by its detractors—grew out of the low-intensity conflict theories of the 1980s. It was re-labeled because the Joint Staff thought the "low-intensity conflict" term was "potentially offensive to host nations" where such conflict might occur.⁵⁷

In 1995, the Joint doctrine writers divided military operations up into war and Mootwah, with a dividing line between the two. However, MOOTW

might "involve elements of both combat and noncombat operations."

Combat MOOTW—the curious phenomenon of combat operations that were not war—included "active combat operations and employment of most combat capabilities." Confirming the suspicion of Mootwah critics, these operations were declared to be more sensitive to political considerations and were subject to more restrictive rules of engagement. Among the specified types of MOOTW operations were "strikes and raids."⁵⁸ Mootwah was yet another confirmation that the threshold of combat had been lowered.

Between 1991 and 1995, the number of Air Force military operations other than war nearly doubled in comparison to the previous five years, and the level of effort rose to 150,000 to 170,000 flying hours per year.⁵⁹

Shalikashvili's second formal statement of the national defense strategy, in 1997, was entitled, "Shape, Respond, Prepare Now." Shape the international environment. Respond to the full spectrum of crises. Prepare now for an uncertain future.

He took his cue from Clinton's "National Security Strategy for a New Century," May 1997, which also referred to shaping, responding, and preparing. Shalikashvili acknowledged the force structure proposed that year by the Quadrennial Defense Review as "the Total Force required to carry out the President's 1997 National Security Strategy and this supporting military strategy at prudent risk."

Military action continued at a brisk clip through the Clinton years. There were two main arenas for conflict: the former Yugoslavia and Iraq.

Bosnia

In June 1991, civil war broke out in what used to be Yugoslavia.⁶⁰ It was in the back yard of Europe and NATO, but the Europeans could not handle it. The United States was inexorably drawn in.

In September 1991, the United Nations ordered an arms embargo in all Yugoslavia, and in October 1992, established a no-fly zone in the airspace of Bosnia-Herzegovina. (With Operation "Deny Flight" in April 1993, NATO began to enforce the no-fly zone. The operation would run until December 1995. It was the first of a long string of actions in the former Yugoslavia that would culminate with Air War Over Serbia in 1999.)

⁵³ David Halberstram, *War in a Time of Peace*, p. 278-282.

⁵⁴ Colin Powell, *My American Journey*, p. 598-602.

⁵⁵ William J. Perry, "Hierarchy of Interests" in Annual Report to the President and the Congress, February 1995.

⁵⁶ Gen. John M. Shalikashvili, National Military Strategy of the United States, February 1995.

⁵⁷ John Correll, "The Murky Edges of Mootwah," *Air Force Magazine*, July 1996.

⁵⁸ Joint Pub 3-07, "Joint Doctrine for Military Operations Other Than War," June 16, 1995.

⁵⁹ Alan Vick et al. *Preparing the US Air Force for Military Operations Other Than War*. RAND, 1997.

⁶⁰ Bosnia Fact Sheet: Chronology of the Balkan Conflict," US State Department, Dec. 6, 1995; "Operation Deny Flight" fact sheet, Allied Forces Southern Europe, undated.

In the 1992 US presidential election campaign, candidate Clinton criticized President Bush for not responding more strongly to the Bosnia crisis.⁶¹

In its last months, the Bush Administration explored an approach called “Lift and Strike,” i.e., lift the arms embargo and use air strikes against Serbs. The Europeans rejected it. Clinton raised the idea again in 1994, but the Europeans, who had troops on the ground there, still took a dim view of those who wanted to wage war from high altitude. Malcom Rifkind, the British defense minister, said, “Those who call for action by the world must match words [by] deeds and that doesn’t include just a few aircraft.”⁶²

By 1995, the Serbs were bold in their aggression, taking UN hostages and overrunning “safe areas” at will. When airpower was used, it was in a severely limited fashion, with restrictive rules of engagement and tight controls from UN officials on the ground. Then, in August 1995, an artillery attack on an open market in Sarajevo prompted NATO to act with determination.

Operation Deliberate Force, Aug. 30–Sept. 14, included some artillery, but it was mostly airpower. For three weeks, the Serbs watched their military power being destroyed before their eyes before deciding they would rather talk than fight.

As reporter John Tirpak noted, “It took just 3,515 NATO air sorties—about a day’s work in the 1991 Gulf War—to get the Serbs to negotiate in earnest.”⁶³ Ambassador Richard C. Holbrooke, special US negotiator in the Balkans and primary architect of the Dayton peace accords, said that “Deliberate Force” was the primary factor in bringing the Serbs to the peace table.

In November 1995, Clinton decided to send US troops to Bosnia, saying that, “Our Joint Chiefs of Staff have concluded that this mission should—and will—take about one year.”⁶⁴

Much was made at the time of the assurance that the troops would be out of Bosnia in a year. However, the withdrawal date was extended again and again and eventually declared to be “indefinite.” The lack of an exit strategy became a an issue for Clinton’s critics in Congress.

Kosovo

In 1998, the Yugoslav civil war spread to the southern province of Bosnia, whose independent status had been

revoked in 1989 by the Serb regime in Belgrade. In February 1999, the warring factions met for peace talks at Rambouillet, France, but could not reach agreement. By March, the United Nations estimated that the number of displaced persons—internal refugees—in Kosovo at 240,000, more than a tenth of the population of the province.⁶⁵

NATO Operation Allied Force began March 24 as a limited effort to break the will of Serb leader Slobodan Milosevic. The opening phase was conducted with hesitation, which eliminated any strategic value that might have been obtained from shock and surprise.

In the first three weeks, aircrews flew an average of only 84 strike sorties a day. The operation escalated slowly. Politicians and lawyers reviewed and voted on everything, including targets. Predictably, Milosevic did not cave in as promptly as anticipated.⁶⁶

The air campaign was a month old before the target list was expanded to produce strategic results. Once that happened, though, airpower took a punishing toll on the Serb regime and—contrary to the prediction of the critics of airpower—Milosevic and the Serb parliament agreed to NATO’s terms in early June.

Despite claims that would be made later by advocates of ground warfare, Operation Allied Force was almost completely an airpower action. Among those who acknowledged it was John Keegan, the eminent British military historian, who had often been a hard critic of airpower.

Keegan said that his earlier views had been wrong and that June 3, 1999, marked a “turning point” in history when “when the capitulation of President Milosevic proved that a war can be won by airpower alone.”⁶⁷

Nineteen NATO nations sent aircraft to take part in the operation, but the US Air Force flew the greater share of the missions. For the Air Force, the operation in Kosovo was the rough equivalent of a major theater conflict. It took almost half of the combat force, even though the sortie level was well below that of the Gulf War. By the end of the first month, it was running short of preferred munitions and had stripped stateside bases of spare parts and experienced aircrews.

⁶¹ Stanley Sloan, “The United States and the Use of Force in the Post-Cold War World,” Congressional Research Service report, July 20, 1994.

⁶² David Halberstram, *War in a Time of Peace*, p. 285.

⁶³ John A. Tirpak, “Deliberate Force,” *Air Force Magazine*, October 1997; “Operation Deliberate Force,” FAS Military Analysis Network, April 5, 1999.

⁶⁴ Bill Clinton, Address to the Nation, Nov. 27, 1995.

⁶⁵ Rebecca Grant, “The Kosovo Campaign: Aerospace Power Made It Work,” Air Force Association, September 1999.

⁶⁶ John Correll, “Assumptions Fall in Kosovo,” *Air Force Magazine*, June 1999; Correll, “Airpower and Its Critics,” *Air Force Magazine*, July 1999.

⁶⁷ John Keegan, “Please Mr. Blair, Never Take Such a Risk Again,” *London Daily Telegraph*, June 6, 1999.

US AIRPOWER IN REGIONAL CONFLICTS⁶⁸

	Desert Storm	Serbia/Kosovo	Afghanistan
Total Sorties	118,700	37,500–38,000	29,000–38,000
Percent of Total US Sorties	85%	60%	92%
Offensive Strike Sorties	41,300	10,808–14,006	17,500
Sorties Per Day	2,800	200, climbing to 2,000	25, climbing to 200
Percent of Total Missions Precision Guided	7–8 %	35%	56%

Operation Allied Force in the Balkans was a smaller conflict than the Gulf War. Even so, the Air Force used about half of its combat force in the air war over Serbia, and when it was over, needed time to recover and reconstitute.

When the operation ended after 11 weeks, the Air Force needed a period of reconstitution in which to recover.

Iraq

Soon after the Gulf War, Saddam Hussein resumed his recalcitrance. He provoked a major crisis in 1997 by ordering all American inspectors on the UN team out of the country, demanding that the UN set a timetable to lift its sanctions against Iraq, an excluding from inspection “palaces and official residences,” some of them several square miles in size.

The United States issued one “dire warning” after another and talked of American-led bombardment, but objectives were expressed in hedged terms, such as “substantially reduce or delay” Iraq’s capability to develop and use non-conventional weapons.⁶⁹

In February 1998, discussing air strikes against Iraq, Albright —by then Secretary of State—said that, “We are talking about using military force, but we are not talking about war. That is an important distinction.”⁷⁰

In October 1998, Iraq ended all cooperation with the UN inspectors. For once, even eight of the Arab states blamed Saddam Hussein for the worsening crisis, but President Clinton had trouble pulling the trigger. On Nov. 14, with B-52 bombers already in the air, he aborted the strikes on the strength of an unseen letter from Saddam to Kofi Annan. Within hours, the White House discovered the letter had “more holes than Swiss cheese,” rescheduled the

strikes, and then aborted them a second time when Saddam submitted a revised letter. The provocations soon resumed.⁷¹

The closest thing to a sustained effort was Operation “Desert Fox,” Dec. 16-19, 1998. It consisted of 650 air sorties and the firing of 400 cruise missiles, but it was terminated after 70 hours, in part because bombing Muslim Iraq during the holy month of Ramadan would be “profoundly offensive.”

The UN Special Commission (UNSCOM) inspection team left Iraq ahead of the bombing. In December 1999, the UN replaced it with UNMOVIC, the UN Monitoring Verification and Inspection Commission. Whereas UNSCOM had used professionals on loan from western governments, UNMOVIC was the creature of the UN bureaucracy. Iraq’s friends on the Security Council, notably France and Russia, blocked strong leadership for the team. But even so, Iraq never let UNMOVIC into the country, and rejected various inspection proposals.⁷²

Although the no-fly zone operations continued, Iraq, supported by Russia, France, and the Arab world, pushed to loosen or eliminate economic sanctions and other controls imposed on it.⁷³

... All of which helped set up the larger crisis with Iraq, which would come in 2002.

⁶⁸ Abridged from Anthony H. Cordesman, “Iraq’s Military Capabilities in 2002,” CSIS, September 2002.

⁶⁹ “Why Saddam Yawns,” Richmond *Times Dispatch*, Feb. 13, 1998; Barton Gellman and Edward Walsh, “President Narrows Goals for Airstrikes,” *Washington Post*, Feb. 7, 1998.

⁷⁰ Lawrence F. Kaplan, “How to Send a Message: Use AT&T, Not USAF,” *Wall Street Journal*, Dec. 23, 1998.

⁷¹ John Correll, “Lessons in Limited Force,” *Air Force Magazine*, February 1999.

⁷² “Key Events in UN Weapons Inspections in Iraq,” Associated Press, Sept. 17, 2002; Gary Milhollin and Kelly Motz, “Iraq: The Snare of Inspections,” *Commentary*, October 2002; Barbara Crossette, “France Rejects UN Nominee for Iraq Inspection Panel,” *New York Times*, Jan. 18, 2000; “Iraq Says UN Plan to Resume Arms Inspections is a No-Go,” CNN.com, April 16, 2000.

⁷³ Edith M. Lederer, “Iraq Chipping Away at Sanctions,” *New York Times*, Nov. 14, 2000.

THE IMBALANCE DEVELOPS AND WORSENS

4

15

THE most famous part of the Bottom-Up Review was the stipulation that US armed forces should be able to fight two major regional conflicts, almost simultaneously.

This is often referred to as the “two-MRC strategy,” but that is wrong. Two-MRC was a force sizing standard. The strategy was “Engagement and Enlargement.”

From the beginning, though, the Clinton defense budgets were insufficient to cover two MRCs. Other requirements, including maintenance of equipment and facilities, was underfunded as well.

The Administration was unwilling to spend more on defense. At the same time, the “Engagement and Enlargement” strategy cut off the option of reducing military obligations and requirements. Instead, there was an increase in the pace of US military operations. Thus, the chronic defense imbalances of the 1990s were locked in. Resources and requirements were headed in opposite directions.

“We have from the very beginning of the Bottom-Up Review made no secret of the fact that the Air Force did not have the force structure required in the Bottom-Up Review,” Gen. Ronald R. Fogleman, Air Force Chief of Staff, told Congress in 1996.⁷⁴

The Base Force reductions—deepened by the Bottom-Up Review—were based in part on assumptions that US forces would be able to withdraw from overseas. They had done so, but the commitments abroad were more demanding than ever.

By 1995, for example, Air Force personnel strength was down by one-third across the force and by 50 percent overseas. Yet the number of Air Force people on temporary duty overseas was up nearly four-fold since the fall of the Berlin Wall.⁷⁵

Almost 50 percent of the active duty fighter forces were continuously deployed overseas. For people assigned to many weapons and specialties, deployments far exceeded the Air Force’s goal of no more than 120 days per year.

The Air Force reported that, “We’ve reduced our personnel by one-third, fighter and ICBM forces by almost one-half, and the bomber force by two-thirds. Our budget is down by approximately 40 percent from its Cold War high.”

In 1995, just to support peace operations in Iraq and Bosnia, the Air Force kept the equivalent of two fighter wings deployed, supported by two tanker squadrons and a large portion of the surveillance and electronic combat assets.⁷⁶

One deployment followed another, and there was no end in sight. Eventually, the Air Force concluded that these deployments were going to be the rule, not the exception, and decided to reconfigure its operational forces into an expeditionary mode. This, it was hoped, would at least provide some stability and predictability for those deploying.

Between 1995 and 1997, four experimental Air Expeditionary Task Forces deployed to Bahrain, Jordan, and Qatar. The first regular Air and Space Expeditionary Force cycle began October 1999. (“Expeditionary Air and Space Force” refers to the concept of operations. “Air and Space Expeditionary Force” refers to the units that deploy.)

The 15-month rotation cycle was divided into five periods of three months each. Two of the 10 AEFs were vulnerable for deployment during each three-month cycle. Two AEFs were seen as adequate to handle “steady state” peacetime deployments. Wartime would take more.⁷⁷

In 1995, for the first time in almost 50 years, the nation’s allocation for defense slipped below 4.0 percent of the Gross Domestic Product. The defense share of the federal budget kept falling.

The high-water mark of the Reagan era defense budgets was in 1985. Reductions began the next year, along with clamor for a peace dividend. Subtracting the projected defense budgets for subsequent years from a straight line projection of the 1985 defense budget yielded a cumulative difference—sometimes known as the

⁷⁴ Gen. Ronald R. Fogleman, House National Security Committee, March 13, 1996.

⁷⁵ Air Force Issues Book, 1995.

⁷⁶ Alan Vick et al, “Preparing the US Air Force for Military Operations Other Than War,” RAND, 1997.

⁷⁷ John Correll, “The EAF in Peace and War,” *Air Force Magazine*, July 2002.

peace dividend—of about \$2.1 trillion.⁷⁸

Reviews and Continuing Reductions

The 1990s were the Golden Age of defense reviews. The Bottom-Up Review of 1993 was followed by the Commission on Roles and Missions, the Deep Attack Weapons Mix Study, and others. The search for answers continued in 1997 with the Quadrennial Defense Review, with the National Defense Panel Review waiting on deck.

The Quadrennial Defense Review was mandated by the defense authorization bill for FY 1997 and chartered to examine defense needs from 1997 to 2015. The review was carried out by the Department of Defense.

Among the main results were these:⁷⁹

- It re-validated the two-MRC force-sizing standard, but changed the MRC terminology to MTW (“major theater war”).
- Despite assurances that it was “strategy driven,” the Quadrennial Defense Review was essentially yet another reduction exercise. It noted a “chronic migration of funds” from procurement to operations and support, but said that increased funding for defense was not likely.
- It proposed more force cuts. In 1997, combined active duty strength stood at 1.45 million, down from 2.2 million in 1985. The QDR projected a further reduction to 1.36 million by 2003.
- “Boots on the Ground” force structure—the number of active Army divisions and Marine Expeditionary Forces—as well as aircraft carriers and carrier attack wings survived the QDR intact. However, one active duty Air

Force fighter wing was transferred to the Air National Guard, and reserve air defense squadrons were cut.

■ Several aircraft programs were also cut: the Air Force’s F-22 fighter from 438 aircraft to 339, E-8 Joint STARS aircraft from 19 to 13, and the Navy’s F/A-18E/F from 1,000 to 548.

Congress, having chartered the Quadrennial Defense Review, promptly chartered a second group, working independently, to give a second opinion. This group, the National Defense Panel, completed its work seven months after the Quadrennial Defense Review. It did not depart from the QDR in any significant respect.⁸⁰

The NDP is best remembered for its emphasis on transformation, featured in the title of its report, “Transforming Defense.” The term was in use earlier—the QDR, for example, had a chapter on transforming—but transformation took root with the National Defense Panel. It was thereafter a watchword in the Pentagon. Four years later, the new Bush Administration would make it a central cause.

The National Defense Panel said that transformation would take an additional \$5 billion to \$10 billion a year. Otherwise, transformation was possible only by reducing operations tempo, canceling acquisition programs, and reducing force structure and end strength.

The Budget Bottoms Out

In 1998, the defense budget finally bottomed out at \$258.6 billion (or, adjusted for inflation, \$294.6 billion in constant FY 2003 dollars).⁸¹ That was 36.2 percent below the Reagan era peak in 1985. Paying for the Kosovo air operation generated a real increase in the

QDR PERSONNEL CUTS

	Active Duty	Reserve	Civilian
Air Force	26,900	700	18,300
Army	15,000	45,000	33,700
Navy	18,000	4,100	8,400
Marine Corps	1,800	4,200	400
Total	61,700	54,000	60,800

The Air Force active duty force bore the brunt of the QDR force structure reductions and also took the heaviest personnel cuts—about 44 percent of the total for the four services.

⁷⁸ Tamar Meheron, “The Peace Dividend: \$2 Trillion,” *Air Force Magazine*, November 1999.

⁷⁹ Report of the Quadrennial Defense Review, May 1997.

⁸⁰ “Transforming Defense: National Security in the 21st Century,” National Defense Panel report, December 1997.

⁸¹ Donald Rumsfeld, 2002 Annual Report, DOD.

AIR FORCE MANPOWER TRENDS

Fiscal Year End Strength in Thousands⁸²

	FY90	FY93	FY96	FY01	FY03
Active Duty Force	535	444	389	354	35
Air National Guard	117	117	110	109	107
AF Reserve Command	81	81	74	74	74
Direct Hire Civilians	238	193	176	155	150

With the active duty force 34 percent below the 1990 level, the Air Force puts greater reliance on the Guard and Reserve, but these forces have taken reductions as well. There are also problems with the civilian force, which was cut deeply.

1999 program. Before that, the defense budget had fallen every year for 13 straight years.⁸³

The armed forces were short of money and people, and it showed in numerous dimensions. New words, such as “Optempo” (operations tempo) and “Perstempo” (personnel tempo) entered the military lexicon to describe the pressure and pace of operations. “High demand/low density” referred to systems that were needed everywhere but that were in short supply.

