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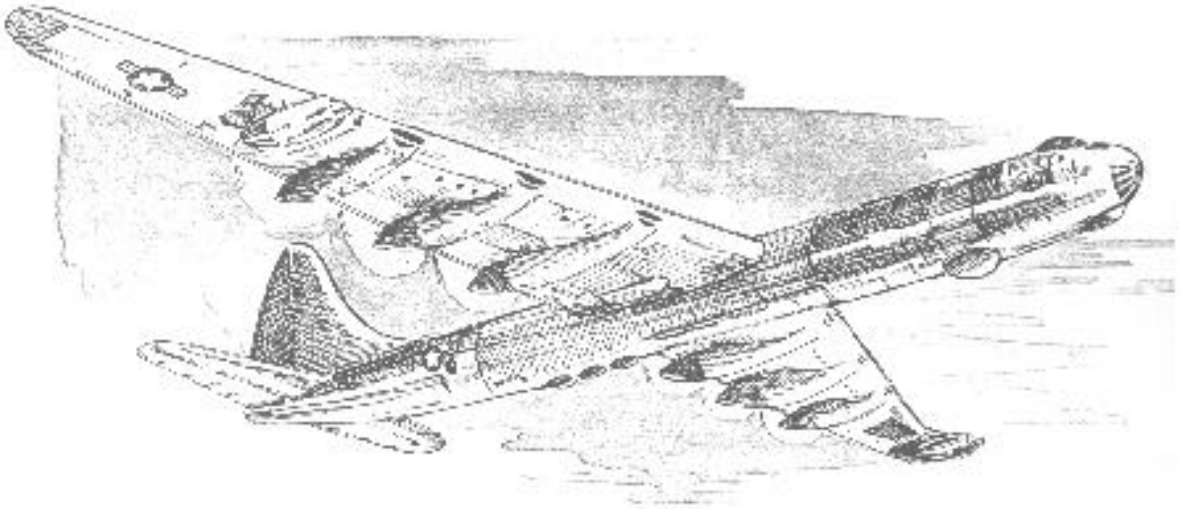

The Air Force in the Cold War, 1945–60

Birth of a New Defense Paradigm *

DR STEPHEN L. MCFARLAND

SINCE THE earliest years of the Republic, jointness for America's military services has been a rare occurrence, most visibly manifested in the Fort Henry, Fort Donelson, and Vicksburg campaigns in the Civil War and those of the South Pacific in World War II. Jointness was not necessary at other timesbecause of a simple paradigm that governed the American military in peacetime—the landand the sea, two military departments, Armysubordinate to Navy. The system worked—the Navy was the first line of defense, receiving and deserving the bulk of the defense budgetbecause of its need for constant preparedness and because of the long lead time required to produce its weapons. The Army could always mobilize later, during an interregnum provided by the Navy. A new technology—the airplane—added air to the land-sea paradigm but left its priorities unchanged, as aircraft became auxiliary to land and sea forces.[1]

The first serious threat to this status quo came

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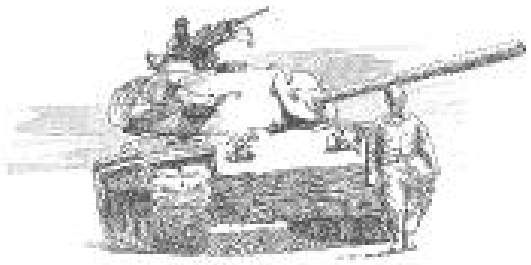