Jacques Gansler, Undersecretary of Defense for Acquisition & Technology, said in August 1998 that, “We are trapped in a ‘death spiral.’ The requirement to maintain our aging equipment is costing us more each year. ... But we must keep the equipment in repair to maintain readiness. It drains ... resources we should be applying to modernization. ... So we stretch out our replacement schedules to ridiculous lengths and reduce the quantities of the new equipment we purchase—raising their costs and still further delaying modernization. Compounding this problem is the increased operations tempo ... which more rapidly wears out the old equipment.”⁸⁴

The Congressional Budget Office said in September 2000 that it would take an additional \$51 billion a year (in 2000 dollars) to keep defense forces in a “steady state”—that is, to keep them from falling any further behind.⁸⁵

To keep their existing quality at the present budget levels, CBO said, the services would have to be cut by 25 percent—a reduction on the order of two active Army divisions, three carrier battle groups, and three active duty Air Force wings.

More than half of the shortfall was money needed to recapitalize the force, making up for a 10-year period in which the Pentagon repeatedly put off replacing aircraft and other systems. Other estimates of the shortfall were higher, in the range of \$100 billion.⁸⁶

Buildings, runways, and other facilities at military installations were aging and deteriorating. Eventually, the backlog in maintenance work at military bases reached \$60 billion. Air Combat Command needed \$70 million just for roof repairs.⁸⁷

For the Air Force, readiness and an aging fleet were special problems. Gen. Michael E. Ryan, Air Force Chief of Staff, told Congress in September 2000⁸⁸ that overall USAF readiness was down 23 percent since 1996; and that stateside readiness was down 29 percent since 1996. Mission capable rates for Air Force aircraft had declined more than 10 percentage points since 1991.

The average age of the USAF aircraft fleet was almost 22 years. In 15 years, the average age would be 30 years, even if the Air Force executed every modernization program then on the books, Ryan said.

That was largely the result of a “procurement holiday,” cited by the Quadrennial Defense Review, in which force modernization was postponed year after year. By 1997, the Department of Defense was spending 63 percent less on procurement than it did during the Cold War. The Air Force bought comparatively few aircraft in the 1990s (see chart) and almost half of those it did buy were trainers.

Air Force readiness bottomed out at 65 percent in February 2001.⁸⁹

In testimony to the to the Senate

⁸² *Air Force Magazine* annual USAF Almanac issues; Office of Secretary of Defense/P&R, October 2002.

⁸³ Robert S. Dudson, “Defense Spending: Illusions and Realities,” *Air Force Magazine*, April 2000.

⁸⁴ Robert B. Zoellick, CSIS, testimony to Senate Budget Committee, Feb. 4, 1999.

⁸⁵ CBO, “Budgeting for Defense: Maintaining Today’s Forces,” Sept. 14, 2000.

⁸⁶ “Peters Says Defense Needs \$80 Billion to \$100 Billion Per Year Boost,” *Air Force Magazine*, December 2000; Daniel Gouré and Jeffrey M. Ranney, *Averting the Defense Train Wreck in the New Millennium*. CSIS, 1999.

⁸⁷ George Cahlink, “Under the Rubble,” *Air Force Magazine*, November 2002.

⁸⁸ Gen. Michael E. Ryan, statement to Senate Armed Services Committee, Sept. 27, 2000.

⁸⁹ Report of Secretary of the Air Force in Rumsfeld’s Annual Report, 2002.

AIR FORCE AIRCRAFT PROCUREMENT

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	FY85	FY86	FY87	FY88	FY89	FY90	FY91	Avg Buy/Year FY85-91
Fighter/Attack	192	228	222	222	216	186	144	201
Bomber	34	48	0	0	2	2	2	13
C2ISR	4	6	3	0	0	0	0	2
Tanker	8	12	8	0	0	0	0	4
Airlift-Special	0	0	0	0	0	0	0	0
Intratheater	25	8	0	6	1	20	5	9
Intertheater	8	16	21	2	4	4	0	8
Trainer	10	0	0	0	1	14	28	8
Other	5	12	5	7	19	31	4	12
Total	286	330	259	237	243	257	183	256
Percent Trainers	3%	0%	0%	0%	0%	5%	15%	3%

	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	Avg Buy/Year FY92-01
Fighter/Attack	51	24	12	0	12	12	8	3	15	19	16
Bomber	1	4	0	0	0	0	0	0	0	0	1
C2ISR	0	2	2	2	2	16	17	9	8	8	7
Tanker	0	0	0	0	0	0	0	0	0	0	0
Airlift-Special	0	0	0	0	0	0	0	0	0	2	0
Intratheater	11	8	0	0	5	5	5	4	2	2	4
Intertheater	4	6	6	6	8	8	9	13	15	12	9
Trainer	72	78	68	35	3	15	22	22	29	34	38
Other	6	10	0	0	0	10	1	4	1	0	3
Total	145	132	88	43	30	66	62	55	70	77	77
Percent Trainers	50%	59%	77%	81%	10%	23%	35%	40%	41%	44%	49%

Source: AF/XPX July 2002

⁹⁰ "Cohen's Choice: Cut Deployments or Add Forces," box in Otto Kreisher, "Hawley's Warning," *Air Force Magazine*, July 1999.

⁹¹ Bill Clinton, *Between Hope and History: Meeting America's Challenges for the 21st Century*, Times Books, 1996.

Appropriations Committee, May 11, 1999, Secretary of Defense William S. Cohen said that, "We simply cannot carry out the missions we have with the budget that we have; there is a mismatch. We have more to do and less to do it with, and so that it is starting to show in wear and tear—wear and tear on people, wear and tear on equipment. ... We're either going to have to have fewer missions or more people, but we cannot continue the kind of pace that we have."⁹⁰

President Clinton, surveying the trends of the 1990s, had a different opinion:

"I have kept my pledge to maintain and modernize our defense capabilities. We

completed a comprehensive review of our military needs for the future and restructured our forces. Even as the size of our forces decreased, their capabilities, readiness, and qualitative edge have increased."⁹¹

PRIOR to the Gulf War, it was generally assumed by almost everyone—including many people in the US Air Force—that the land battle would always be the focal point of warfare. The role of airpower and other elements of the joint force was to support the land forces. After the Gulf War, that was no longer an automatic assumption.

Colin Powell and other defense officials had predicted, according to two *Washington Post* reporters, a violent, bloody, overland war—possibly involving the greatest tank battle in the history of warfare in the Gulf.

Powell dismissed reliance on surgical air strikes, massive carpet bombing, and other “nice, tidy, allegedly low-cost, incremental, may-work options that are floated around with great regularity all over this town.” Relying on airpower, Powell said, would leave the initiative to Saddam and allow him “to concentrate essentially on one threat ... an air threat.”⁹²

The expectation was that casualties would be high. The Center for Strategic and International Studies, for example, forecast 15,000 casualties. Gen. H. Norman Schwarzkopf, commander in the Gulf, predicted 5,000.⁹³

The tank battle did not happen, and neither did the casualties. Iraqi armor took the initiative only once, at the Battle of Khafji, where it was shot to pieces by airpower. Actual casualty totals for the coalition were 247 battle deaths (148 US, 99 coalition allies) and 901 wounded (467 US, 434 coalition allies).⁹⁴

The explanation, or part of it, was the Revolution in Military Affairs. In the 1970s, theorists in the Soviet Union speculated that the nature of warfare was changing as the result of a “military-technical revolution,” driven by “informatics” and precision-guided weapons. Around 1990, US defense thinkers—notably in the Pentagon Office of Net Assessment—began to study and expand on the Soviet theories.

Evidence From the Gulf

They concluded that a Revolution in Military Affairs was in progress, and that the United States was in the lead. Evidence of the phenomenon was seen in the results of the Gulf War in 1991. Major elements of the Revolution in Military Affairs were said to be information superiority and long-range precision attack. Some formulations also included stealth and space.⁹⁵

In actuality, it was more of an evolution than a revolution. Improvements had been coming on incrementally for years.

However, as Lawrence Freedman said in a study for the International Institute of Strategic Studies, “Until 1990, there was a lack of hard evidence as to how the new technologies might work in practice.” It was also a revolution in perceptions. “Up to 1991, the US seemed to have lost its grip on the art of warfare; after Desert Storm, it appeared unbeatable,” he said.⁹⁶

Gen. John Michael Loh, commander of Tactical Air Command, said that the American public had a new standard of expectations, that the US armed forces would “win quickly, decisively, with overwhelming advantage, and with few casualties.”⁹⁷ All of the combat arms, but especially airpower, could do things far better and faster than before.

“During World War II, the Eighth Air Force attacked something like 50 target sets in all of 1943,” said Gen. Ronald R. Fogleman, Air Force Chief of Staff. “In [Operation] Desert Storm, the coalition struck 150 individual targets in the first 24 hours. Not too far into the next century, we may be able to engage 1,500 targets within the first hour, if not the first minutes, of a conflict. Gone are the days of calculating aircraft-per-target kinds of ratios. Now we think in terms of targets per aircraft.”⁹⁸

In the Kosovo campaign in 1999, B-2 bombers struck as many as 16 different targets per sortie. In 2001, the Pentagon’s Transformation study panel predicted that eventually, B-2s carrying small diameter bombs, would be able to attack 324 targets per mission.⁹⁹

⁹² Rick Atkinson and George C. Wilson, “Land War: Centerpiece of Strategy,” *Washington Post*, Dec. 8, 1990.

⁹³ Colin Powell, *My American Journey*, p. 498.

⁹⁴ James P. Coyne, *Airpower in the Gulf*. Aerospace Education Foundation, 1992.

⁹⁵ Andrew F. Krepinevich, Jr., “The Military-Technical Revolution: A Preliminary Assessment, Pentagon Office of Net Assessment, July 1992; Barry D. Watts, “What is the ‘Revolution in Military Affairs?’” Northrop Grumman Analysis Center, 1995; Theodor Galdi, “Revolution in Military Affairs?” Congressional Research Service, 1995; James R. Fitzsimonds and Jan M. Van Tol, “Revolutions in Military Affairs,” *Joint Forces Quarterly*, Spring 1994..

⁹⁶ Lawrence Freedman, “The Revolution in Strategic Affairs,” Adelphi Paper 318, IISS, April 1998.

⁹⁷ Gen. John Michael Loh, Air Force Association symposium, Jan. 31, 1992.

⁹⁸ Gen. Ronald R. Fogleman, Air Force Association Air Warfare Symposium, Orlando, Fla., Feb. 24, 1995.

⁹⁹ Gen. James P. McCarthy, Chairman, Transformation study panel, Pentagon news briefing, June 12, 2001.

THE SORTIE-TO-TARGET RATIO¹⁰⁰

	World War II (1943)	Vietnam (1970)	Gulf War (1991)	Serbia (1999)
Targets Destroyed	1	1	2	16
Sorties Required	1,000 (<i>B-17</i>)	30 (<i>F-4</i>)	1 (<i>F-117</i>)	1 (<i>B-2</i>)
Bombs Required	9,000	176	2	16

It is no longer a question of how many sorties are required to destroy one target but rather how many targets a single aircraft can destroy on one sortie. Average accuracy in World War II was 3,300 feet. By the 1990s, accuracy was within 10 feet. The protection of stealth further reduced the number of airplanes needed to fly the mission.

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¹⁰⁰ Adapted from Brig. Gen. David A. Deptula, "Effects-Based Operations," Aerospace Education Foundation, 2001.

¹⁰¹ Deptula, "Effects-Based Operations."

¹⁰² "The Time Value of War," AF/XOX briefing, January 1992.

¹⁰³ Deptula, "Effects-Based Operations."

¹⁰⁴ Gen. Ronald R. Fogleman, "Airpower and the American Way of War," Air Force Association Symposium, Feb. 13, 1996; John Correll, "The New American Way of War," *Air Force Magazine*, April 1996

One of the outcomes of this evolving capability was "parallel warfare": the capability to hit all of the important targets at once rather than serially.¹⁰¹

"With parallel warfare, it all goes down at once," an Air Force briefing explained. "The enemy has no chance to adjust, adapt, or mount a counteroffensive. Every step in the recovery tree is obstructed. Even if the decision-maker survives, he can't know the extent of the damage, can't coordinate a response, can't move repair teams. The enemy is paralyzed."¹⁰²

A related concept, possibly even more important, was effects based operations.¹⁰³

In days gone by, it was commonly agreed that the way to fight a war was to destroy the enemy's army and occupy his capital. The centerpiece of the strategy was the clash of one massed force with another.

It was a bloody enterprise, and the winner might take higher casualties than the loser, as Ulysses S. Grant did in the Wilderness and at Cold Harbor. Nevertheless, the attrition model of warfare prevailed into the 20th century. But destruction of the enemy was never more than the means to a strategic end, not an end in itself.

The Revolution in Military affairs introduced the possibility of effects-based operations, in which success in armed conflict is measured by results, not by destruction. Did the operation compel a positive political outcome? Did it yield the desired strategic results? Did our will prevail over that of the adversary?

It is conceivable that in some cases, the strategic objective will still be to

destroy the enemy's army and occupy his capital. Often, the goal is something else. Keep enemy armor from massing. Halt an invasion. Take away the enemy's ability to command and control his forces, as we did within hours at the beginning of the Gulf War. In other instances, it may be sufficient to inhibit, intimidate, or deter the enemy.

New Way of War

In 1996, Fogleman said that "we are on the verge of a new American way of war."¹⁰⁴ The United States had traditionally pursued a wartime strategy of "attrition and annihilation" that "relied on large forces employing mass, concentration, and firepower to attrit enemy forces and defeat them in what many times became costly but successful battles."

Technology and circumstances were leading to unique military advantages, particularly in airpower, that could be employed "to compel an adversary to do our will at the least cost to the United States in lives and resources."

"America has not only the opportunity but the obligation to transition" from a concept of warfare "that places thousands of young Americans at risk in brute, force-on-force conflicts to a concept that leverages our military capabilities to achieve US objectives by applying what I like to refer to as an 'asymmetric force' strategy," Fogleman said.

In future conflicts, we might directly attack enemy strategic and tactical centers of gravity, "in short, an enemy's capability to effectively wage war."

Among the factors making the new American way of war possible are "the

SERVICES SHARES: PERCENTAGES OF THE DEFENSE BUDGET¹⁰⁵

	FY60	FY70	FY80	FY90	FY02
Air Force	43	31	28	31	28
Army	26	32	26	29	25
Navy	30	30	32	34	30
Defense Agencies	3	8	13	7	17

The Air Force dominated the defense budget in 1960, when strategy was centered on massive nuclear retaliation. In the Vietnam era, conventional forces came to the forefront and led to a redistribution of budget shares. The percentages have not varied much since then, despite major changes in requirements and capabilities. The relative workload in warfare has shifted, but relative resources have not.

extended range, the precision, and the lethality of modern weapon systems that are increasingly leveraging and leveraged by an agile C4I [command, control, communications, computers, and intelligence] capability that enables warfighters to analyze, to act, and to assess before an adversary has the capability to act," Fogleman said.

It was difficult to avoid the conclusion that air and space power were at the heart of the Revolution in Military Affairs. This point was not lost on the other services. Neither were the implications of what had been happening in the conflicts of the 1990s.

The relative burden in warfare had shifted. Airpower could still support surface forces, as it had done traditionally, but it could no longer be consigned only to that role. The experience of the 1990s said that sometimes airpower could achieve results independently or with surface forces in support.

This did not set well with some, especially in the Army. The surface forces could accept airpower in a supporting role—with the strategy and battle plans centered on the land force—but seeing airpower in the lead was a different matter.

More than service prestige and pride were at stake. Shares of the defense budget have not varied much for more than 30 years. The Revolution in Military Affairs threatened that balance.

It was not altogether surprising, therefore, to find the Revolution in Military Affairs under attack. Among the critics was Paul K. Van Riper, a retired Marine Corps lieutenant general and a relentless critic of airpower.

"After Operation Desert Storm, 'military technical revolution' came into fashion, followed shortly by 'revolution in military affairs,' "Van Riper said. "Now the operative term is 'transformation.' ... I have been involved for 10 years in many attempts to launch reforms and can attest to the futility of most of them." Van Riper dismissed such concepts as effects-based operations as "catch words."¹⁰⁶

Retired Gen. Gordon Sullivan, former Army Chief of Staff, said that "land power and the size and robustness of it is being rather cavalierly discounted at the expense of 'promised technology in a changed world'" and that "diminishing the capabilities of our major ground force to support or finance untested technological solutions and theories for the distant future is, in my opinion, ill advised."¹⁰⁷

Disparaging Airpower

The prevailing pattern was that, before a conflict, predictions proliferated that airpower would fail. In the actual conflict, airpower did well, which was generally recognized. In due time, the critics waged a reinterpretation campaign, disparaging airpower's contributions. If repeated enough, the reinterpretation finds an audience and catches on, thus setting the stage for the next conflict.

After the Gulf War, for example, retired Army Gen. Frederick J. Kroesen, former commander in Chief of the US Army in Europe, made a flabbergasting claim in *The Washington Post*.

"The recent air campaign against Iraqi forces gained not a single one of the US or UN objectives in the Persian Gulf War," Kroesen said. "Four days of

¹⁰⁵ Department of Defense, "National Defense Budget Estimates for FY 2003," March 2002.

¹⁰⁶ Paul K. Van Riper, "Preparing for War Takes Study and Open Debate," US Naval Institute *Proceedings*, November 2002.

¹⁰⁷ Gordon R. Sullivan, US Army Reserve Senior Leaders Conference, Crystal City, Va., May 19, 2001.

land combat—aided immeasurably by the air campaign—achieved every goal and victory.”¹⁰⁸

The Association of the US Army said the same thing: “As the leading element of the [Gulf War] coalition, the United States Army decisively defeated the fourth largest field army in the world. ... It was the land force that provided the essential muscle to lead America’s coalition partners in the liberation of Kuwait, the decisive defeat of the Iraqi army, and the restoration of stability in the Persian Gulf.”¹⁰⁹

In fact, the air campaign in the Gulf left the Iraqi force demoralized, reeling, and degraded by about 50 percent from casualties and desertions. Coalition ground forces, supported by airpower, needed only 100 hours to chase the staggering Iraqis out of Kuwait in what was dubbed “The Mother of All Retreats.”

After Operation Allied Force in the Balkans, Lt. Gen. John W. Hendrix, commander of the US Army Fifth Corps and the commander of the Task Force Hawk helicopter contingent during the operation, said that, “The reason Slobodan Milosevic finally caved in—a primary reason — was the pressure of US Army ground forces in Albania.”

Supporting that claim in an odd way was Army Gen. Wesley K. Clark, who commanded Operation Allied Force.¹¹⁰ At one point, Clark had declared that “The US Air Force saved me, and it saved NATO.” He told the *New York Times* that, “What did the trick was the accuracy of the precision weapons, the avoidance of losses, and the increasing destruction of the Serb forces.”

But in his memoir, *Waging Modern War*, published in May 2001, Clark found a different reason for the Serb surrender. “Planning and preparations for ground intervention were well underway by the end of the campaign, and I am convinced that this, in particular, pushed Milosevic to concede,” Clark said.¹¹¹

In fact, airpower was the only military force engaged in the 78-day operation that ended with the Serb surrender. The threat of a land offensive had nothing to do with it. NATO had no plans to invade Serbia. A land invasion could not have been pulled off for another six months, if then.

Operation Enduring Freedom air strikes in Afghanistan began Oct. 7, 2001. Within the month, an outcry arose that the war was being lost and airpower couldn’t get the job done.

The *New Republic*, curiously aspiring

to military expertise, editorialized that “Airpower certainly has a rather impressive record of failure.”¹¹²

Writing in the *Washington Post*, William Kristol said, “We probably cannot win the war in Afghanistan without ground troops. Bombing—very heavy bombing—wasn’t enough to defeat Saddam in 1991, and only the threat (finally) of ground troops brought Milosevic to yield in 1999.”¹¹³ Within nine days of Kristol’s writing, airpower, working with ground spotters, had the Taliban on the run in Afghanistan.

Fareed Zakaria, editor of *Newsweek International*, got it right: “Over the last decade, every time the United States has engaged in a strategic bombing campaign it has achieved its goals—think of the Persian Gulf War, the Bosnian air campaign (which persuaded Milosevic to sign the Dayton accords), Kosovo, and Afghanistan. And after each war, influential experts and journalists have emphasized that the central lesson of the operation is ... air power alone doesn’t work. With the Taliban in ruins and American allies in control of three quarters of Afghanistan, expect to start hearing arguments about how our victory had little to do with bombing.”¹¹⁴

The Dimming of Vision

Opposition to airpower and to the Revolution in Military Affairs showed up in official settings as well. In July 1996, the Joint Chiefs of Staff published “Joint Vision 2010,” their concept for how the armed forces would evolve. It was supplanted in June 2000 by “Joint Vision 2020.” The difference in the two documents shows hard-nosed Pentagon politics, working to roll back the Revolution in Military Affairs.

The first Joint Vision signed up to the RMA. It said that “we should be increasingly able to accomplish the effects of mass—the necessary concentration of combat power at the decisive time and place—with less need to mass forces physically than in the past.”

That statement and others in “Joint Vision 2010” were seen as threatening to the Army, whose stock in trade is the physical massing of forces. However, the Army wields enormous strength in the inner circles of the Pentagon. That was made obvious when “Joint Vision 2020” appeared, four years later, in June 2000.

The RMA concepts had vanished without a trace. In their place were

¹⁰⁸ Letter to the editor, *Washington Post* Nov. 7, 1994.

¹⁰⁹ “Desert Victory: The US Army in the Gulf,” Institute for Land Warfare, Association of the US Army, February 2001.

¹¹⁰ Rebecca Grant, “Wesley Clark’s War,” *Air Force Magazine*, September 2001.

¹¹¹ Gen. Wesley K. Clark, *Waging Modern War*, p. 425.

¹¹² “Hit the Ground,” *New Republic*, Nov. 19, 2001.

¹¹³ William Kristol, “The Wrong Strategy,” *Washington Post*, Oct. 30, 2001.

¹¹⁴ Fareed Zakaria, “Face the Facts: Bombing Works,” *Newsweek*, Dec. 3, 2001.

assertions about the rapid massing of forces. In addition, “Joint Vision 2020” said that “the presence or anticipated presence of a decisive force might well cause an enemy to surrender.”

That sounds very much like the claim of Army officials and enthusiasts that it was the presence on an unengaged Army ground force in Albania, not the 11-week air campaign, that caused the Serbs to surrender to NATO in 1999.

THE SECOND COMING OF MASS¹¹⁵

¹¹⁵ JCS, “Joint Vision 2010,” July 1996; “Joint Vision 2020,” June 2000.

Joint Vision 2010	Joint Vision 2020
“Instead of relying on massed forces and sequential operations, we will achieve massed effects in other ways.”	“Overseas US-based units will mass forces or effects directly to the operational theater.”
“With precision targeting and longer range systems, commanders can achieve the necessary destruction or suppression of enemy forces with fewer systems, thereby reducing the need for time-consuming and risky massing of people and equipment.”	“The capability to rapidly mass force or forces and the effects of dispersed forces allow the joint force commander to establish control of the battlespace at the proper time and place.”
“We should be increasingly able to accomplish the effects of mass—the necessary concentration of combat power at the decisive time and place—with less need to mass forces physically than in the past.”	“Beyond the actual physical presence of the force, dominant maneuver creates an impact in the minds of opponents and others in the operational area. ... In a conflict, for example, the presence or anticipated presence of a decisive force might well cause an enemy to surrender after minimal resistance.”

Completely purged from Joint Vision 2020 was the idea that the effects of mass might be achieved without the actual massing of forces. This pointed to a Pentagon staff victory for those with a vested interest in the massing of forces.

¹¹⁶ George W. Bush, "A Period of Consequences," *The Citadel*, Sept. 23, 1999.

¹¹⁷ Dick Cheney, speech at Republican National Convention, Aug. 2, 2000.

¹¹⁸ William S. Cohen, Annual Report to the President and Congress, January 2001, p. 244.

¹¹⁹ Ari Fleischer, White House press briefing, Feb. 5, 2001, and Thomas Ricks, "Clinton Pentagon Budget to Stand," *Washington Post*, Feb. 7, 2001.

¹²⁰ CBO, "The 'Budget and Economic Outlook: Fiscal Years 2002–2011,'" January 2001.

IN 2000, for the first time in years, national defense was an issue in a Presidential election campaign, made that way by the Republican candidate George W. Bush.

Bush, speaking at the Citadel in September 1999, introduced his positions on defense.¹¹⁶ He said that "even the highest morale is eventually undermined by back-to-back deployments, poor pay, shortages of spare parts and equipment, and rapidly declining readiness."

He said the Clinton Administration "wants things both ways: To command great forces, without supporting them."

In transforming the armed forces, he would go beyond marginal improvements and "use this window of opportunity to skip a generation of technology."

Among specific program intentions, he said that "At the earliest possible date, my administration will deploy anti-ballistic missile systems, both theater and national, to guard against attack and blackmail."

He promised to review the open-ended deployments: "Sending our military on vague, aimless, and endless deployments is the swift solvent of morale. ... I will work hard to find political solutions that allow an orderly and timely withdrawal from places like Kosovo and Bosnia. We will encourage our allies to take a broader role. We will not be hasty. But we will not be permanent peacekeepers, dividing warring parties. This is not our strength or our calling."

But the declaration that got the most notice was from Bush's running mate, Vice Presidential Candidate Dick Cheney: "Rarely has so much been demanded of our armed forces, and so little given to them in return," Cheney said. "George W. Bush and I are going to change that, too. I have seen our military at its finest with the best equipment, the best training, and the best leadership. I am proud of them. I have had the responsibility for their well-being. And I can promise them now, *help is on the way.*"¹¹⁷

Rumsfeld's Review

There was already considerable momentum for a defense increase, in

Congress and elsewhere. Even Clinton, on his way out of office, proposed a 2002 defense budget \$14.2 billion higher than the FY 2001 level.¹¹⁸

Thus it came as something of a surprise when, shortly after the inauguration in 2001, the White House announced that Bush would stick with the 2002 Clinton defense budget until Secretary of Defense Donald Rumsfeld had completed a sweeping review of force structure and requirements to determine long-term strategic requirements.¹¹⁹

Meanwhile, the Administration turned its energies toward a different priority, pushing a tax cut through Congress. The fiscal outlook continued to brighten. The Congressional Budget Office projected a \$313 billion surplus for 2002, and a cumulative surplus of \$5.6 trillion for 2002–2011.¹²⁰

Rumsfeld was tight-lipped about the big review. It was widely believed that the study would be run by Andrew Marshall, the Pentagon's fabled director of net assessment, and that it would be done by March.

In actuality, Rumsfeld had put more than a dozen study panels to work behind closed doors, but only a few people knew that at the time. The panels consisted mostly of outsiders. Security was extraordinarily tight. The result, not altogether surprising, was rampant rumor, confusion, and discord. Rumsfeld didn't confirm the rumors, but he didn't deny them either.

By the middle of May, the uproar reached the point that Rumsfeld went on a media blitz, holding 14 press interviews and media availabilities in three weeks.

He said the review wasn't that big, that the work by his panels was just exploratory, that there was no big plan to reorganize the armed forces. He said the panel findings would be rolled into the next Quadrennial Defense Review, which had earlier slowed down its efforts in deference to the panels. The QDR was revived and put on what the Pentagon called "a forced march" to produce results by the middle of the summer.

Rumsfeld recognized the magnitude of the problem.¹²¹

● “First, because we have underfunded and overused our forces, we find we are short a division, short airlift, we have been underfunding aging infrastructure and facilities, we are short high-demand/low-density assets, the aircraft fleet is aging at considerable and growing cost to maintain, the Navy is declining in numbers, and we are steadily falling below acceptable readiness standards.

...

● “Second, we have skimped on our people, doing harm to their trust and confidence, as well as to the stability of our force. ...

● “Third, we have under invested in dealing with future risks. We have failed to invest adequately in the advanced military technologies we will need to meet the emerging threats of the new century.”

Fortunately, Rumsfeld said, transforming part of the force would be sufficient. “The blitzkrieg was an enormous success, but it was accomplished by only a 13 percent transformed German Army,” he said.

As the QDR moved forward, the Administration sent Congress an amended FY 2002 budget, proposing \$328.9 billion for defense.¹²² That was an increase of \$18.4 billion over the Clinton proposal. It was billed as the biggest increase for defense in many years, which was true. However, it was well short of actual requirements.

Rumsfeld told Congress that it would take \$347 billion in 2003—another increase of the same size as the big one just proposed—“to keep the department going next year on a straight-line basis with no substantial improvements” and “before addressing important transformation issues.”¹²³

Rumsfeld declined to specify the increase he had requested. According to press reports, he sought \$35 billion. The Office of Management and Budget countered with \$15 billion, and they settled for \$18.4 billion.¹²⁴

At a Congressional hearing, Rumsfeld talked about the level of funding available for defense. In words that would take on greater meaning three months later, he reviewed some history from the Korean War:

“North Korea invades South Korea. And what did we do? We said we couldn’t afford a \$18 billion budget when it was a \$15 billion budget, and Omar Bradley was asking for \$18

billion. They said they couldn’t afford it, and the next thing you knew, we had \$48 billion and we could afford it just fine because we were in a war,” Rumsfeld said.¹²⁵

The “4-2-1” Standard

By law,¹²⁶ a new President must send Congress a national security strategy within 150 days of taking office. For the Bush Administration, the due date came and went. The National Security Strategy would not appear until September 2002.

The National Defense Strategy, published by the Pentagon, normally follows the National Security Strategy. This time the defense strategy came first. It was not a separate document, as usual, but rather part of the Quadrennial Defense Review.¹²⁷

The QDR, published Sept. 30, included some last-minute inserts to reflect the terrorist attacks on Sept. 11, but it basically followed an outline of instructions Rumsfeld had laid down in June and July.¹²⁸ It introduced a new strategy and a new force-sizing standard to replace two MTWs.

The short title of the defense strategy was “Assure, Dissuade, Deter, Defeat.” Assure allies and friends. Dissuade other nations from future military competition with US. Deter threats and coercion against US interests. If deterrence fails, decisively defeat any adversary.¹²⁹

It had a harder military edge to it than “Shape, Respond, Prepare” did. Taken along with other indications from the Bush Administration, it also indicated that the United States would not retreat very much from engagements abroad. The Air and Space Expeditionary Force could look for more of the same.

The orientation of strategy had changed from *threat based* to *capabilities based*. It focused on how an adversary might fight instead of on who the adversary might be or when and where the war might occur. It gave special attention to capabilities that adversaries might possess or could develop, and on capabilities that we would need ourselves.

In the change that attracted the most public attention, the new strategy dumped Aspin’s force-sizing standard from 1993, in which forces were supposedly structured to fight and win, almost simultaneously, two MRCs — later called MTWs.¹³⁰

The new standard was “4-2-1.” It said

¹²¹ Donald Rumsfeld, Testimony to Senate Armed Services Committee, June 21, 2001.

¹²² “Department of Defense Amended Budget for FY 2002,” Department of Defense, June 27, 2001.

¹²³ Donald Rumsfeld, Testimony to Senate Armed Services Committee, June 28, 2001.

¹²⁴ Robert Kagan and William Kristol, “No Defense,” *The Weekly Standard*, July 23, 2001.

¹²⁵ Rumsfeld, Senate Armed Services Committee, June 28, 2001.

¹²⁶ “Annual National Security Strategy Report,” Title 50, Chapter 15, Section 404a, US Code.

¹²⁷ Donald Rumsfeld, “Quadrennial Defense Review Report,” Sept. 30, 2001.

¹²⁸ Donald Rumsfeld, “Guidance and Terms of Reference for the 2001 Quadrennial Defense Review,” June 22, 2001, revised July 26, 2001.

¹²⁹ Rumsfeld, QDR, p. 11-16.

¹³⁰ Rumsfeld, QDR, p. 17-21.

the force should be sized to do the following:

- Defend the homeland.
- Deter aggression in *four* critical theaters. (Europe, Northeast Asia, the East Asian littoral, Middle East/Southwest Asia).
- Swiftly defeat aggression any *two* theaters at the same time.
- Preserve the option for *one* major counteroffensive to occupy an aggressor's capital or replace his regime¹³¹.
- Conduct a limited number of smaller-scale contingencies.

The new standard was more demanding than two MTWs, and it was more reliant on airpower. The force still had to stop aggressors in two theaters at the same time. What the standard eliminated—as Rumsfeld made clear—was one occupation force.

“By removing the requirement to maintain a second occupation force, we can free up new resources for the future and for other, lesser contingencies that may now confront us,” Rumsfeld said.¹³²

The War on Terror

Then came Sept. 11, 2001. Airliners hijacked by terrorists struck the World Trade Center towers in New York at 8:45 a.m. and 9:03 a.m., and a third aircraft hit the Pentagon at 9:38 a.m.¹³³

Fighters scrambled from Otis Air National Guard Base, Mass., at 8:52 a.m., and from Langley Air Force Base, Va., at 9:30 a.m., but they were still minutes away from New York City and Washington when the airliners struck their targets.

On the morning of the attacks, the North American Aerospace Defense Command was a vestige of its former self. Air defense of the United States was widely regarded as an obsolete mission.

Air defense fighters were on alert at only seven locations around the perimeter of the United States. The attention of the air defense system was directed outward, watching for airplanes approaching US borders, not at internal flights.¹³⁴

“Operation Noble Eagle” began the same day as the attacks. The number of air defense alert bases was increased to 26. Military aircraft flew round-the-clock combat air patrols above New York, Washington, and a dozen other cities.

Over the next year, the total number of Noble Eagle sorties would reach 25,100, of which 17,600 were fighter sorties.¹³⁵ Most of the missions would be flown by the Air National Guard: 74 percent of

the fighter sorties, 62 percent of the tanker sorties, 37 percent of the airlift sorties.¹³⁶

As Operation Noble Eagle went into its second year, it was not yet determined what the level of air defense for North America would be over the long haul, but it was not likely to revert to a seven-base posture. Air National Guard fighters continued to fly 24 hours a day in selected locations, with random combat air patrols elsewhere.¹³⁷

There could be no sanctuary for terrorism.

“Every nation, in every region, now has a decision to make,” Bush said to a joint session of Congress. “Either you are with us, or you are with the terrorists. From this day forward, any nation that continues to harbor or support terrorism will be regarded by the United States as a hostile regime.”¹³⁸

The counteroffensive, Operation Enduring Freedom, began Oct. 7, 2001, with air strikes in Afghanistan.

Within the month, an outcry arose that the war was being lost. Airpower couldn't get the job done. It would not be possible, the critics said, to take Kabul or any of the other cities with airpower and indigenous forces. The operation was bogged down. The Taliban would hold on through winter.¹³⁹ Our best hope, they said, was a ground offensive in the spring. It would take between 35,000 and 250,000 ground troops.¹⁴⁰

The critics were wrong. When heavy bombers, assisted by US spotters on the ground, began hammering the front-line positions, the defenses crumbled. Afghan irregulars, supported by airpower and US Special Forces, took Mazar-e Sharif and Kabul, swept south, and by the middle of November, were in control of most of the country.¹⁴¹

In December, Bush returned to the Citadel—where he had made his campaign speech on defense two years previously—and updated his commitment to military transformation: “This revolution in our military is only beginning, and it promises to change the face of battle,” Bush said. “Afghanistan has been a proving ground for this new approach. These past two months have shown that an innovative doctrine and high-tech weaponry can shape and then dominate an unconventional conflict.”¹⁴²

Furthermore, he said, “We're striking with greater effectiveness, at greater range, with fewer civilian casualties.

¹³¹ The provision for “regime change” attracted little attention at the time. However, within the year, it would be of intense interest.

¹³² Donald Rumsfeld, “Transforming the Military,” *Foreign Affairs*, May/June 2002.

¹³³ Rebecca Grant, “The Afghan Air War,” AEF, Arlington, Va., September 2002, p. 7.

¹³⁴ Adam J. Hebert, “The Return of NORAD,” *Air Force Magazine*, February 2002.

¹³⁵ “Operation Enduring Freedom: One Year of Accomplishment,” White House fact sheet, Oct. 7, 2002.

¹³⁶ Lt. Gen. Daniel James III, Director, Air National Guard, Air Force Association convention, Sept. 18, 2002.

¹³⁷ Lt. Gen. Daniel James III, Defense Writers Group, Sept. 26, 2002.

¹³⁸ George W. Bush, Address to Congress, Sept. 20, 2001.

¹³⁹ Michael O'Hanlon, “At the Pace of the Offensive, the Taliban Will Survive the Winter,” *Los Angeles Times*, Oct. 26, 2001; Molly Moore and Kamran Khan, “Big Ground Force Seen as Necessary to Defeat Taliban,” *Washington Post*, Nov. 2, 2001.

¹⁴⁰ Mackubin T. Owens, “The Case for Ground Troops,” *Wall Street Journal*, Oct. 31, 2001; Ronald Brownstein and Paul Richter, “Critics Say Airpower Alone Won't Suffice,” *Los Angeles Times*, Oct. 31, 2001.

¹⁴¹ William Branigin and Keith B. Richburg, “Alliance Sweeps Across North,” *Washington Post*, Nov. 12, 2001; “Situation Reports,” stratfor.com, Oct. 23–Nov. 29, 2001; Fareed Zakaria, “Face the Facts: Bombing Works,” *Newsweek*, Dec. 3, 2001.

¹⁴² George W. Bush, Remarks at The Citadel, Dec. 11, 2001.

More and more, our weapons can hit moving targets. When all of our military can continuously locate and track moving targets—with surveillance from air and space—warfare will be truly revolutionized.”

The air campaign tapered off after January 2002. The Navy had flown 70 percent of the strike sorties, but the Air Force had delivered 74 percent of the tonnage.¹⁴³

Military emphasis in Afghanistan shifted to the ground. Operation Anaconda, which began on March 1, was an Army operation, supported by airpower. The goal was to dig what was left of al Qaeda out of the Afghan mountains. It was markedly less successful than the air campaign, killing perhaps 500, but many of the enemy got away.¹⁴⁴

In July 2002, the President, on behalf of the Office of Homeland Security, announced a Homeland Security Strategy.¹⁴⁵ It had much detail about border security, domestic counter-terrorism, and protection of critical infrastructures, but there was essentially no military content.

In a November 2002 status report, the White House said that more than 60,000 US troops were deployed against terrorism around the world. Of these, 9,000 were in Afghanistan. Thirty one nations had supported Operation Enduring Freedom by sending forces to Afghanistan. Worldwide, about 2,290 terrorist-related arrests were made in 99 countries between Sept. 12, 2001, and Oct. 28, 2002.¹⁴⁶

“The United States is working with more than 90 countries to disrupt and defeat terror networks,” Bush said in a radio address to the nation. “So far we have frozen more than \$113 million in terrorist assets. ... We’ve cracked down on charities that were exploiting American compassion to fund terrorists. ... We’ve deployed troops to train forces in the Philippines and Yemen, the former Soviet Republic of Georgia, and other nations where terrorists have gathered. ... To win the war on terror, we’re also opposing the growing threat of weapons of mass destruction in the hands of outlaw regimes.”¹⁴⁷

Strategic Initiatives

With operations still in progress in Afghanistan, Bush introduced major initiatives on missile defense and nuclear weapons. In December 2001, he announced US withdrawal from the 1972 Anti-Ballistic Missile Treaty, giving Russia formal notice that the with-

drawal would be effective six months later.