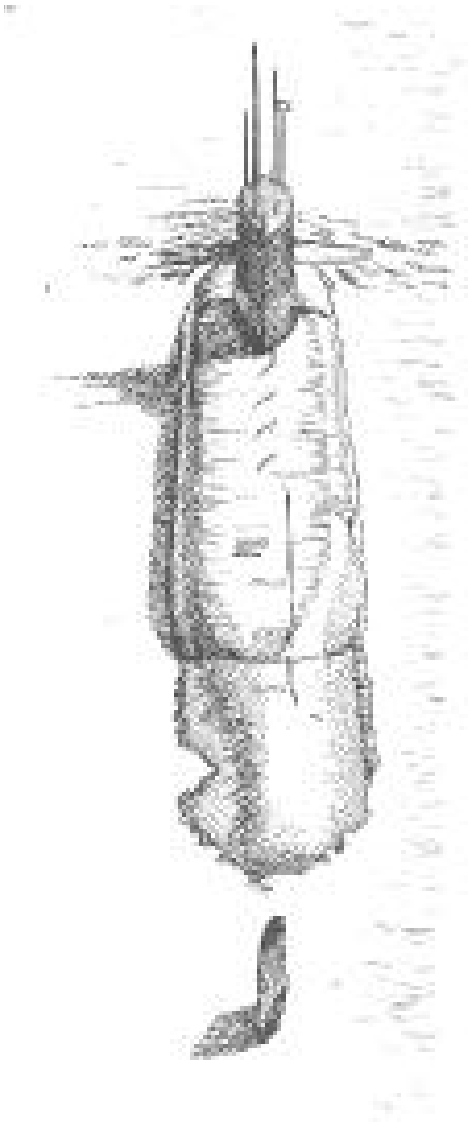

from Brig Gen William Mitchell, who, beginning in 1921, labored to reverse the paradigm's priorities, arguing that aircraft had made armies and navies less important or even obsolete for future wars. His court-martial in 1925 muffled such talk and extended the life of the paradigm for two decades. Meanwhile, the Air Corps remained officially subordinate to the Army, which was subordinate to the Navy in defense of the United States. Behind the scenes, airmen continued to challenge the paradigm's priorities, while the inevitable advance of technology chipped away at its underlying assumptions.

Four factors forced a revision. First, developing technology made the United States vulnerable to aerial attack, directly challenging the Navy's role as America's first line of defense and making aerial defense the top priority. Second, the nature of the only apparent threat to American security also required the Air Force to have first priority. Third, the atomic bomb revolutionized America's military strategy, elevating the Air Force to first priority and forcing new roles and missions on the military services. Finally, the Air Force had to be a force in being because aviation technology was complicated and expensive, requiring long production lead times and a major portion of the defense budget. Presidents Harry Truman and Dwight Eisenhower pressed for unification .

and jointness in the postwar American military to save money and increase efficiency, but these four factors, which compelled a reorganization of the paradigm, made interservice discord nearly inevitable.

Evolving Technology

During World War II, plans of the Army, Navy, and Air Force for postwar defense were remarkably conservative until 6 and 9 August 1945 changed everything. The atomic bomb blinded most people to the classical rules of war and paralyzed their strategic thinking but presented a new type of war. Evolving technology overwhelmed old assumptions about war, especially with regard to its speed. Three months separated the firing on Fort Sumter and the First Battle of Bull Run. Five weeks separated the assassination of Archduke Ferdinand and the outbreak of World War I. Though Pearl Harbor forced the United States into war with little warning, America still had five months before its first critical battle at Midway. Nuclear weapons meant the next war might be over in minutes. The Army and Navy offered no new strategy to deal with these changing conditions. The oceans were no longer defensive bastions—the intercontinental bomber, especially with in-flight refueling, was on the horizon. Mobilizing an army after war began would be too late. Airmen proposed the only original solution, however flawed—deterrence based on nuclear-armed bombers directed against an enemy's large, urban industrial concentrations.

The atomic bomb of the 1940s was an offensive weapon effective only against large, urban industrial targets—the easiest to find and

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hit—which were appropriate considering the small number of bombs and bombers available and the tactical limitations of the delivery system.[2] The Navy had trouble adjusting to the bomb because for over 150 years, its targets had been enemy naval forces, commerce, or coastal fortifications—all improper targets for early nuclear weapons. Its carrierborne aircraft lacked the range to attack targets in the Soviet interior.[3] The Army's traditional objectives—enemy land forces and territory—were also inappropriate targets for the few atomic bombs available. Gen Carl Spaatz was correct in identifying the atomic bomb as "essentially an air weapon."[4] The Air Force experience in World War II showed that no defense was possible against such airborne weapons. Offense was no longer just the best defense; it was the only defense.

When David Lilienthal, chairman of the Atomic Energy Commission (AEC), inspected the atomic laboratory at Los Alamos in January 1947, he found only one atomic bomb that was "probably operable." By the spring of 1947, the AEC had no more than 12 bombs, with none ready for immediate use.[5] Such numbers demanded an Air Force countervalue strategy in which cities were the only useful targets. The Sandstone tests of 1948 perfected the levitated core bomb, which increased yields by up to 75 percent, while the composite plutonium-uranium core allowed the use of cheaper and more available fissionable materials. These technological breakthroughs opened the way for a bigger strategic air force and further reduced the need for spending on the Army and Navy. Combined with Korea and the Soviet development of an atomic capability, more bombs meant dramatically greater complexity in American defense planning and more opportunities for interservice strife.