“I have concluded the ABM Treaty hinders our government’s ability to develop ways to protect our people from future terrorist or rogue state missile attacks,” Bush said. “We know that the terrorists, and some of those who support them, seek the ability to deliver death and destruction to our doorstep via missile. And we must have the freedom and the flexibility to develop effective defenses against those attacks.”¹⁴⁸

On Jan. 9, 2002, the Pentagon released some details of the Nuclear Posture Review report. It said Russia was no longer the enemy and that the main concern had become rogue states with weapons of mass destruction. The nation would rely less on offensive nuclear weapons than it had done in the past.¹⁴⁹

The Pentagon said it could take two thirds of the operational US nuclear warheads out of service by 2012, reducing the total to 2,200 deployed warheads, or fewer. Some of the withdrawn warheads would be destroyed. Others would be transferred to the inactive stockpile.

The famed Strategic Triad of the Cold War (ICBMs, bombers, SLBMs) would be replaced by the “New Triad,” consisting of (1) offensive strike systems, i.e., the old Strategic Triad; (2) active and passive defenses; and (3) a revitalized defense research and development and industrial infrastructure to “provide new capabilities in a timely fashion to meet emerging threats.”

Three times in 2002, the world was reminded forcefully of the dangers inherent in the proliferation of nuclear weapons.

- India and Pakistan, both possessing nuclear weapons, went to the brink of war.

- The Israel-Palestine crisis intensified. Prime Minister Ariel Sharon warned that if attacked by Iraq with non-conventional weapons, Israel would “exercise its right to self defense.” It would not restrain itself, as it did when attacked by Iraq during the 1991 Gulf War.¹⁵⁰

- In October, Bush announced the revelation by North Korea that it had been secretly developing nuclear weapons for years and that it now possessed “more powerful” weapons.¹⁵¹

Sen. John McCain pointed out the difference in dealing with Iraq and North Korea on nuclear weapons. “Our

¹⁴³Rebecca Grant, “The Afghan Air War,” Air Force Association, September 2002.

¹⁴⁴ Rebecca Grant, “The Airpower of Anaconda,” *Air Force Magazine*, September 2002.

¹⁴⁵ Office of Homeland Security, “National Strategy for Homeland Security,” July 16, 2002.

¹⁴⁶ “Fact Sheet: News About the War Against Terror,” White House, Nov. 16, 2002.

¹⁴⁷ Bush, Radio Address, Nov. 16, 2002.

¹⁴⁸ Bush, Remarks on National Missile Defense, Dec. 13, 2001.

¹⁴⁹ Nuclear Posture Review, submitted to Congress Dec. 31, 2001, released Jan. 9, 2002; Robert S. Dudley and Peter Grier, “Bush’s Nuclear Blueprint,” *Air Force Magazine*, March 2002; Rumsfeld, Annual Report, 2002.

¹⁵⁰ Nina Gilbert, “Sharon: Israel Will Respond If Attacked By Iraq,” *Jerusalem Post*, Oct. 29, 2002.

¹⁵¹ Peter Slevin and Karen DeYoung, “N. Korea Reveals Nuclear Program,” *Washington Post*, Oct. 17, 2002.

determination to confront Saddam Hussein openly and with all necessary means demonstrates a freedom to act against an enemy that does not—yet—possess nuclear weapons [rather than] waiting until he possesses nuclear weapons, as North Korea now does, thereby constraining our ability to respond to a developing danger. We cannot allow Iraq to become the North Korea of the Middle East.”¹⁵²

Iraq and Preemption

Through the fall and winter of 2001-2002, a proposition gathered steam to oust Saddam Hussein’s regime in Iraq and end to his efforts to develop weapons of mass destruction. Most of the early advocates of such action were Republicans, but staunchly among them was Sen. Joseph I. Lieberman, the Democratic candidate for vice president in 2000.¹⁵³

In his State of the Union speech, Bush described an “Axis of Evil”— states like North Korea, Iran, and Iraq that sponsor and support terrorism and which he said were arming to threaten the peace of the world.¹⁵⁴

Secretary of State Colin Powell told Congress in February that the Administration was set on “regime change” in Iraq.¹⁵⁵ That led to political anguish and accusations, which were seemingly blind to the fact that regime change in Iraq had been US policy for a long time.

An October 1998 resolution, adopted overwhelmingly by both houses of Congress and signed into law by President Clinton, said: “It should be the policy of the United States to support efforts to remove the regime headed by Saddam Hussein from power in Iraq and to promote the emergence of a democratic government to replace that regime.”¹⁵⁶

However, the controversy about regime change paled in comparison to the firestorm of objection stirred up by Bush’s doctrine of preemption, declared in a speech at West Point June 1.

In some cases, Bush said, the Cold War doctrines of deterrence and containment would still apply, but deterrence meant nothing to terror networks with no nation or citizens to defend, and containment was not possible when “unbalanced dictators with weapons of mass destruction can deliver those weapons on missiles or secretly provide them to terrorist allies.”

“If we wait for threats to fully materialize, we will have waited too long.”

Bush said. “We must take the battle to the enemy, disrupt his plans, and confront the worst threats before they emerge.”

Some saw preemption as the equivalent of what the Japanese did at Pearl Harbor. Others saw it as more akin to what the Israeli Air Force did in 1981, when it attacked and destroyed the Iraqi nuclear reactor at Osirak. In retrospect, the consensus is that destroying the Iraqi reactor was a good thing, although there was a great deal of moral hand wringing about it at the time.

Preemption was not a policy intended solely for Iraq, although Iraq was clearly a candidate. Hawkish elements in the Administration and in the news media argued that the President had all of the authority he needed to strike Iraq, and that he should do so lest Saddam Hussein succeed in the near future in his determination to obtain nuclear weapons.

National Security Strategy

In the midst of this, Bush finally sent his first national security strategy to Congress in September 2002.¹⁵⁷ It was less comprehensive than previous strategy documents had been, focusing almost entirely on terrorism and rogue nations.

In a signed preface, Bush said “The gravest danger our Nation faces lies at the crossroads of radicalism and technology,” weapons of mass destruction in reckless and irresponsible hands.

The strategy repeated the doctrine of preemption: “Given the goals of rogue states and terrorists, the United States can no longer solely rely on a reactive posture as we have in the past. The inability to deter a potential attacker, the immediacy of today’s threats, and the magnitude of potential harm that could be caused by our adversaries choice of weapons, do not permit that option. We cannot let our enemies strike first.”

Preemption is also necessary because of the way adversaries regard weapons of mass destruction: “In the Cold War, weapons of mass destruction were considered weapons of last resort. ... “Today, our enemies see weapons of mass destruction as weapons of choice,” and “their best means of overcoming the conventional superiority of the United States.”

The strategy said that preemption would not be automatic. “The United States will not use force in all cases to

¹⁵² John McCain, “No Time to Sleep,” *Washington Post*, Oct. 24, 2002.

¹⁵³ Steve Mufson, “10 Leading Lawmakers Urge Targeting of Iraq,” *Washington Post*, Dec. 6, 2001.

¹⁵⁴ George W. Bush, State of the Union Address, Jan. 29, 2002.

¹⁵⁵ Todd S. Purdum, “US Weighs Tackling Iraq On Its Own, Powell Says,” *New York Times*, Feb. 7, 2002.

¹⁵⁶ Iraq Liberation Act of 1998, Public Law 105-338, Oct. 31, 1998.

¹⁵⁷ George W. Bush, “The National Security Strategy of the United States of America,” Sept. 19, 2002.

preempt emerging threats,” but “cannot remain idle while dangers gather.”

The great emphasis on multilateralism that characterized the Clinton strategy was gone. “While the United States will constantly strive to enlist the support of the international community, we will not hesitate to act alone, if necessary, to exercise our right of self defense by acting preemptively against such terrorists,” the new strategy said.

It confirmed Rumsfeld’s “Assure, Dissuade, Deter, Defeat” defense strategy and called specifically for “developing assets such as advanced remote sensing, long-range precision strike capabilities, and transformed maneuver and expeditionary forces.” It cited the need “to defend the homeland, conduct information operations, ensure US access to distant theaters, and protect critical US infrastructure and assets in outer space.”

Bush’s strategy did not address peacekeeping or nation building missions, which had been recurring themes in the election campaign. In July 2002, the United States had voted in favor of a UN resolution extending the Stabilization Force in Bosnia for another year.¹⁵⁸ By the end of the year, the Pentagon was planning a “reconstruction” mission in Afghanistan.¹⁵⁹

Congress and UN Votes

Nevertheless, and under pressure to build a broader consensus, Bush promised to seek Congressional authorization before taking any military action against Iraq.¹⁶⁰

He also issued a challenge to the United Nations. “All the world now faces a test, and the United Nations a difficult and defining moment,” he said in a speech to the General Assembly. “Are Security Council resolutions to be honored and enforced, or cast aside without consequence? Will the United Nations serve the purpose of its founding, or will it be irrelevant?”¹⁶¹

On Sept. 19, Bush asked Congress for unlimited authority to take action against Iraq without further consultation or approval.¹⁶²

Bush’s most stalwart ally at this difficult time was British Prime Minister Tony Blair, who said that Britain was committed to disarming Iraq, “one way or another.” Blair released a report from British intelligence that said Saddam Hussein would be able to employ nerve

gas or anthrax within 45 minutes, and would not need long to build a nuclear weapon if he had enough fissile material.¹⁶³

Bush also drew support from *The Washington Post*, which chastised the critics, who acknowledged that nuclear weapons in Saddam Hussein’s hands would be a deadly and intolerable threat, yet were opposed to action. In an editorial, the *Post* said that “One striking feature of the criticism of President Bush’s Iraq policy is the absence of suggested alternatives.”¹⁶⁴

Bush got the votes he wanted.

On Oct. 10, Congress authorized the use of military force against Iraq, declaring that, “The President is authorized to use the Armed Forces of the United States as he determines to be necessary and appropriate in order to (1) defend the national security of the United States against the continuing threat posed by Iraq; and (2) enforce all relevant United Nations Security Council resolutions regarding Iraq.”¹⁶⁵

The majority of the vote was bigger—296 to 133 in the House, 77 to 23 in the Senate—than the Gulf War resolution Bush’s father had gotten in 1991, and the authority was broader. The Iraq resolution required Bush to inform Congress within 48 hours if he used the authority; the Gulf War resolution had required his father to inform Congress before the war began.¹⁶⁶

On Nov. 8, the United Nations Security Council adopted, 15-0, a resolution ordering Iraq to disarm and warning that this is its “final opportunity” to do so.¹⁶⁷ Obtaining the vote required the United States to make some concessions, including the possibility that Saddam’s regime might survive if it cooperated, but Bush said he was satisfied.¹⁶⁸

Some of Bush’s critics saw the UN involvement as a triumph for international opinion, giving inspections a chance to succeed. They apparently forgot that Iraq had not been open to inspections at all until Bush pushed the issue. “We would not have inspectors going into Iraq today except for the single fact that there is a possibility of the use of force to require that that country disarm,” Rumsfeld said.¹⁶⁹

In December 2002, the White House announced a more detailed strategy for dealing with weapons of mass destruction. “The United States will continue to make clear that it reserves the right to

¹⁵⁸ George W. Bush, Letter to Congress on Peacekeeping Forces in the Balkans, July 22, 2002. The US force contribution was approximately 2,400 people, he said, accounting for just under 15 percent of the SFOR total.

¹⁵⁹ Bradley Graham, “Pentagon Plans a Redirection in Afghanistan,” *Washington Post*, Nov. 20, 2002.

¹⁶⁰ Mike Allen and Karen DeYoung, “Bush to Seek Hill Approval on Iraq War,” *Washington Post*, Sept. 5, 2002.

¹⁶¹ George W. Bush, Address to the UN General Assembly, Sept. 12, 2002; Bush, “A Decade of Deception and Defiance: Saddam Hussein’s Defiance of the United Nations,” background paper, Sept. 12, 2002.

¹⁶² Karen DeYoung and Jim VandeHei, “Bush Delivers Iraq Resolution,” with text of the proposed resolution, *Washington Post*, Sept. 20, 2002.

¹⁶³ Glenn Frankel, “Blair: Iraq Can Deploy Quickly,” *Washington Post*, Sept. 25, 2002; Tony Blair, “Iraq’s Weapons of Mass Destruction: The Assessment of the British Government,” Sept. 24, 2002.

¹⁶⁴ “A Shallow Disagreement,” *Washington Post*, Oct. 2, 2002.

¹⁶⁵ Authorization for the Use of Military Force Against Iraq, Joint Resolution of Congress, Oct. 10, 2002.

¹⁶⁶ Jim VandeHei and Juliet Eilperin, “Congress Passes Iraq Resolution,” *Washington Post*, Oct. 11, 2002; Glenn Kessler, “A Muscular First Step: Bush Gains Freedom, Negotiating Power,” *Washington Post*, Oct. 11, 2002.

¹⁶⁷ United Nations Resolution 1441, Nov. 8, 2002.

¹⁶⁸ George W. Bush, Remarks on UN Resolution,” Nov. 8, 2002.

¹⁶⁹ Donald Rumsfeld, briefing at Foreign Press Center, Nov. 26, 2002.

¹⁷⁰ "National Strategy to Combat Weapons of Mass Destruction," White House, Dec. 10, 2002.

¹⁷¹ Mike Allen and Barton Gellman, "Preemptive Strikes Part of Strategy, Officials Say," *Washington Post*, Dec. 11, 2002.

¹⁷² Thom Shanker, "Rumsfeld Favors Forceful Actions to Foil an Attack," *New York Times*, Oct. 14, 2002.

¹⁷³ Donald Rumsfeld, "Guidelines When Considering US Forces," March 2001.

¹⁷⁴ Caspar Weinberger, "The Uses of Military Power," 1984. The Weinberger Doctrine said that troops would not be committed to combat unless a vital national interest was at stake, and until other options were exhausted. Political and military objectives should be clearly defined and achievable. If we went to war, it must be with sufficient force and a determination to win. There should be "some reasonable assurance" of support from the American public and Congress.

respond with overwhelming force—including through resort to all of our options—to the use of WMD against the United States, our forces abroad, and friends and allies," it said.¹⁷⁰

According to the *Washington Post*, a classified version of this document authorized preemptive strikes on states or terrorists groups that were close to obtaining weapons of mass destruction or long-range missiles to deliver such weapons. The *Post* quoted a "participant" in the development of the strategy as saying it was premised on a view that "traditional non-proliferation has failed, and now we're going into active interdiction."¹⁷¹

Guidelines for Use of Force

Soon after he came to the Pentagon, Rumsfeld wrote down his guidelines for committing US armed forces to combat, updating the paper from time to time. When the existence of his memorandum was discovered and disclosed in October 2002 by the *New York Times*,¹⁷² Rumsfeld passed out copies of his latest version, dated March 2001, to the press.¹⁷³

- "Is a proposed action truly necessary? ... If US lives are going to be put at risk, whatever is proposed to be done must be in the US national interest. ... All instruments of national power should be engaged before, during, and after any possible use of force. ... Just as the risks of taking actions must be carefully considered, so too the risk of inaction needs to be weighed."

- "Is the proposed action achievable? ... When the US commits force, the task should be achievable—at acceptable risk. ... To the extent possible, there should be clear, well-considered, and well understood goals."

- "Is it worth it? ... If an engagement is worth doing, the US and coalition partners should recognize that lives will be put at risk. ... If public support is weak at the outset, the US leadership must be willing to invest the political capital to marshal support to sustain the effort for whatever period of time may be required."

- "If there is to be action, act early. If it is worth doing, US leadership should make a judgment as to when diplomacy has failed and act forcefully, early, during the pre-crisis period, to try to alter the behavior of others and prevent the conflict. If that fails, be willing and prepared to act decisively to use

whatever force is necessary to prevail, plus some. ... Authorities should not dumb down what is needed by promising not to do things (i.e., not to use ground forces, not to bomb below 15,000 feet, not to risk lives, not to permit collateral damage, etc.)."

Obviously, Rumsfeld had studied the Weinberger Doctrine of 1984¹⁷⁴ as well as the open-ended, poorly defined, often tentative employment of military force during the Clinton years.

Rumsfeld's guidelines steered a middle course, more flexible than Weinberger's list, but with a reasoned consideration, lacking in the limited engagements of the 1990s, of when and how the United States would commit forces to combat.

In presenting the 2003 defense budget to Congress,¹⁷⁵ Rumsfeld said that the Department of Defense had to accomplish three difficult objectives at once:

- Win the war on terrorism.
- Restore the vitality of the armed forces, worn thin by a decade of neglect.
- Transform the forces to prepare for the future.

“Each of these tasks must be done—none can be put off,” Rumsfeld said. “We have no choice but to fight and win today’s war on terror; but we must also modernize our forces for the wars we may have to fight later in this decade; and because of the long-lead times in bringing new capabilities online, we must prepare now for the wars we may have to fight in the next decade—in 2010 and beyond.”

The situation was difficult, even before the terrorist attacks. The underfunding of the 1990s had left the Pentagon in a deep hole. Then came the war on terror, with an additional expense of \$30 million a day. Overnight, a big job became an enormous one.

In constant dollars (adjusted for inflation), the proposed defense budget for 2003 was \$41.4 billion above the

previous year’s budget. It was billed, rightly, as the largest increase since the early 1980s. However, of the total increase, some \$24 billion—almost 60 percent of it—was allocated to the war on terrorism, homeland security, increased air patrols over the continental United States, and related matters. The amount left over for new ventures, including transformation, was not that much.

Nevertheless, in a Feb. 6, 2002, editorial entitled “The Pentagon Spending Spree,” *The New York Times* hit its predictable theme: “Congress must summon the courage to reshape and reduce this undisciplined budget.”

The Surplus Disappears

The goal of providing more adequately for defense was further set back by the deterioration of the federal budget situation. In January 2001, the Congressional Budget Office had forecast a cumulative surplus of \$5.6 trillion between 2002 through 2011. In just 12 months, the projected surplus fell to \$1.6 trillion—a drop of \$4 trillion. CBO said that 60 percent of the drop was attributable to legislation, particularly a tax cut and new federal

¹⁷⁵ Donald Rumsfeld, testimony to Senate and House Armed Services Committees, Feb. 6 and 7, 2002.

¹⁷⁶ Donald Rumsfeld, Annual Report, 2002.

THE DECLINE (AND PARTIAL RECOVERY) OF DEFENSE FUNDING¹⁷⁶

Budget Authority in FY03 Constant \$ Billions

Fiscal Year	DOD	Air Force
1985	461.7	156.3
1990	405.4	127.0
1998	294.6	86.0
2000	315.2	89.7
2002	337.2	95.9
2003 proposed	378.6	106.9

For two reasons, the defense funding recovery does not go as far as these numbers might otherwise suggest: (1) The huge, overdue bill for recapitalization and force modernization, carried forward from the 1990s, and (2) the additional cost since 2001 of the war on terrorism.

spending. The souring economy and other causes accounted for the rest of it.¹⁷⁷

Unfortunately, that was not the worst of it.

When CBO updated its report in August 2002, the surplus of \$313 billion for the current year had turned into a deficit of \$157 billion—a whopping \$470 billion worse than predicted 18 months earlier. The report said that tax revenues were down 6.6 percent in 2002, the largest annual percentage drop since 1946.¹⁷⁸

CBO projected that the budget would recover and again be in surplus in 2006 and subsequent years, but said the surpluses would be smaller than previously forecast.

How much can the nation realistically afford to spend on defense? History provides some perspectives.

The percentage of the Gross Domestic Product collected as tax revenue has risen over the past 40 years, ranging from a low of 17.0 percent in 1965 to a high of 20.6 percent in 2000.¹⁷⁹ Total federal spending rose along with tax revenue.

However, defense spending as a percentage of GDP has decreased steadily. In 2000, it was at the lowest level since 1940. To put that into further perspective, the United States in 1940 ranked 14th in military power among the nations of the world, behind Germany, France, Britain, Russia, Italy, Japan, China,

Belgium, the Netherlands, Portugal, Spain, Sweden, and Switzerland.¹⁸⁰

Defense has also fallen sharply as a share of total federal spending. (See charts.) The federal government is spending as much or more than it ever did. It is just spending less of it on defense. Thus, the question is not really one of affordability but rather one of priorities.

The deficit projected in the intermediate term is far from unusual. The budget has been in surplus for only five of the past 40 years. Except for 1968 and from 1998–2001, the budget was in deficit for that entire 40-year period,¹⁸¹ and through it all, the nation managed to allocate a larger share of GDP and total federal outlays to defense.

The Pressure for Internal Solutions

The armed forces are again hearing the old familiar admonition to “do more with less,” to address their shortages in people and money with internal economies, tradeoffs, rearrangements, and program cancellations.

Before the terrorist attacks, the armed forces had told the House Armed Services Committee that they needed more active duty personnel to meet their current obligations. The Army stated a need for 40,000 more people, the Navy, 14,000 more, and the Marine Corps, 5,000. The Air Force requirement was for 10,000 more.¹⁸²

¹⁷⁷ CBO, “The Budget and Economic Outlook: Fiscal Years 2003-2012,” January 2002.
¹⁷⁸ CBO, “The Budget and Economic Outlook, An Update,” August 2002.
¹⁷⁹ CBO, January 2001.
¹⁸⁰ Craig Nelson, *The First Heroes*. Viking, 2002, p. 99.
¹⁸¹ CBO reports, January 2001, August 2002.
¹⁸² Ike Skelton, “Why Slash Our Forces While We’re at War?” *Baltimore Sun*, July 17, 2002.
¹⁸³ CBO, “The Budget and Economic Outlook,” January 2001; “The Budget and Economic Outlook, An Update,” August 2002.

FROM SURPLUS TO DEFICIT¹⁸³

Total Surplus or (Deficit) in \$ Billions

	2000 actual	2001 actual	2002 projected	2002–06 projected	2002–11 projected	2003–07 projected	2003–12 projected
CBO report Jan 2001	236		313	2,007	5,610		
CBO report Aug 2002		127	(157)			(229)	1,015

In a single year, the federal budget surplus turned into a deficit. The budget balance is expected to recover in the long run, but the net 10-year surplus is now projected to be \$4 trillion less than forecast previously.

DEFENSE OUTLAYS AS PERCENT OF GROSS DOMESTIC PRODUCT¹⁸⁴

1940	1.7%	1979	4.6%
1941	5.6%	1986	6.2%
1944	37.9%	1990	5.2%
1948	3.6%	1994	4.1%
1953	14.1%	1995	3.7%
1961	9.3%	2000	3.0%
1968	9.4%	2003	3.3%

The defense budget is often expressed as a percentage of the Gross Domestic Product. Because of the variance in GDP from year to year, this figure cannot be used to measure the adequacy of defense funding, one way or the other. However, defense as a percentage of GDP is a valid indication of the nation's commitment and of the relative affordability of defense. The 3.0 percent share in 2000 was the lowest since 1940. From 1948 on, the percentage did not drop below 4.0 until 1995.

DEFENSE PERCENTAGE OF TOTAL FEDERAL OUTLAYS¹⁸⁵

1940	17.5%	1979	23.1%
1941	47.1%	1986	27.6%
1945	89.5%	1990	23.9%
1948	30.6%	1994	19.3%
1953	69.4%	1995	17.9%
1960	52.2%	1999	16.1%
1968	46.0%	2003	17.3%

At the peak of World War II, almost 90 percent of the federal budget was spent on defense, which still accounted for more than half of all budget outlays as recently as the 1960s. The numbers above expose the untruth of claims that defense spending in recent years has robbed funding from other federal programs.

In January 2002, the Secretary of the Air Force repeated the requirement for 10,000 additional airmen.¹⁸⁶ Other service leaders hit similar notes, culminating in testimony about the condition of the troops by Army Gen. William F. Kernan of US Joint Forces Command. "They're tired, sir," Kernan said to the House Armed Services Committee. "We are busy. We are busier than we have ever been."¹⁸⁷

Two theater commanders—Adm. Dennis C. Blair of Pacific Command and Air Force Gen. Joseph W. Ralston of European Command—told the House Armed Services Committee that they did not have enough forces to carry out their assigned missions.¹⁸⁸

Rumsfeld came down hard, rebuking commanders for suggesting that the armed forces were overburdened. "To the extent that the United States of America decides to undertake an activity, we will be capable of doing it,"

Rumsfeld said.¹⁸⁹ The services immediately fell silent about more people.

The issue appeared to be largely one of funding, since Rumsfeld was very well aware of the problem. In a memo obtained by *Newsweek*, Rumsfeld told his service secretaries that, "The entire force is facing the adverse results of the high-paced Optempo and Perstempo. ... We are past the point where the Department can, without an unbelievably compelling reason, make any additional commitments. ... It is time [to] begin to aggressively reduce our current commitments."¹⁹⁰

Rumsfeld said he had no plan to increase either service end strength or recruiting. The Pentagon would count temporarily on activated Guard and Reserve members. "We're trying to use the pressure on end strength as pressure to get people in uniform out of all the things they're doing around the world that really don't need to be done

¹⁸⁴ OMB, "The Budget for Fiscal Year 2002: Historical Tables," February 2001; "FY 2003 Defense Budget," DOD briefing charts, February 2002.

¹⁸⁵ OMB, February 2001; Congressional Budget Office, January 2002.

¹⁸⁶ Bruce Rolfsen, "Secretary of the Air Force James Roche: 10,000 More Airmen Needed," *Air Force Times*, Jan. 21, 2002.

¹⁸⁷ "General Says US Troops Tired, Backs Forces Boost," Associated Press, *Washington Post*, March 15, 2002.

¹⁸⁸ "Top Brass: Military Spread Too Thin," Associated Press, *Washington Times*, March 21, 2002.

¹⁸⁹ Jonathan Weisman, "Defense Secretary Rebukes Top Commanders," *USA Today*, March 29, 2002.

¹⁹⁰ "Rumsfeld's Big Worries," *Newsweek*, May 6, 2002.

by people in uniform. They could be done by contractors. They can be done by civilian agencies, and we're making good progress on that. In the end, if we do have to increase end strength, then, obviously we'll do it. But at the moment, I don't have plans to do that."¹⁹¹

In October 2002, the Army began investigating the feasibility of transferring 214,000 military and civilian support jobs—more than one in six of all Army jobs—to the private sector.¹⁹² The Air Force identified up to 17,000 uniformed positions and 9,000 civilian jobs in such areas as civil engineering, transportation, and supply, that could be outsourced to private industry or eliminated.¹⁹³

Around the same time, the Pentagon comptroller proposed that the services consider contracting out to the private sector the piloting of unmanned aerial vehicles in military operations.¹⁹⁴

So-called defense “reformers” had long called for the Pentagon to cancel some major weapon programs. In May 2002, they got their wish. Rumsfeld killed the Army's Crusader self-propelled artillery system, saying that the decision reflected the reality of “finite resources.” The savings were to be redirected to other Army needs.¹⁹⁵ The reformers clamored for more cancellations, with the Air Force's F/A-22 high on their target list.

Stretching the Expeditionary Force

Faced with the relentless deployments of the 1990s, the Air Force reorganized its operational forces into 10 force packages called “Air and Space Expeditionary Forces.” (The concept behind the AEFs is the “Expeditionary Air and Space Force,” or EAF.)

“Our 10 AEFs represent buckets of capability,” Secretary of the Air Force James G. Roche explained to Congress. “A nominal AEF has about 12,600 people supporting 90 multirole combat aircraft, 31 intratheater and air refueling aircraft, and 13 critical enablers. The enablers provide command, control, communications, intelligence, surveillance, and reconnaissance, as well as combat search and rescue. AEFs are composed of squadron and sub-squadron elements, which are on call for a period of three months in a 15-month cycle. If deployed, forces from AEFs make up Air and Space Expeditionary Task Forces.”¹⁹⁶

At any given time, two of the 10 AEFs would be deployed or on call. The Air Force figured that these two AEFs could

cover the “steady state” or peacetime requirement. More would be needed in wartime. That was confirmed by Operation Allied Force in the Balkans in 1999. It took the equivalent of five-plus AEFs.¹⁹⁷ The Air Force stripped its stateside units to cover the operation—which lasted 11 weeks—and needed a period afterward in which to recover.

In 2002, a “Dynamic Commitment” war game in the Pentagon determined that the full wartime demand for air and space power under the “4-2-1” standard was double the requirement in Operation Allied Force.

Deployment Math

The Air Force could not sustain that, any more than it could meet the standard of two simultaneous major theater wars. Even the “steady state” peacetime demand is cutting it close with the current force. The reason why becomes clearer with an understanding of deployment math as calculated by RAND.¹⁹⁸

There is a limit to how many months a year the Air Force can keep its people deployed. If they are gone too much, the toll on personal and family life is too great, and they will leave the Air Force.

For example, the Air Force goal is a maximum of 120 days a year TDY (temporary duty away from home station) for active duty fighter aircrews and 50 days for the Guard and the Reserve. Out of the yearly TDY total, US-based aircrews typically spend 50 days on training, exercises, and other activities not related to contingency operations. Europe-based crews train more often at ranges away from home. That leaves US-based crews available for contingency operations 70 days a year, Europe-based crews, 60 days. On average, Guard and Reserve crews will be available about 10 days a year for participation in overseas contingencies.

In 1996, the baseline period in the RAND data, the Air Force had 20.2 fighter wing equivalents, about the same number it has today. That total included 8.16 active duty FWEs in the United States, 7.63 in the Guard and Reserve, and 2.25 based in Europe. The 2.17 FWEs in the Western Pacific were not available for contingency operations elsewhere.

Following the TDY maximum standard, the force structure could provide no more than 2.14 FWEs for contingency operations on a continuing basis. At the time (1996), the Joint Staff's

¹⁹¹ Donald Rumsfeld, media availability at the Air Force Academy, May 29, 2002.

¹⁹² Christopher Lee, “Army Weighs Privatizing Close to 214,000 Jobs,” *Washington Post*, Nov. 3, 2002.

¹⁹³ Amy Butler, “In Lieu of More End Strength, USAF Considers Shifting 26,000 Jobs,” *Inside the Air Force*, Nov. 8, 2002.

¹⁹⁴ Amy Butler, “DOD Considers Using Civilians to Pilot UAVs in Military Operations,” *Inside the Air Force*, Nov. 1, 2002.

¹⁹⁵ Donald Rumsfeld and Paul Wolfowitz, Pentagon news briefing, May 8, 2002.

¹⁹⁶ James G. Roche, Defense Authorization Request, Feb. 12, 2002.

¹⁹⁷ USAF/XPX, April 22, 2002.

¹⁹⁸ David E. Thaler and Daniel M. Norton, “Air Force Operations Overseas in Peacetime,” RAND, 1998.

Baseline Engagement Force was 2.03 FWEs, almost totally utilized in support of ongoing overseas operations. RAND described the supply of fighter forces as on the “ragged edge” of adequacy.

Since 1996, the requirement has risen for Air Force people of all kinds, not just fighter crews. In fact, the burden has fallen heaviest on combat support specialties. In extreme cases, some airmen spent 179 days—one day short of six months—deployed. (The particular significance of 179 days is that this is the outer limit of TDY permitted by the Air Force personnel system. Anything more must be a PCS, or permanent change of station.)

The traditional means of rapid wartime expansion is to mobilize the Guard and Reserve. Like the active duty force, though, the reserves have been heavily tapped in peacetime.

In the Air Force, the Guard and Reserve routinely provide 65 percent of the tactical airlift, 35 percent of the strategic airlift, 60 percent of the aerial refueling, and 38 percent of the fighters, plus contributions in other areas, from bombers to space.

Until recently, however, the reserve components did not carry much of the contingency deployment workload. Through 1995, active duty units handled more than 90 percent of all peacetime operations sorties and flight hours.¹⁹⁹

That has changed. In the AEF rotation cycle that began in March 2002, the Guard and Reserve took 25 percent of the aviation workload and filled 29 percent of the combat support tasking.²⁰⁰

Their contributions to Operations Noble Eagle and Enduring Freedom were in addition to their AEF and other commitments. In the year after 9/11, the Air Force mobilized more of its Guard and Reserve forces than any other service. Peak mobilization of the air reserve components was 37,404 in the spring of 2002.²⁰¹

¹⁹⁹ Alan Vick et al, “Preparing the US Air Force for Military Operations Other Than War,” RAND, 1997.

²⁰⁰ John Correll, “The EAF in Peace and War,” *Air Force Magazine*, July 2002. The Air Force Reserve and Air National Guard operate the same weapon systems, train to and are inspected on the same standards, and meet the same combat response times as their active Air Force counterparts. As a result, they have the ability to respond in contingency operations regularly when needed.

²⁰¹ Tamar Mehuron, “Leaning Hard on the Guard and Reserve,” *Air Force Magazine*, October 2002.

“We can hit what we aim at. The problem is knowing where to aim.”

— *Dr. Rebecca Grant, IRIS Independent Research*²⁰²

²⁰² Air Force Association Senior Leaders Advisory Group, July 31, 2002.

²⁰³ John Tirpak, “Find, Fix, Track, Target, Engage, Assess,” *Air Force Magazine*, July 2000.

²⁰⁴ Brig. Gen. David A. Deptula, “Effects-Based Operations,” Aerospace Education Foundation, 2001.

²⁰⁵ Rebecca Grant, briefing at Air Force Association convention, Sept. 17, 2002.

THE Revolution in Military Affairs—and to great extent, transformation—is defined by airpower and space power. Airpower is America’s unique and asymmetric strength. In the Gulf War, in Bosnia, in Serbia, and in Afghanistan, it was airpower that gave us the overwhelming advantage. The enemy couldn’t match it and couldn’t defend against it.

Air and space power brings several things to the joint force.

- Air and space superiority, providing not only freedom from attack but also the freedom to attack.

- Information superiority: electronic, visual, and radar intelligence from platforms in air and space and the disruption or destruction of the enemy’s information networks.

- Long-range precision strike, the central capability of global power projection, which is the cornerstone of the national defense strategy.

- Rapid global mobility. Tankers and airlifters can build an “air bridge” to any point on earth.

In the 21st century, the combination of these capabilities will enable the Air Force to find, fix, track, target, engage, and assess anything of significance on the face of the earth.²⁰³

The Challenges Change

In the early days of aerial bombardment, the challenge was to hit fixed targets. In World War II, even with the fabled Norden bombsight, most bombs fell wide of the mark. Only about 20 percent of the bombs designated for “precision attack” hit within 1,000 feet of their aimpoint.²⁰⁴

Accuracy is no longer the problem. In the Gulf War in 1991, using laser designation, Air Force strike aircraft were able to put their ordnance, on average, within 10 feet of the target. In the Balkans in 1999, B-2s eliminated the need for the laser designation and bombed with guidance from a satellite in space, achieving an average accuracy of 20 feet.

The problem has also shifted away from fixed targets. The Air Force can

handle most of them without too much difficulty. They also account for fewer of the total targets than they once did.

In Operation Allied Force in Yugoslavia in 1999, some 43 percent of the targets were “emerging” or “flex” targets, meaning the coordinates were not known to the aircrews when they launched. In Afghanistan, 83 percent of the total targets were emerging or flex targets.²⁰⁵

These developments put the emphasis on information. As the operation in Afghanistan demonstrated, it is a tremendous advantage to have eyes and ears on the ground, particularly special forces to identify targets and direct the fire.

Some of the best information comes from space, such as the Navstar GPS signal the B-2s used to guide their bombs in the Balkans, but primary sources still include such aircraft as the E-3 Airborne Warning and Control System, E-8 Joint Stars, and EC-135 Rivet Joint. The Predator and Global Hawk unmanned aerial vehicles will take on more of the workload in the near future.

One of the major trends in the Air Force of the 21st century will be the migration of numerous missions, especially intelligence, surveillance, and reconnaissance, to space.

The next big step is space-based radar. Today’s airborne radars are limited by altitude and geography. An aircraft flying at 30,000 feet can see for a few hundred miles, but everything further away than that is beyond the curvature of the earth. Terrain also blocks the view. In Kosovo, for example, the Serbs were able to hide SAMs in the mountains, where the slant-range angle of the airborne radars could not see them.

Space-based radar, looking down from orbit, will be able to see great sweeps of the globe at a glance. It will also be able to watch some areas, such as the interior of China, that are not visible to today’s radars.

The space-based radar constellation would consist of 20 to 25 satellites, the first of them launched about 2010. Initially, the system would augment, and perhaps gradually replace, the ground moving target indicator (GMTI) data

presently obtained from Joint STARS radar aircraft. Airborne targets are more difficult, and it may be 20 years or so until they can be tracked by space-based radar.²⁰⁶

From Sensor to Shooter

In general, our ability to gather data is greater than our ability to translate it into usable information. The Air Force Chief of Staff, Gen. John P. Jumper, believes the targeting loop can be shortened substantially. He says that the “kill chain”—the time from when the target is spotted by a sensor until a shooter locks onto it—can be reduced to 10 minutes or less.²⁰⁷

In order to do that, we must modify intelligence practices held over from the Cold War, when the collection of data was paramount. “First we collect, then we analyze, then we report. Does that sound time critical to anybody here?” Jumper asks.

He prescribes the “horizontal integration” of aircraft and spacecraft, enabling them to exchange data with each other, directly and immediately. A preview was seen in Afghanistan, where Predator reconnaissance drones provided a streaming live feed from their video cameras to AC-130 gunships.

Sometimes targeting can be swift and uncomplicated. In one such instance, Taliban troops and tanks had massed on a ridge in Afghanistan, within view of a US forward air controller on the ground, who scanned the position with a laser range finder and relayed the coordinates to the theater command center. A B-52, guided by a signal from space, struck with deadly precision. Time elapsed: 19 minutes.²⁰⁸

For various reasons—some technical, some procedural, some political—most targeting of airpower takes much longer than 19 minutes. In the Kosovo operation in 1999, the targeting cycle averaged 14 days, half of that time consumed by target analysis.²⁰⁹

Slow human decision-making is still a problem. According to news reports from Afghanistan, a Predator armed with a Hellfire missile had the Taliban leader, Mullah Omar, in its sights, but his convoy got away because the Central Command staff and lawyers back in Tampa, Fla., could not decide to shoot.²¹⁰

Global Attack and the Anti-Access Problem

In the 1990s, defense planners

became increasingly concerned about two kinds of assumptions—time and access—in US war plans. It was often assumed that the armed forces would have time to deploy to a crisis, as they did in the six-month Desert Shield prelude to the Gulf War, and that when they got to the war zone, they would have access to ports, bases, airfields, and coastal waters.

In actuality, a theater crisis is likely to move faster than Desert Shield did, and the access problem will probably be substantial. Part of the question is political access, whether nations will permit use of their territory, but the more difficult aspect is military.