The initial vehicle for Strategic Air Command's (SAC) nuclear deterrent was the combat-proven B-29, though its limited range and dependence on overseas bases left room for carrier-launched strategic bombing if the range of naval aircraft could be extended. The Navy–Air Force collision over what the Air Force thought was its function—strategic bombing—therefore focused on the most controversial weapon system of the age: the B-36. As the Air Force struggled to perfect in-flight refueling, the B-36 appeared to be the only bomber that could carry out the atomic strategy forced on the United States by new technology and limited budgets. Built with nearly obsolete technology and procured amidst disproven charges of corruption, this expensive aircraft became the focus of debate over the new technology of nuclear warfare.[6] It was the first weapon in American military history that could strike at overseas enemies without requiring the assistance of the Navy, although questions about its actual range were never completely resolved. The B-36, perhaps as much as the atomic bomb, spelled the end of the pre–World War II military paradigm.

During the open discussion of American strategy that accompanied the "revolt of the admirals"[7] in 1949, the Navy offered mobile, nuclear-equipped, carrier-launched aircraft as an alternative to SAC's city-busting strategy. Though the atomic bomb first went to sea on the USS *Franklin Roosevelt* in 1950, the limited range of carrier aircraft kept most Soviet targets beyond reach and brought carrier task forces into the dangerous, restricted waters of the Baltic and Mediterranean Seas.[8] The Navy fought for a decade to preserve a strategic role, but "what saved the Navy and much of its combat mission," according to Secretary of the Air Force W. Stuart Symington, "was the Polaris submarine"—firing missiles aimed at the Air Force's urban industrial targets.[9]

Nature of the Soviet Threat

The Joint Chiefs of Staff (JCS) had identified the Soviet Union as the only threat to America's postwar security. Against such a huge continental power with the world's largest army, no navy, and no overseas trade, the US Army and Navy were impotent in case of war. Whether by *guerre de course* or *guerre de main*, the Soviet Union was beyond the Navy's reach. The Joint Intelligence Staff assumed that war would most probably result from a Soviet invasion of Western Europe and admitted the impossibility of stopping 213 Soviet divisions plus 84 more from sat

ellite nations.[10] The Air Force offered the only reasonable option—a relatively cheap atomic offensive, low in American casualties. Secretary Symington stated it most succinctly: "We can't swap the life of one of ours for each soldier of the many millions under arms in the totalitarian states."[11] Air Force general Hoyt S. Vandenberg said he could "not see how you can engage the enemy in other than that way."[12] America had just lost 405,399 soldiers, sailors, and airmen in a conventional war. An atomic strategic-bombing force could bring victory without heavy losses and also act as a powerful deterrent to Soviet aggression. Although Korea and Vietnam would eventually prove the limitations of this military strategy, in the 1940s and 1950s it was the logical choice against the perceived enemy.

From the time it was formed in March 1946, SAC bore responsibility for carrying out this offense against the Soviet Union because carrier-borne aircraft could not yet reach Soviet targets. In the greatest war in human history, the United States had struggled to mobilize 90 Army divisions. In 1947 the Soviet Union had 193 divisions and 10,500 aircraft to thrust into Europe. What force would stop them? The US Army had two divisions supported by 12 tactical air groups. Only Project Vista in the 1950s—the development of tactical battlefield atomic weapons—and the organization of NATO gave ground forces any reasonable chance of confronting the Soviet army in Europe. In 1947, when George F. Kennan, State Department Soviet expert, identified 10 vital centers in the Soviet Union, they were vulnerable only to SAC bombers carrying atomic bombs.[13] This atomic strategy against this particular enemy made armies and navies unnecessary except in support of SAC's bombers, although airmen had learned the lesson of the Mitchell affair and rarely expressed this conclusion.

The US Navy had no match among postwar navies, and American air superiority over the sea approaches to North America insured that an attack on the United States by sea would be suicidal. The attack would have to come by air, making the Air Force the new "first line of defense." Substituting the Air Force for the Navy in the old paradigm was not what airmen had in mind, however. The Air Force would be the "M-day" force, equipped to bomb the Soviet Union.[14] No bombing mission had been repulsed in the world war, prompting airmen to conclude that no real defense against attack from the air was possible and that the Navy could no longer defend the United States "against sudden and serious attack from abroad."[15] Defense resources, the Air Force argued, should go to the deterrent, atomic strategic-bombing force—defense through offense.