A regional adversary is likely to have not only the contested area but also the land and sea approaches covered, hundreds of miles out, with theater ballistic missiles, cruise missiles, submarines, anti-ship mines, and weapons of mass destruction. The enemy will also be protected by a solid wall of overlapping air defenses.²¹¹

In 1996, Gen. Charles A. Horner, air boss in the Gulf War, told Congress that the nation should “shift as much of the power projection burden as we can—as fast as we can—to long-range systems capable of fighting effectively from beyond WMD [weapons of mass destruction] range.”²¹²

The Air Force believes it can solve part of this problem with a “Global Strike Task Force,” built around stealthy, radar-evading B-2 bombers and F/A-22 fighters. Their job would be to kick down the door for the other land, sea, and air forces that would follow.²¹³

The initial strike mission would rely on B-2s and cruise missiles, attacking from locations well outside the theater. An “enabling force” of several squadrons of F/A-22s, operating from the outer edge of the theater, would thread the defenses, protect the bombers and support aircraft, and supplement the bombers in the strike mission. When the threat has been whittled down enough, the surface forces and nonstealthy aircraft can move in and join the fight.

Bombers

Long-range bombers, once the mainstay of the Air Force, steadily lost prominence in the last half of the 20th century. “Between 1962 and 1975, the force mix in the Air Force changed from a ratio of just more than two fighters per bomber to nearly eight

²⁰⁶ John Tirpak, “The Space Based Radar Plan,” *Air Force Magazine*, January 2002.

²⁰⁷ John Correll, “From Sensor to Shooter,” *Air Force Magazine*, February 2002.

²⁰⁸ Lt. Gen. Charles Wald, USAF Deputy Chief of Staff for Air & Space Operations, interview with John Tirpak, *Air Force Magazine*, Dec. 10, 2001.

²⁰⁹ Rebecca Grant, *The B-2 Goes to War*, Iris, 2001.

²¹⁰ Seymour M. Hersh, “King’s Ransom: How Vulnerable Are the Saudi Royals?” *The New Yorker*, Oct. 22, 2001.

²¹¹ “Rethinking US Combat Airpower Modernization,” Hicks & Associates, April 2000.

²¹² Gen. Charles A. Horner, House National Security Procurement Subcommittee, Sept. 12, 1996.

²¹³ John Correll, “Breakthrough Force,” *Air Force Magazine*, April 2001.

USAF'S OPERATIONAL BOMBERS²¹⁴

	Service Total 2001	Mission Ready 2001	Service Total projected	Mission Ready projected
B-2	21	16	21	16
B-1B	93	52 (36 active, 16 ANG)	60	36
B-52	94	44 (36 active, 8 AFRC)	76	44
Total	208	112	157	96

The 2001 Bomber Road Map projected a fleet of 96 mission ready bombers, out of a service total of 157, through the middle 2020s. Mission ready aircraft are kept in constant readiness for combat, with the rest of the fleet in maintenance, testing, or training. **ANG**=Air National Guard; **AFRC**=Air Force Reserve Command.

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²¹⁴ John Tirpak, "Bomber Questions," *Air Force Magazine*, September 2001; Tirpak, "Long Arm of the Air Force," *Air Force Magazine*, October 2002.

²¹⁵ Gen. Richard E. Hawley, USAF Ret., "Swinging the Air Power Pendulum: The Case for Returning to a Bomber-Centric Air Force," *Strategic Review*, Spring 2001.

²¹⁶ Brent Scowcroft et. al., "Final Report of the Independent Bomber Force Review Commission," July 23, 1997.

²¹⁷ John Tirpak, "With Stealth in the Balkans," *Air Force Magazine*, October 1999.

²¹⁸ Hawley, "Swinging the Air Power Pendulum," *Strategic Review*, Spring 2001.

²¹⁹ Rebecca Grant, "The Afghan Air War," AFA Special Report, September 2002.

²²⁰ John Tirpak, "Long Arm of the Air Force."

fighters per bomber," said Gen. Richard E. Hawley, former commander of Air Combat Command.²¹⁵

The B-2 bomber program was originally scoped at 132 aircraft but was cut to 21. Disrespect for the B-2 did not subside until the B-2's spectacular performance in Kosovo.

In 1999, the Air Force announced that it would rely on its existing fleet of bombers, with upgrades, until the year 2037. It said that a program to develop a replacement for those aircraft would begin "no later than 2013." Furthermore, the Air Force announced in 2001 that it would retire a third of the B-1B fleet and use the savings to upgrade the capability of the B-1s that remain.

For various reasons—stealth, precision, flexibility in projecting heavy bombardment power to any point on earth within hours—bombers have made a comeback.

The B-52 round-trip mission on the first night of the Gulf War, taking off from Barksdale AFB in Louisiana, striking in Iraq, and returning to land at Barksdale, was essentially a demonstration, not a continuing part of the war plan. Even so, B-52s, representing just four percent of the force, delivered 32 percent of the bomb tonnage in the Gulf War, more than twice as much as the entire carrier force combined.²¹⁶

In Kosovo, round-trip bomber operations were a standard means of attack. B-2s from Whiteman AFB, Missouri, struck in Yugoslavia, night after night—30-hour round-trip missions against heavily defended targets in all kinds of weather. B-2s flew less than one per-

cent of the total sorties in Operation Allied Force, but accounted for 11 percent of the bomb load dropped.²¹⁷ "With less than two dozen B-52s and B-1s forward deployed, and only nine B-2s operating from Whiteman AFB in Missouri, the bomber force accounted for more than half of all targets struck during Operation Allied Force," Hawley said.²¹⁸

In Afghanistan, the B-2s from Whiteman were used the first two days. After that, air defenses in Afghanistan posed no real threat to nonstealthy bombers and fighters if they flew at altitudes beyond the range of man-portable SAMs and such anti-aircraft weapons as were left.²¹⁹

In November 2001, the Pentagon's acquisition czar, Edward C. Aldridge, told the Air Force to accelerate the program to develop a new long-range strike capability. The acquisition effort is projected to begin between 2012 and 2015.²²⁰

The key characteristics are to be high speed, stealth, extreme precision, and the flexibility to adapt, minute by minute, to changing battle situation. The emphasis is on finding and hitting mobile targets. The follow-on to the B-2 will differ in several respects from the B-2, which is a large aircraft that moves at subsonic speed. The next platform will need to go faster, strike its targets, and get out of the lethal area sooner.

One possibility is the "FB-22," a larger, two-seat version of the fighter. It would have a larger wing to give it more range—two and a half times the range of the fighter—and carry 30 small diameter bombs internally (compared

to eight carried by the fighter). The satellite-guided small Diameter Bomb, weighing 250 pounds, will be ready within the next five years.

Fighter/Attack Aircraft

Nothing enrages defense cutters and critics more than the fighter force. They depict fighters as small airplanes that engage in dogfights with each other but which are not very important to the outcome of battle.

It is true that the first mission of the fighters is air superiority and suppression of enemy air defenses, and that is critical. Unless the fighter force clears the skies of advanced enemy fighters and knock out the air defense networks, the rest of the joint attack force—including the bombers and the ground forces—will not survive. Fighters must also perform escort for slower, more vulnerable surveillance, reconnaissance, and transport aircraft.

Most of the fighter force has an attack or close air support mission as well. When armed with the small-diameter bomb, the F/A-22 will be able to strike eight separate targets on a single sortie, which is better than the best bombers could do until recently.

The workhorses of the present fighter fleet, the F-15s and F-16s, are

aging, wearing out, and falling behind the threat, especially “double digit” SAMs. In regional conflicts thus far, US aircraft have faced only single-digit SAMs, but in the near future, nations that now field SA-2s, -3s, -5s, and -6s will replace them with SA-10s, -11s, -12s, and -20s. Not even the F-15 can operate against the most advanced SAMs.

The plan is to replace the F-15s and the F-117s with the F/A-22, and to replace the F-16s and A-10s with the F-35 Joint Strike Fighter and the Unmanned Air Combat Vehicle, or UCAV.

The F/A-22 will be able to thread the defenses because of its combination of fourth generation stealth, speed, operating altitude, and advanced avionics. It will penetrate and survive in airspace deadly to any other aircraft.

Compared to F/A-22, the F-35 will not be as stealthy or as fast, and it will not fly as high. However, it will be very effective once the worst of the defenses are suppressed. The F-35 will be available in larger numbers than the F/A-22, and it will be expected to fly the bulk of the attack missions if a conflict persists.

The size of the F/A-22 program has been cut repeatedly. It was sized initially at 750 aircraft, but that was reduced to 648 in 1991. The Bottom-Up

FORCE MIX: AIR FORCE FIGHTER/ATTACK WINGS²²¹

Fighter Wing Equivalents, FY 2001

Aircraft Type	Mission	Active FWE	ANG/AFRC FWE	Total FWE
F-15A/B/C/D	Air superiority	3.4	0.6	4.0
F-15E	Multirole	1.8	0	1.8
F-16A/B	Multirole	0	0.4	0.4
F-16C/D	Multirole	5.8	5.2	11.0
F-117	Attack	0.5	0	0.5
A-10	Close air support	1.0	1.4	2.4
Total		12.6	7.6	20.2

²²¹ William S. Cohen, Annual Report, 2000.

In the popular image, fighters are inextricably linked with the air superiority mission. In actuality, more than half of the fighter fleet has other assignments as well, including ground attack and suppression of enemy air defenses.

HOW MANY F/A-22S?²²²

Total Buy	Combat Coded	Training	Backup Inventory	Test&Attrition	Wings	Sqdns/AEF
180	115	29	15	21	1+	0.4
339	202	51	26	60	2++	0.8
382	240	60	32	50	3+	1
560	360	90	45	65	5	1.5
762	480	120	60	122	6+	2.0

The Air Force would like to have two combat-coded squadrons—a squadron is 24 aircraft—of F/A-22s for each of its 10 AEFs. That would require a total buy of more than 750 airplanes. USAF says the “bare bones” requirement is one squadron per AEF and a total buy of 382.

Review cut it again, to 442 (438 production and four pre-production aircraft). The Quadrennial Defense Review in 1997 cut it further, to 341 (339 production, two pre-production) aircraft.²²³ In 2002, the Air Force was under pressure to cut the total to 180. For the most part, the reductions have been budget-driven.

How many F/A-22s does the Air Force really need? Replacing the F-15s and F-117s on a basis of one-for-one is neither necessary or feasible.

In recent years, the Air Force has deployed an average of 1.5 squadrons of F-15Cs and one squadron of F-15Es and F-117s per Air and Space Expeditionary Force—or 2.5 squadrons of aircraft per AEF. The F/A-22 is more capable than these fighters, though, so fewer are needed. The adjusted requirement, according to one analysis, would be two squadrons per AEF, meaning a total buy of more than 750 aircraft.²²⁴

The Air Force said the “bare bones” requirement was one squadron of 24 aircraft for each AEF (total program buy of 382) and that 1.5 squadrons per AEF would be “preferred.”²²⁵

The UCAVs

Unmanned aerial vehicles, or UAVs, have begun to make their mark. In 2001, Global Hawk flew nonstop, unpiloted, unrefueled, and navigating on its own, from California to a precision landing in Adelaide, Australia. The propeller-driven Predator has flown surveillance missions in Iraq, Kosovo,

and Afghanistan. More recently, Predator made headlines by chasing down and blowing away six al Qaeda terrorists traveling in a car in Yemen.²²⁶

Global Hawk and Predator set the stage for the Unmanned Air Combat Vehicle. Twenty years from now, the Air Force expects the UCAV to be part of its stealthy “front four,” teamed up with the B-2, the F/A-22, and the F-35. The UCAV advanced concept technology demonstrator, the X-34, began flight tests in May 2002.

The basic concept for the UCAV, however, has changed rapidly. At first, the Air Force envisioned it as a comparatively small craft, to be shipped in containers and stored in forward locations, where it could be unpacked and assembled quickly when the need for it arose.

The UCAV is now seen as an unmanned bomber, larger, with more range, capable of aerial refueling, and deploying from US bases to strike targets anywhere in the world. It would be able to carry a dozen 250-pound small-diameter bombs, the same load as the F-35 Joint Strike Fighter.

The UCAV will have a human supervising operator, who must give consent before the aircraft can release its bombs, but the UCAV will do its own flying, from takeoff to landing.²²⁷

Mobility

During the Cold War, the officially declared goal for airlift was 66 million ton miles per day. (“Ton mile” means

²²² Rebecca Grant, “Transformation and the Joint Air Component,” Air Force Association Policy Forum, Sept. 17, 2002.

²²³ Christopher Bolkom, “F-22 Raptor Aircraft Program,” Nov. 5, 2001.

²²⁴ Grant, “Transformation and the Joint Air Component.”

²²⁵ “F-22 Transformation,” IRIS Independent Research, September 2002.

²²⁶ Walter Pincus, “US Strike Kills Six in Al Qaeda,” *Washington Post*, Nov. 5, 2002.

²²⁷ John Tirpak, “Heavyweight Contender,” *Air Force Magazine*, July 2002.

MAJOR AIR FORCE AIRLIFTERS AND TANKERS

Total Aircraft Inventory and Primary Aircraft Inventory as of Sept. 30, 2001

	Active		Air National Guard		Air Force Reserve Command	
	TAI	PAI	TAI	PAI	TAI	PAI
C-17	76	67				
C-5	81	70	13	12	32	28
C-141	39	32	18	16	45	40
C-130	191	164	221	208	107	100
KC-10	59	54				
KC-135	255	226	221	204	70	64

TAI is the entire fleet, including aircraft in depot maintenance, attrition reserve, and testing and training duties. **PAI** total includes only operational aircraft.

the amount of airlift required to move one ton of cargo a distance of one nautical mile.) In 1993, a Mobility Requirements Study lowered the requirement to 49.7 MTM/D. Even that was more than the Air Mobility Command could field in actuality. The General Accounting Office reported in 2000 that the Department of Defense was about 29 percent short of the needed airlift.²²⁸ Actual airlift capability peaked in 1996 at about 48 MTM/D. By 2001, it had fallen to 44.5 MTM/D.²²⁹

In 2001, a new Mobility Requirements Study established a goal closer to the requirement.²³⁰ It forecast a requirement of 51.1 MTM/D to cover two MTWs. To cover the MTWs plus other high priority missions, including support of noncombat theaters, the requirement rose to 54.5 MTM/D. If all airlift requirements were considered, it rose still further, to 67 MTM/D.

The Joint Chiefs of Staff and the theater commanders set 54.5 MTM/D as the minimum moderate risk airlift capability to support the National Military Strategy. Rumsfeld's 4-2-1 force sizing standard will be at least as demanding on mobility as the two-MTW standard was.

The Air Force will delay the retirement of some of the old C-141s and is conducting a test to determine whether it will upgrade and re-engine more of the C-5s than it had planned to keep, but meeting the level of airlift specified by the Mobility Requirements study depends on the newest airlifter, the C-17.

Originally the Air Force planned to buy 210 C-17s. Then the number was reduced to 120, reduced again to 40, increased to 80, then to 120, and is probably headed for 222. That program turbulence added about \$18 billion to the cost of the program.

A fleet of 180 C-17s will cover the 54.5 MTM/D with four airplanes to spare—if upgrade efforts can improve the reliability of the C-5s.²³¹ In the not-too-distant future, the Air Force will need more C-17s than that.

The situation with air refueling aircraft is even more acute. Most of the tankers are KC-135s, military variants of the Boeing 707. They are old, hard used, and a maintenance problem.

As of April 2002, 24 percent of the KC-135 fleet was in depot maintenance.²³² Furthermore, when these airplanes get to the depot, they are in such bad shape that they need a considerable amount of work. Chief of Staff Jumper told Congress in 2002 that it took more than 300 days, on average, to take KC-135s apart to fix the corrosion and the other problems.²³³

The indicated solution is to retire the KC-135Es, which are 43 years old on average, move the re-engined KC-135Rs into the Guard and Reserve, and obtain variants of the Boeing 767 or some other commercial aircraft as the next generation tanker.

For the past two years, the Air Force has been embroiled in a controversy with Congress over whether it should buy tankers outright or lease them. The

²²⁸ John Tirpak, "A Clamor for Airlift," *Air Force Magazine*, December 2000.

²²⁹ Gen. Charles T. Robertson, US Transportation Command, testimony to Senate Armed Services Subcommittee on Seapower, April 26, 2001.

²³⁰ MRS-05 (Mobility Requirements Study) Executive Summary, Department of Defense, January 2001.

²³¹ John Tirpak, "Mobility Boom," *Air Force Magazine*, June 2002.

²³² Tirpak, "Mobility Boom."

²³³ Gen. John P. Jumper, Senate Appropriations Defense Subcommittee hearing on FY 2003 Budget, May 15, 2002.

Pentagon is also getting some economizing pressures from within the Administration. The White House Office of Management and Budget suggested that money could be saved by re-engining the oldest tankers—the KC-135Es, which have already been re-engined once.²³⁴

Space and Aerospace

In November 1996, the Air Force brought forth, with considerable fanfare, a new vision statement. It said that “we are now transitioning from an *air* force into an *air and space* force on an evolutionary path toward a *space and air* force.”²³⁵

The implication was that the rise of space power meant a corresponding decline in airpower. Clearly, that was not the case. Airpower was becoming more important to military operations, not less so. Air power and space power were complimentary, not competitive.

Not everyone saw it that way. In 1998, for example, Sen. Bob Smith of New Hampshire, a fiery advocate of space power, said that the Air Force had not stepped up to the mission and that Congress might establish the space force as a separate service. He said that for the Air Force to embrace space power it must “shed big chunks of today’s Air Force to pay for tomorrow’s space force.”²³⁶ Smith’s radical crusade eventually faded in 2002 when he was not re-nominated for election.

(It should be noted that although all of the services depend critically on support from space, the Air Force has long carried almost the full load in the military space program, providing about 90 percent of the people, systems, and money. Its relative share of the defense budget has never been adjusted to reflect that.)

The Air Force revised its vision statement in 2000, declaring itself to be “an integrated aerospace force” whose “domain stretches from the earth’s surface to the outer reaches of space in a seamless operational medium.”²³⁷

A Congressionally chartered commission—chaired by Rumsfeld before he became Secretary of Defense—said in January 2001 that the idea of an independent service for space had not reached “critical mass,” and recommended a change to Title 10 of the US Code, assigning the mission to the Air Force, at least for the time being.²³⁸

As Secretary, Rumsfeld decided not to

seek a change to Title 10. However, he did designate the Air Force as the Department’s Executive Agent for Space, with “responsibility to organize, train, and equip for prompt and sustained offensive and defensive space operations.”²³⁹

In 2002, the Air Force dropped “aerospace” and went back to “air and space.” Gen. John P. Jumper, the Chief of Staff, explained that “Notably, the Space Commission report does not use the term ‘aerospace’ because it fails to give the proper respect to the culture and to the physical differences that abide between the environment of air and the environment of space. ... We will respect the fact that space is its own culture and that space has its own principles. And when we talk about operating in different ways in air and space, we have to also pay great attention to combining the effects of air and space.”²⁴⁰

The emphasis in the military space program is still on space-based enhancements and support for land, sea, and air forces. The mission of force application in and from space still lies some distance into the future.

“We also realize,” said Secretary of the Air Force James G. Roche in September 2002, “that soon will come a time when space systems will grow beyond their traditional role as force enhancers and then will play a more active role in preventing, fighting, and winning wars.”²⁴¹

²³⁴ John Tirpak, “The Washington Tanker Wars,” *Air Force Magazine*, July 2002.

²³⁵ “Global Engagement: A Vision for the 21st Century Air Force,” November 1996.

²³⁶ Bob Smith, “The Challenge of Spacepower,” Fletcher School/Institute for Policy Analysis conference, Cambridge, Mass., Nov. 18, 1998.

²³⁷ “America’s Air Force: Global Vigilance, Reach & Power; Vision 2020,” June 19, 2000.

²³⁸ Report of the Commission to Assess United States National Security Space Management and Organization, Jan. 11, 2001.

²³⁹ “Secretary Rumsfeld Announces Major National Security Space Management and Organizational Initiative,” Pentagon news release, May 8, 2001.

²⁴⁰ Gen. John P. Jumper, “A Word From the Chief: Why ‘Air and Space?’” *Air & Space Power Journal*, (previously *Aerospace Power Journal*, and before that, *Airpower Journal*), Fall 2002.

²⁴¹ James G. Roche, Air Force Association Convention, Sept. 18, 2002.

A FORCE FOR THE MISSION

In theory, the national defense program is the product of a process that begins with national security policy, which identifies the nation's interests, concerns, aspirations, and judgments. National security policy is a product of the White House, and foreign policy and defense policy are derived from it.

The formal expression of defense policy is the national defense strategy, which supposedly governs Pentagon plans, programs, and budget proposals. The defense program is then shaped and sized by Congress and the Administration in the political arena.

The process can be evaluated in two ways: Does it meet the actual needs of national security? And are the elements of the process—policy, strategy, requirements, and forces—in reasonable balance so the process can be made to work?

The post-Cold War period gets a low score on both counts. The process outlined above could better serve as a description of what *did not* happen.

In the 1990s, national security policy was ambitious, but military power was often used half-heartedly and for objectives that were not always clear. The Administration was unwilling to support a defense program adequate to carry out the national security policy. Arbitrary budget cuts left the armed forces with a strategy they were unable to execute. Strategy and requirements were in chronic imbalance with forces and resources.

- **Assumptions vs. Reality.** Defense cuts began in a rush of optimism as the Cold War was ending. The United States pulled back from overseas bases and cut the armed forces sharply. Unfortunately, the underlying expectations were not borne out in the actual experience of the 1990s.

The Base Force reductions, structures, and budgets proposed by Cheney and Powell *might* have worked, but the additional cuts piled on by Clinton and Aspin wiped out the possibility.

In the 1990s, the armed forces deployed overseas more frequently than expected, and the deployments were

more extensive and longer lasting than anyone had imagined.

The missions were loosely defined and open-ended, and they were covered by smaller, underfunded forces, operating mostly from garrison bases in the United States. When these forces deployed, they had to take their infrastructure along with them, because most of the overseas bases were gone.

Peacekeeping operations, including no-fly zones in the former Yugoslavia and over northern and southern Iraq, began to look more and more like permanent missions.

Standards were relaxed for committing US forces to combat, blurring the borderline between peace and war. The armed forces were sent into combat on missions that were not vitally important to the nation, and to which the nation was not fully committed.

Far from experiencing a reduction in employment, the armed forces found themselves four times busier than before—and a third smaller.

- **The Shortfall Persists.** The “Decade of Neglect” left a problem so big that even the pro-defense Bush Administration has not stepped up to it. It will take years and a great deal of money to repair the damage.

In the 1990s, the use of the armed forces increased while their numbers and budgets fell. Aging equipment wore out and was not replaced. Force modernization programs were curtailed and postponed. Facilities and infrastructure crumbled, and readiness deteriorated.

The Bush Administration came to office promising that “help is on the way.” There has been some help, but not enough. Bush’s budget proposals were short of actual need before the war on terrorism, which introduced massive new requirements.

Resources in the Clinton years were not sufficient for an “Engagement and Enlargement” strategy and the “Two-MTW” force-sizing standard. In the Bush Administration, requirements increased—especially for air and space

Some conclusions from the experience of 1989-2002 and from analysis of the present situation

forces—with the adoption of the “Assure, Dissuade, Deter, Defeat” strategy and the “4-2-1” force sizing standard.

Thus, the imbalance between requirements and resources continues. The Bush Administration has covered part of the gap with budget increases, but hopes, unrealistically, to fill the rest of it through internal economies and realignments, privatization, and reduction of missions.

The defense budget has been cut too much. So has force structure. There is no easy way out of this.

Bush’s national security strategy is sound. The ultimate test will be whether he can fund it. There is little margin for playing off the needs of today against the needs of tomorrow. We must attend to them both.

- **The Future Requires Investment.** The military imperatives of the war on terrorism are in addition to, not instead of, requirements identified earlier. In the months immediately following 9/11, the popular assumption was that future military actions would be of the Afghanistan variety, against primitive adversaries who might not have borders or regular forces. Within the year, the prospect loomed of a major theater conflict in Iraq.

In Afghanistan, exceptional circumstances allowed 50-year-old bombers and 30-year-old fighters to operate freely, but anyone who believes they can dominate the skies of the future is seriously deceived.

The military successes of recent years were made possible by R&D and weapon system investments in the 1970s and 1980s. Those investments had a powerful effect. They secured world military leadership for the United States despite declining defense budgets and force structure.

The nation did not invest in force modernization in the 1990s. We cannot sustain our technological advantage forever on yesterday’s investments. Force modernization is critical, and it is overdue. We have already skipped a decade.

- **Superpower Responsibilities.** The critics like to point out that the US defense budget is bigger than the combined military spending of several other nations. That is true, but it is less relevant than it sounds.

When trouble breaks loose in the world, nobody looks to those other

nations. They look to the United States. When NATO wanted to stop Serb aggression in Yugoslavia, US armed forces took the lead, although any number of Alliance members were closer to the scene. We are the world’s only superpower, with responsibilities we cannot evade.

The world may sometimes resent the power of the United States, but it is well served by it. What other nation would the world prefer to see in the leadership role? If US military capabilities were ever scaled back to the world average, there would be panic in many a foreign capital.

- **Affordability.** How much can we afford to spend on defense? The cost of the current program works out to 3.3 percent of the Gross Domestic Product and 17.3 percent of all federal outlays.

This is less than half the defense percentages of GDP and federal outlays in the 1960s, and appreciably less than was allocated as recently as the middle 1990s. The federal government spends as much or more than it ever did. It just spends less of it on defense. Thus, the question is about our spending priorities, not about what we can afford.

The nation can and should decide that at least four percent of GDP will be available to support national defense.

- **The Revolution in Military Affairs.** We are witnessing a major change in warfare, brought on by primarily by information technology and long-range precision strike capability. This Revolution in Military Affairs offers an alternative to the attrition model of war, with the clash of force on force and heavy casualties on both sides.

Incredibly, there is great resistance to the idea of a Revolution in Military Affairs and to related concepts, such as effects-based operations. It is not a coincidence that the resistance is greatest among those with a vested interest in traditional forms of warfare.

Contrary to often-heard accusations, there is no claim that airpower can win wars by itself. However, the relative burden in warfare has shifted. Airpower carries more of the load than it once did. It is no longer an automatic assumption that the land battle will be the focal point. Close integration of air and space power with the land and sea forces yields the strongest combat capability for the nation.

The nation needs a balance of land, sea, and air forces. Single-threaded strategies are risky and inflexible. However, it is foolish to disparage airpower, which has been our single best capability in recent conflicts, and we should carefully examine the possible motives of those who do so.

It is time to revisit the conclusion of Joint Vision 2010—suppressed by interservice politics in Joint Vision 2020—that precision targeting and long range systems have made it increasingly possible to achieve the effects of mass without the actual massing of forces within range of the enemy’s guns.

- **Migration to Space.** One of the strong trends of the 21st century will be a migration of military missions to space, beginning with information, surveillance, and reconnaissance functions. Space systems are already in extensive use to support and enhance military operations on earth. In time, other missions will be conducted from orbit as well.

The command of space will become as important as command of the air is today. It will be critical to preserve our own space access and capabilities while denying similar access and capabilities to the enemy.

When our national interests in space are challenged—and they will be—the nation will expect the armed forces to be ready to defend them. We should be working now on the means to ensure control of space in the years ahead.

- **Mission No. 1.** Defense strategy identifies homeland security as Mission No.1. However, the main military contribution to homeland security is not going to take place in this country. It is not possible to defend everything, everywhere, all of the time.

We want to move the war to the enemy’s homeland, to his training camps and sanctuaries. To the extent possible, we want to fight over there, not over here. In the war on terror, as in other military operations, the strategy relies fundamentally on long-range precision strike, global situational awareness, and mobility. A large share of the responsibility for that falls to airpower.

- **There Is No Substitute for Air and Space Power.** The United States is the world’s preeminent military power

mainly because of its superiority in air and space. Our land forces are better than the armies of other nations, but that is not the big difference between our position and theirs.

What sets the United States apart is global reach, global awareness, and global power derived from our capabilities in air and space. These are the forces the nation will look to first for global power projection and for rapid response in times of crisis abroad.

Air and space are also the most promising venues for transformation. More transformation is likely to take place there than anywhere else.

There is no substitute for air and space power.

REFERENCES STRATEGY, REQUIREMENTS, AND FORCES

46

- AIR FORCE MAGAZINE, annual USAF Almanac issues, 1989–2002.
- ALLEN, Mike, and Barton Gellman, “Preemptive Strikes Part of Strategy, Officials Say,” *Washington Post*, Dec. 11, 2002.
- ALLEN, Mike and Karen DeYoung, “Bush to Seek Hill Approval on Iraq War,” *Washington Post*, Sept. 5, 2002.
- Allied Forces Southern Europe, “Operation Deny Flight,” Fact Sheet, undated.
- “Annual National Security Strategy Report,” Title 50, Chapter 15, Section 404a, US Code.
- ASPIN, Les, Chairman of the House Armed Services Committee, “An Approach to Sizing American Conventional Forces for the Post-Soviet Era: Four Illustrative Options,” Feb. 25, 1992.
- _____, Letter to Air Force Association, March 24, 1992, forwarding “Defense 1997 Budget Alternatives,” briefing to House Budget Committee, Feb. 25, 1992, and “Defense 1997 Budget Alternatives, Supplemental Materials,” March 24, 1992.
- _____, “National Security in the 1990s: Defining a New Basis for US Military Forces,” remarks to the Atlantic Council of the United States, Jan. 6, 1992.
- _____, “Pentagon’s ‘Weinbergerization’ of Defense Debate,” memo, April 2, 1992.
- _____, “The Use and Usefulness of Military Forces in the Post-Cold War, Post-Soviet World,” speech to Jewish Institute for National Security Affairs, Sept. 21, 1992.
- _____, Pentagon briefing on the new defense budget, March 27, 1993.
- _____, “Force Structure Excerpts, Bottom-Up Review,” and briefing slides, Sept. 1, 1993.
- _____, Remarks at National Defense University, June 16, 1993.
- _____, Remarks to US Air Force Senior Statesmen, Andrews AFB, Md., June 24, 1993.
- _____, “Report on the Bottom-Up Review,” Oct. 15, 1993.
- ASPIN, Les and Rep. William Dickinson, “Defense for a New Era: Lessons of the Persian Gulf War,” House Armed Services Committee, March 30, 1992.
- Associated Press, “General Says US Troops Tired, Backs Forces Boost,” *Washington Post*, March 15, 2002.
- _____, “Key Events in UN Weapons Inspections in Iraq,” Sept. 17, 2002.
- _____, “Top Brass: Military Spread Too Thin,” *Washington Times*, March 21, 2002.
- ATKINSON, Rick and George C. Wilson, “Land War: Centerpiece of Strategy,” Dec. 10, 1990.
- BLAIR, Tony, “Iraq’s Weapons of Mass Destruction: The Assessment of the British Government,” Sept. 24, 2002.
- BOLKCOM, Christopher, “F-22 Raptor Aircraft Program,” Congressional Research Service Issue Brief, Nov. 5, 2001.
- BOWDEN, Mark. *Black Hawk Down*. Grove/Atlantic, 1999.
- BOWIE, Christopher J., Fred Frostic, Kevin Lewis, John Lund, David Ochmanek, and Philip Propper. *The New Calculus: Analyzing Airpower’s Changing Role in Joint Theater Campaigns*. RAND, 1993.
- BRANIGIN, William and Keith B. Richburg, “Alliance Sweeps Across North,” *Washington Post*, Nov. 12, 2001.
- BROWNSTEIN, Ronald and Paul Richter, “Critics Say Airpower Alone Won’t Suffice,” *Los Angeles Times*, Oct. 31, 2001.
- BUSH, George H. W., Speech at Aspen Institute Symposium, Aug. 2, 1990.
- _____, “Toward a New World Order,” Address to Joint Session of Congress, Sept. 11, 1990.
- BUSH, George W., Address to Joint Session of Congress, Sept. 20, 2001.
- _____, “A Decade of Deception and Defiance: Saddam Hussein’s Defiance of the United Nations,” background paper, Sept. 12, 2002.
- _____, Letter to Congress on Peacekeeping Forces in the Balkans, July 22, 2002.
- _____, Radio Address, Nov. 16, 2002.
- _____, Remarks at The Citadel, Sept. 23, 1999.
- _____, Remarks at the Citadel, Dec. 11, 2001.
- _____, Remarks on National Missile Defense, Dec. 13, 2001.
- _____, Remarks to UN General Assembly, Sept. 12, 2002.
- _____, Remarks on UN Resolution, Nov. 8, 2002.
- _____, Remarks at Virginia Military Institute, April 17, 2002.
- _____, Remarks at West Point Graduation Exercise, June 1, 2002.
- _____, State of the Union Address, Jan. 29, 2002.
- BUTLER, Amy, “DOD Considers Using Civilians to Pilot UAVs in Military Operations,” *Inside the Air Force*, Nov. 1, 2002.
- _____, “In Lieu of More End Strength, USAF Considers Shifting 26,000 Jobs,” *Inside the Air Force*, Nov. 8, 2002.
- CAHLINK, George, “Under the Rubble,” *Air Force Magazine*, November 2002.
- CALLANDER, Bruce D., “Drawdown and Pain,” *Air Force Magazine*, January 1992.
- _____, “Going: A Fifth of the Force,” *Air Force Magazine*, February 1991.
- CANAN, James W., “Global Power From American Shores,” *Air Force Magazine*, October 1989.
- _____, “Lesson Number One,” *Air Force Magazine*, October 1991.
- CHENEY, Dick, “Defense Strategy for the 1990s: The Regional Defense Strategy,” January 1993.
- _____, Speech at Republican National Convention, Aug. 2, 2000.
- CLARK, Wesley K. *Waging Modern War*. Public Affairs/Perseus, 2001.
- CLINTON, William J. *Between Hope and History: Meeting America’s Challenges for the 21st Century*. Times Books, 1996.
- _____, “Why We’re Sending Troops to Bosnia,” Address to the Nation, Nov. 27, 1995.
- COHEN, William S., Annual Report to the President and Congress, January 2001.

- COMMISSION ON ROLES AND MISSIONS OF THE ARMED FORCES, "Directions for Defense," May 1995.
- CONGRESSIONAL BUDGET OFFICE, "The Budget and Economic Outlook: Fiscal Years 2002-2011," January 2001.
- _____, "The Budget and Economic Outlook: Fiscal Years 2003-2012," January 2002.
- _____, "The Budget and Economic Outlook: An Update," August 2002.
- _____, "Budgeting for Defense: Maintaining Today's Forces," Sept. 14, 2000.
- _____, "The Economic and Budget Outlook: Fiscal Years 1990-1994," January 1989.
- _____, "The Effects of Aging on the Costs of Operating and Maintaining Military Equipment," August 2001.
- _____, "Reducing the Deficit: Spending and Revenue Options," February 1993.
- CORDESMAN, Anthony H., "Iraq's Military Capabilities in 2002: A Dynamic Net Assessment," Center for Strategic and International Studies, September 2002.
- _____, "US Defense Policy: Resources and Capabilities," Working Paper No. 98, Division of International Studies, Woodrow Wilson International Center for Scholars, December 1993.
- CORRELL, John T., "The Base Force Meets Option C," *Air Force Magazine*, June 1992.
- _____, "Breakthrough Force," *Air Force Magazine*, April 2001.
- _____, "The EAF in Peace and War," *Air Force Magazine*, July 2002.
- _____, "From Sensor to Shooter," *Air Force Magazine*, February 2002.
- _____, "Lessons in Limited Force," *Air Force Magazine*, February 1999.
- _____, "The Long, Dark Night of the Deficit," *Air Force Magazine*, January 1992.
- _____, "The Murky Edges of Mootwah," *Air Force Magazine*, July 1996.
- _____, "The New American Way of War," *Air Force Magazine*, April 1996.
- _____, "The Purpose of War," *Air Force Magazine*, January 2001.
- _____, "Roots of Failure," *Air Force Magazine*, February 1994.
- _____, "Signs of a Revolution," *Air Force Magazine*, January 1995.
- _____, "The Troop Losses Mount," *Air Force Magazine*, May 1992.
- _____, "Visions," *Air Force Magazine*, September 2000.
- COYNE, James P. *Airpower in the Gulf*. Aerospace Education Foundation, 1992.
- CNN.com, "Iraq Says UN Plan to Resume Arms Inspections is a No-Go," April 16, 2000.
- CROSSETTE, Barbara, "France Rejects UN Nominee for Iraq Inspection Panel," *New York Times*, Jan. 18, 2000.
- DEPARTMENT OF DEFENSE, "Department of Defense Amended Budget for FY 2002," June 27, 2001.
- _____, "FY 1992-93 Department of Defense Budget Request," Feb. 4, 1991.
- _____, "FY 1994 Defense Budget Begins New Era," March 27, 1993.
- _____, "FY 2003 Defense Budget," briefing charts, February 2002.
- _____, "Kosovo/Operation Allied Force After-Action Report to Congress," Jan. 31, 2000.
- _____, "National Defense Budget Estimates for FY 2003," March 2002.
- _____, Nuclear Posture Review, submitted to Congress Dec. 31, 2001, released Jan. 9, 2002.
- _____, "An Overview of the Changing Department of Defense: Strategy, Budget, and Forces," October 1991.
- _____, MRS-05 Executive Summary (Mobility Requirements Study), January 2001.
- _____, *Quadrennial Defense Review*, May 1997.
- Department of State, "Bosnia Fact Sheet: Chronology of the Balkan Conflict," Dec. 6, 1995.
- DEPTULA, Brig. Gen. David A., "Effects-Based Operations: Change in the Nature of Warfare," Aerospace Education Foundation, 2001.
- DEYOUNG, Karen and Jim VandeHei, "Bush Delivers Iraq Resolution: President Asks Unlimited Power to Act Without Further Requests," *Washington Post*, Sept. 20, 2002.
- DUDNEY, Robert S., "Defense Spending: Illusions and Realities," *Air Force Magazine*, April 2000.
- DUDNEY, Robert S. and Peter Grier, "Bush's Nuclear Blueprint," *Air Force Magazine*, March 2002.
- FAS Military Analysis Network, "Operation Deliberate Force," April 5, 1999.
- _____, "Operation Restore Hope," March 4, 2002.
- FITZSIMONDS, James R. and Jan M. Van Tol, "Revolutions in Military Affairs," *Joint Forces Quarterly*, Spring 1994.
- FLEISCHER, Ari, White House press briefing, Feb. 5, 2001.
- FOGLEMAN, Gen. Ronald R., "Airpower and the American Way of War," Air Force Association Symposium, Orlando, Fla., Feb. 15, 1996.
- _____, Remarks to Air Force Association Air Warfare Symposium, Orlando, Fla., Feb. 24, 1995.
- _____, "The Space Commission Report: Organizing for Future National Security Priorities in Space," DFI International Aerospace Power Seminar, Feb. 1, 2001.
- _____, Testimony to House National Security Committee, March 13, 1996.
- FRANKEL, Glenn, "Blair: Iraq Can Deploy Quickly," *Washington Post*, Sept. 25, 2002.
- FREEDMAN, Lawrence, "The Revolution in Strategic Affairs," Adelphi Paper 318, International Institute for Strategic Studies, 1998.
- FUKUYAMA, Francis, "The End of History," *The National Interest*, Summer 1999.
- GALDI, Theodor, "Revolution in Military Affairs? Competing Concepts, Organizational Responses, Outstanding Issues," Congressional Research Service, Dec. 11, 1995.
- GELMAN, Barton, "Defense Budget 'Treading Water'," *Washington Post*, March 28, 1993.
- GELMAN, Barton and Edward Walsh, "President Narrows Goals for Airstrikes," *Washington Post*, Feb. 7, 1998.
- GILBERT, Nina, "Sharon: Israel Will Respond If Attacked By Iraq," *Jerusalem Post*, Oct. 29, 2002.
- GORDON, Michael R., "Cuts Force Review of War Strategies," *New York Times*, May 30, 1993.
- GORDON, Michael R. and Gen. Bernard E. Trainor. *The Generals' War*. Little, Brown, 1995.
- GOURÉ, Daniel and Jeffrey M. Ranney. *Averting the Defense Train Wreck in the New Millennium*. Center for Strategic & International Studies, 1999.
- GRAHAM, Bradley, "Pentagon Plans a Redirection in Afghanistan," *Washington Post*, Nov. 20, 2002.