In this climate, the Air Force—specifically SAC—should have received a portion of the Pentagon budget commensurate with its role, but President Truman and Secretary of Defense James V. Forrestal attempted to balance the defense budget among the three services, leaving SAC in the late 1940s with all the responsibility but few of the resources.[16] When Truman replaced Forrestal with Louis A. Johnson in March 1949, the new defense secretary redistributed limited defense dollars to match America's military capabilities more accurately to the Soviet threat, cancelling the Navy's supercarrier—the USS *United States*—and investing more heavily in the Air Force's atomic bomber—the B-36. Korea and 54,246 dead Americans demonstrated the dangers of conventional wars and limitations of nuclear strategies but failed to alter President Eisenhower's judgment that the greatest threat to American security was the Soviet Union. Nuclear forces—SAC initially and the Navy's Polaris option later, matched to deter the Soviet threat—received priority in the Eisenhower defense budgets.[17]

Roles and Missions

New technology and the nature of the enemy forced new roles and missions on America's military services. The Navy scuttled unification and failed to delineate roles and missions through the National Security Act. President Truman then issued Executive Order 9877, which tried unsuccessfully to specify roles and missions. These would be the key to budget dollars because whoever controlled the nuclear mission would get the

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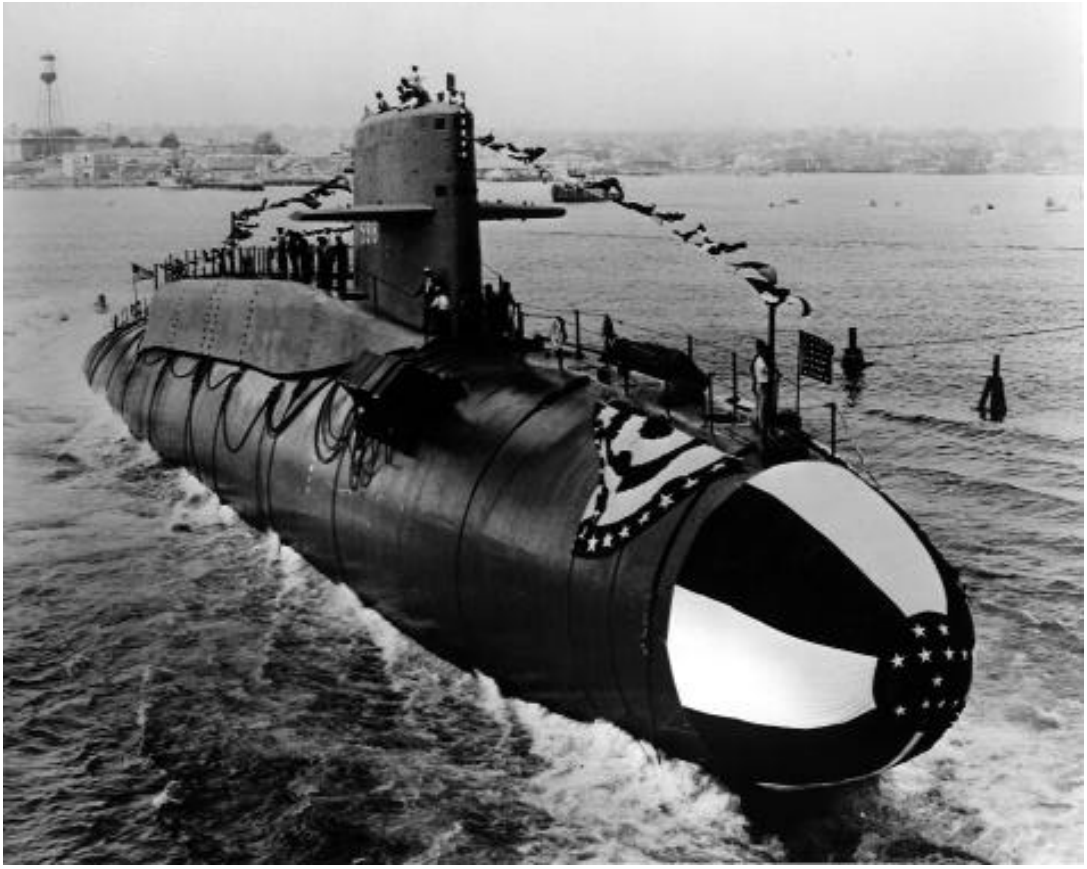
lion's share. Fast carriers and amphibious Marine forces were powerful weapons, but they would be of little use against the Soviet Union. This force was built for the Pacific, while America's national interests at the time were in Europe and the Atlantic. Even more conservative in its thinking was the Army, which largely ignored the atomic bomb while it planned for the next war to be a repeat of World War II. The war the Army knew how to fight was an invasion followed by a broad-front offensive across Western Europe. The Army and Navy would be of some use in the postwar world against minor enemies but not in the big show—the cold war. Gen Omar Bradley identified these minor conflicts as "the wrong war, at the wrong place, at the wrong time, and with the wrong enemy." More forcefully he said, "We will refuse absolutely to allow local wars to divert us from our central task."[18]