- GRANT, Rebecca, "The Afghan Air War," Air Force Association Special Report, September 2002.
- _____, "The Airpower of Anaconda," *Air Force Magazine*, September 2002.
- _____, *The B-2 Goes to War*. Iris Press, 2001.
- _____, "The F-22 Raptor: Air Dominance for Tomorrow's Threat," IRIS Independent Research, 2002.
- 48 _____, "The Kosovo Campaign: Aerospace Power Made It Work," Air Force Association, September 1999.
- _____, "Nine Myths About Kosovo," *Air Force Magazine*, June 2000.
- _____, Remarks to Air Force Association Senior Leader Advisory Group, July 31, 2002.
- _____, "Transformation and the Joint Air Component," Air Force Association Policy Forum, Sept. 17, 2002.
- _____, "True Blue: Behind the Kosovo Numbers Game," *Air Force Magazine*, January 2000.
- _____, "Wesley Clark's War," *Air Force Magazine*, September 2001.
- HALBERSTRAM, David. *War in a Time of Peace: Bush, Clinton, and the Generals*. Scribner, 2001.
- HAWLEY, Gen. Richard E., USAF (Ret.), "Swinging the Air Power Pendulum: The Case for Returning to a Bomber-Centric Attack Force," *Strategic Review*, Spring 2001.
- HEBERT, Adam J., "The Return of NORAD," *Air Force Magazine*, February 2002.
- HERSH, Seymour M., "King's Ransom: How Vulnerable Are the Saudi Royals?" *The New Yorker*, Oct. 22, 2001.
- "Hit the Ground," *New Republic*, Nov. 19, 2001.
- Hicks & Associates, "Rethinking US Combat Airpower Modernization: How Small Changes Could Make a Big Difference," April 2000.
- HORNER, Gen. Charles A., USAF (Ret.), "Testimony on Bomber Force Modernization, House National Security Procurement Subcommittee, Sept. 12, 1996.
- HOSMER, Stephen T., "The Conflict Over Kosovo: Why Milosevic Decided to Settle When He Did," RAND, 2001.
- House Armed Services Committee news release, "Aspin: Post-Cold War Debate Over Use of Military Underway," Sept. 21, 1992.
- Institute of Land Warfare, Association of the US Army, "Desert Victory: The US Army in the Gulf," February 2001.
- Public Law 105-338, "Iraq Liberation Act of 1998," Oct. 31, 1998.
- JAFFE, Lorna S., "The Development of the Base Force, 1989-1992," Joint History Office, Office of the Chairman of the Joint Chiefs of Staff, July 1993.
- JAMES, Lt. Gen. Daniel III, Director, Air National Guard, Defense Writers Group, Sept. 26, 2002.
- _____, Remarks to Air Force Association National Convention, Sept. 18, 2002.
- JOINT CHIEFS OF STAFF, "Concept for Future Joint Operations: Expanding Joint Vision 2010," May 1997.
- _____, 1991 Joint Military Net Assessment, March 1991.
- _____, 1992 Joint Military Net Assessment, September 1992.
- _____, "Joint Vision 2010," July 1996.
- _____, "Joint Vision 2020," June 2000.
- Joint Pub 3-07, "Joint Doctrine for Military Operations Other Than War," June 16, 1995.
- Joint Resolution of Congress, Authorization for the Use of Military Force Against Iraq, Oct. 10, 2002.
- JUMPER, Gen. John P., Chief of Staff, US Air Force, "Operationalizing the QDR: Doing the Right Thing for the Nation," DFI Aerospace Power series, Oct. 16, 2001.
- _____, Remarks to Air Force Association symposium, Los Angeles, Nov. 16, 2001.
- _____, Press conference, Pentagon, Nov. 7, 2001.
- _____, "A Word From the Chief: Why 'Air and Space'?" *Air & Space Power Journal*, Fall 2002.
- KAGAN, Robert and William Kristol, "No Defense," *The Weekly Standard*, July 23, 2001.
- KAPLAN, Lawrence F., "How to Send a Message: Use AT&T, Not USAF," *Wall Street Journal*, Dec. 23, 1998.
- KAMINSKI, Paul G., "Heavy Bomber Force Study," Department of Defense, May 3, 1995.
- KEEGAN, John, "Please Mr. Blair, Never Take Such Risks Again," London *Daily News*, June 6, 1999.
- KESSLER, Glenn, "A Muscular First Step: Bush Gains Freedom, Negotiating Power," *Washington Post*, Oct. 11, 2002.
- KREISHER, Otto, "Hawley's Warning," *Air Force Magazine*, July 1999.
- KREPINEVICH, Andrew F., "The Military-Technical Revolution: A Preliminary Assessment," Pentagon Office of Net Assessment, July 1992.
- LAMBETH, Benjamin S. *NATO's Air War for Kosovo*. RAND, 2001.
- _____, "Task Force Hawk," *Air Force Magazine*, February 2002.
- LAROCQUE, Steve, "Congress First Voted to Back Regime Change in Iraq in 1998," US Department of State International Information Programs, Sept. 19, 2002.
- LARSON, Eric V., David T. Orletsky and Kristin Leuschner, "Defense Planning in a Decade of Change: Lessons From the Base Force, Bottom-Up Review, and Quadrennial Defense Review," RAND, 2001.
- LEDERER, Edith M., "Iraq Chipping Away at Sanctions," Associated Press, Nov. 14, 2000.
- LEE, Christopher, "Army Weighs Privatizing Close to 214,000 Jobs," *Washington Post*, Nov. 3, 2002.
- LOH, Gen. John Michael, Remarks at Air Force Association symposium, Orlando, Fla., Jan. 31, 1992.
- MCCAIN, Sen. John, "No Time to Sleep," *Washington Post*, Oct. 24, 2002.
- MCCARTHY, Gen. James P., USAF (Ret.), Special Department of Defense news briefing on Defense Transformation, June 12, 2001.
- _____, Transformation Study Report, Executive Summary, April 27, 2001.
- MCPEAK, Gen. Merrill A., "Presentation to the Commission on Roles and Missions," Sept. 14, 1994.
- MEHURON, Tamar A., "Aspin's Challenge," *Air Force Magazine*, June 1992.
- _____, "Leaning Hard on the Guard and Reserve," *Air Force Magazine*, October 2002.
- _____, "The Peace Dividend: \$2 Trillion," *Air Force Magazine*, November 1999.
- MILHOLLIN, Gary and Kelly Motz, "Iraq: The Snare of Inspections," *Commentary*, October 2002.
- MOORE, Molly and Kamran Khan, "Big Ground Force Seen as Necessary to Defeat Taliban," *Washington Post*, Nov. 2, 2001.
- MUFSON, Steve, "10 Leading Lawmakers Urge Targeting of Iraq," *Washington Post*, Dec. 6, 2001.
- MYERS, Gen. Richard B., "Strategic Master Plan," Air Force Space Command, March 20, 1999.
- NATIONAL DEFENSE PANEL, "Transforming Defense: National Security in the 21st Century," December 1997.
- NELSON, Craig. *The First Heroes*. Viking, 2002.

- Newsweek*, "Rumsfeld's Big Worries," May 6, 2002.
- NUNN, Sen. Sam., Speech to the Senate, Oct. 21, 1993.
- OCHMANEK, David A. and John Bordeaux, "The Lion's Share of Power Projection," *Air Force Magazine*, June 1993.
- _____, Edward R. Harshberger, David E. Thaler, and Glenn A. Kent, "To Find and Not to Yield: How Advances in Information and Firepower Can Transform Theater Warfare," RAND, 1998.
- OFFICE OF HOMELAND SECURITY, "National Strategy for Homeland Security," July 2002.
- OFFICE OF MANAGEMENT AND BUDGET, "The Budget for Fiscal Year 2002, Historical Tables," February 2001.
- OFFICE OF THE PRESIDENT OF THE UNITED STATES, "National Security Strategy of the United States," January 1988.
- _____, "National Security Strategy of the United States," January 1993.
- _____, "A National Security Strategy of Engagement and Enlargement," July 21, 1994.
- _____, "A National Security Strategy of Engagement and Enlargement," February 1995. (Revised version of July 1994 document)
- _____, "A National Security Strategy for a New Century," May 1997.
- _____, "A National Security Strategy for a New Century," October 1998.
- _____, "A National Security Strategy for a New Century," December 1999.
- _____, "A National Security Strategy for a Global Age," December 2000.
- _____, "The National Security Strategy of the United States of America," Sept. 19, 2002.
- _____, "National Strategy to Combat Weapons of Mass Destruction," Dec. 10, 2002.
- O'HANLON, Michael, "At the Pace of the Offensive, the Taliban Will Survive the Winter," *Los Angeles Times*, Oct. 26, 2001.
- OWENS, Mackubin T., "The Case for Ground Troops," *Wall Street Journal*, Oct. 31, 2001.
- Pentagon news release, "Secretary Rumsfeld Announces Major National Security Space Management and Organizational Initiative," May 8, 2001.
- PERRY, William J., Secretary of Defense, "A Defense Strategy for the Post-Cold War World," Annual Report to Congress, March 4, 1996.
- _____, "Hierarchy of Interests" and "Nuclear Posture Review," in Annual Report to the President and the Congress, February 1995.
- _____, Testimony to Senate Defense Appropriations Subcommittee, July 12, 1994.
- PINCUS, Walter, "US Strike Kills Six in Al Qaeda," *Washington Post*, Nov. 5, 2002.
- PINE, Art, "US May Limit Its Wars to One at a Time," *Los Angeles Times*, May 31, 1993.
- POWELL, Colin. *My American Journey*, Ballantine, 1996.
- _____, "National Military Strategy of the United States," January 1992.
- PURDUM, Todd S., "US Weighs Tackling Iraq On Its Own, Powell Says," *New York Times*, Feb. 7, 2002.
- Report of the Commission to Assess United States National Security Space Management and Organization, Jan. 11, 2001.
- REYNOLDS, Richard T. *Heart of the Storm: The Genesis of the Air Campaign Against Iraq*. Air University Press, 1995.
- RICE, Condoleeza, "Promoting the National Interest," *Foreign Affairs*, January/February 2000.
- RICKS, Thomas, "Clinton's Pentagon Budget to Stand," *Washington Post*, Feb. 7, 2001.
- Richmond *Times Dispatch*, "Why Saddam Yawns," Feb. 13, 1998.
- ROBERTSON, Gen. Charles T., US Transportation Command, testimony to Senate Armed Services Committee on Seapower, April 26, 2001.
- ROCHE, James G., Secretary of the Air Force, "Achieving Battlespace Superiority: The Dynamic Promise of Air and Space Power," DFI International, Air & Space Seminar Series, May 22, 2002.
- _____, Air Force Association Convention, Sept. 18, 2002.
- _____, "Defense Authorization Request for Fiscal Year 2003 and the Future Years Defense Program," Feb. 12, 2002.
- _____, "Investing in the Future: Aerospace Power in the New National Security Strategy," DFI International Aerospace Power Series, July 19, 2001.
- _____, Q&A with Defense Writers Group, Jan. 18, 2002.
- _____, and Gen. John Jumper, Senate Appropriations Defense Subcommittee hearing on FY 2003 budget, May 15, 2002.
- ROLFSEN, Bruce, "Secretary of the Air Force James Roche: 10,000 More Airmen Needed," *Air Force Times*, Jan. 21, 2002.
- RUMSFELD, Donald H., Secretary of Defense, Annual Report to the President and the Congress, Aug. 15, 2002.
- _____, Briefing at Foreign Press Center, Nov. 26, 2002.
- _____, "Guidance and Terms of Reference for the 2001 Quadrennial Defense Review," June 22, 2001, revised July 26, 2001.
- _____, "Guidelines When Considering Committing US Forces," March 2001.
- _____, Media availability at the Air Force Academy, May 29, 2002.
- _____, "Quadrennial Defense Review Report," Sept. 30, 2001.
- _____, Speech on Transformation, National Defense University, Jan. 31,
- _____, Testimony to the Senate Armed Services Committee, June 21, 2001.
- _____, Testimony to the Senate Armed Services Committee, June 28, 2001.
- _____, Testimony to the House and Senate Armed Services Committees, Feb. 5 and 6, 2002.
- _____, "Transforming the Military," *Foreign Affairs*, May/June 2002.
- _____, and Deputy Secretary of Defense Paul Wolfowitz, Pentagon news briefing, May 8, 2002.
- RYAN, Gen. Michael E., Statement to the Senate Armed Services Committee, Sept. 27, 2000.
- SCOWCROFT, Brent, Chairman, "Final Report of the Independent Bomber Force Review Commission," July 23, 1997.
- SHALIKASHVILI, Gen. John M., Chairman of the Joint Chiefs of Staff, "National Military Strategy of the United States of America: A Strategy of Flexible and Selective Engagement," February 1995.
- _____, "Shape, Respond, Prepare Now—Military Strategy for a New Era," 1997.
- SHANKER, Thom, "Rumsfeld Favors Forceful Actions to Foil an Attack," *New York Times*, Oct. 14, 2002.
- SHULTZ, George P., "The Work of Diplomacy," National Foreign Affairs Training Center, May 29, 2002.
- SKELTON, Rep. Ike, Chairman, Military Forces and Personnel Subcommittee, Opening Statement at Hearing on Army Personnel Requirements, Oct. 27, 1993.
- _____, "Why Slash Our Forces While We're at War?" *Baltimore Sun*, June 17, 2002.

- SLEVIN, Peter and Karen DeYoung. "N. Korea Reveals Nuclear Program," *Washington Post*, Oct. 17, 2002.
- SLOAN, Stanley R., "The United States and the Use of Force in the Post-Cold War World," Congressional Research Service Report, July 20, 1994.
- SMITH, Sen. Bob, "The Challenge of Spacepower," Fletcher School/Institute for Policy Analysis conference, Cambridge, Mass., Nov. 18, 1998.
- Special Report by the Editors of *Air Force Magazine*, "Decoding the New Defense Budget," The Air Force Association, April 19, 1993.
- Stratfor.com, Situation Reports, Oct. 23-Nov. 29, 2001.
- SULLIVAN, Gordon R., Remarks to US Army Reserve Senior Leaders Conference, Crystal City, Va., May 19, 2001.
- THALER, David E. and Daniel M. Norton, "Air Force Operations Overseas in Peacetime: Optempo and Force Structure Implications," RAND, 1998.
- TRPAK, John A., "The Airlift Shortfall Deepens," *Air Force Magazine*, April 2001.
- _____, "Bomber Questions," *Air Force Magazine*, September 2001.
- _____, "A Clamor for Airlift," *Air Force Magazine*, December 2000.
- _____, "Deliberate Force," *Air Force Magazine*, October 1997.
- _____, "Enduring Freedom," *Air Force Magazine*, February 2002.
- _____, "Find, Fix, Track, Target, Engage, Assess," *Air Force Magazine*, July 2000.
- _____, "Heavyweight Contender," *Air Force Magazine*, July 2002.
- _____, "Long Arm of the Air Force," *Air Force Magazine*, October 2002.
- _____, "Mobility Boom," *Air Force Magazine*, June 2002.
- _____, "Projections From the QDR," *Air Force Magazine*, January 1997.
- _____, "The Space-Based Radar Plan," *Air Force Magazine*, January 2002.
- _____, "A Strike Fighter for the Future," *Air Force Magazine*, January 2002.
- _____, "Send in the UCAVs," *Air Force Magazine*, January 2001.
- _____, "The Three Fighters," *Air Force Magazine*, July 2001.
- _____, "The Washington Tanker Wars," *Air Force Magazine*, July 2002.
- _____, "With Stealth in the Balkans," *Air Force Magazine*, October 1999.
- TYLER, Patrick, "Pentagon Imagines New Enemies to Fight in Post-Cold War Era," *New York Times*, Feb. 17, 2001.
- United Nations Resolution 1441, Nov. 9, 2002.
- UNITED STATES COMMISSION ON NATIONAL SECURITY/21ST CENTURY, "New World Coming: American Security in the 21st Century," Sept. 15, 1999.
- _____, "Seeking a National Strategy," April 15, 2000.
- US AIR FORCE, "Air Force Performance in Desert Storm," April 1991.
- _____, Air Force Posture Statement 2002.
- _____, "Air Force Report on Bomber Force Structure and the B-1 Consideration," February 2002.
- _____, "The Air War Over Serbia: Aerospace Power in Operation Allied Force, Initial Report," April 25, 2000.
- _____, "America's Air Force: Global Vigilance, Reach & Power. Vision 2020," June 19, 2000.
- _____, "The Bomber Roadmap: Enhancing the Nation's Conventional Bomber Force," June 1992.
- _____, "Global Engagement: A Vision for the 21st Century Air Force," November 1996.
- _____, "Global Presence," Feb. 27, 1995.
- _____, "Global Reach, Global Power," June 1990.
- _____, "Global Reach, Global Power: The Evolving Air Force Contribution to National Security," December 1992.
- _____, Issues Book, 1995, 1997.
- _____, "Reaching Globally, Reaching Powerfully: The United States Air Force in the Gulf War," September 1991.
- _____, "Right Sizing the F-22 Force," working paper, June 2002.
- _____, "Strategic Force," 1997.
- _____, "The Time Value of War," AF/XOX briefing, January 1992.
- _____, "The USAF Transformation Flight Plan," June 28, 2002.
- _____, "White Paper on Long-Range Bombers," March 1, 1999.
- VANDERHEI, Jim and Juliet Eilperin, "Congress Passes Iraq Resolution," *Washington Post*, Oct. 11, 2002.
- VAN RIPER, Paul K., "Preparing for War Takes Study and Open Debate," US al Institute *Proceedings*, November 2002.
- VICK, Alan, David T. Orletsky, Abram N. Shulsky, and John Stillion, "Preparing the US Air Force for Military Operations Other Than War," RAND, 1997.
- Washington Post*, "A Shallow Disagreement," Oct. 2, 2002.
- WATTS, Barry D., "What is the 'Revolution in Military Affairs'?" Northrop-Grumman Analysis Center, April 6, 1995.
- WEINBERGER, Caspar W., Secretary of Defense, "The Uses of Military Power," remarks to the National Press Club, Nov. 28, 1984.
- WEISMAN, Jonathan, "Defense Secretary Rebukes Top Commanders," *USA Today*, March 29, 2002.
- White House, "Fact Sheet: News About the War Against Terror," Nov. 16, 2002.
- _____, "Fact Sheet: Operation Enduring Freedom: One Year of Accomplishments," Oct. 7, 2002.
- ZAKARIA, Fareed, "Face the Facts: Bombing Works," *Newsweek*, Dec. 3, 2001.
- ZOLLIK, Robert B., Center for Strategic & International Studies, Testimony to the Senate Budget Committee, Feb. 24, 1999.



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