The Navy sought a strategic mission. Adm Chester Nimitz proposed that the Navy assume the mission of bombing the Soviet heartland—a task requiring supercarriers—though Adms Ralph A. Ofstie and Arthur Radford judged strategic bombing "of limited effect, . . . morally wrong, . . . [and] an erroneous concept of war." In any case, the Air Force already performed such a role, and its defenders responded accordingly. Gen Jimmy Doolittle told Congress's Thomas Committee in 1945 that aircraft carriers were obsolete, vulnerable, and of "no further use." General Spaatz argued that the Air Force



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should take over naval aviation because maintaining two air forces was a dissipation of money and resources. Symington testified before Congress that the American taxpayer could not afford two strategic bombing forces. General Vandenberg believed that carriers would be useful only in the antisubmarine role. General Bradley, chairman of the JCS, concluded that carriers would be needed only in support of amphibious operations, which the atomic bomb had made unnecessary.[19]

This clash over the bombing mission drove Defense Secretary Forrestal to call the joint chiefs to Key West, Florida, for three days in March 1948. There, the Air Force retained its control over the strategic bombing mission, with Navy assistance, but the Navy won the right to attack inland targets with nuclear weapons. Forrestal informed the chiefs that he and the president had therefore approved the USS *United States*, the first of the supercarriers, in support of the Navy's strategic role. Budget restrictions meant that funding this Navy mission would reduce the Air Force from the 70 groups the Finletter Commission[20] had believed essential to the 48 groups that a $14.4 billion budget for fiscal year 1950 could afford.

Forrestal called the chiefs to Newport, Rhode Island, in August 1948 to reclarify roles and missions. The Air Force again received primary responsibility for strategic bombing but would have to cooperate with the Navy in wartime.[21] Just as the USS *United States* had destroyed the Key West agreement, the B-36 destroyed Newport. When President Truman asked Forrestal to resign as defense secretary in March 1949, his successor, Louis Johnson, convinced Truman to cancel the supercarrier and divert money to purchase additional B-36s in support of the "atomic deterrent force." The resulting revolt of the admirals convinced Congress to amend the National Security Act, strengthening the secretary of defense and reducing the power of the individual service secretaries.

Opting for B-36s rather than supercarriers meant the Air Force would have the strategic

mission while the Navy and Army prepared for smaller, local wars. The Air Force believed that big bombers and atomic bombs would deter such little wars just as they would deter Bradley's big war. According to this logic, the Navy prepared for local wars it could win but would not need to fight. The Army prepared for a major war it could not win. And the Air Force prepared for a major war it would not fight, while ignoring the local wars it would fight.

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One could trace this development in postwar JCS war plans, beginning with Pincher in June 1946, which called for land and sea forces to retreat before a Soviet offensive while the Army Air Forces dropped atomic bombs on 20 Soviet industrial, government, and military centers from bases in England and Turkey. After strategic bombing had damaged the Soviet Union, the Navy would launch an air and naval blockade while the Army mobilized for a counteroffensive.[22] In August 1947, the war plan known as Broiler reflected an increasing reliance on the atomic bomb, hoping the atomic air offensive would stabilize the war in the first six months and possibly convince the Soviets to surrender. The joint chiefs approved neither plan, which in any case made little sense because America's atomic stockpile was not up to the task. According to AEC chairman Lilienthal, "It was assumed that we had a stockpile. We not only didn't have a pile; we didn't have a stock."[23]

The fall of Czechoslovakia forced the JCS to approve Grabber in March 1948, which was remarkably similar to Pincher and Broiler. The Navy opposed the plan because it required American forces to surrender control over the Mediterranean in the early days of a Soviet offensive, putting the Soviet coast beyond the range of carrier aircraft. But the JCS had to adopt an air-atomic offensive because America's conventional weakness left no alternative. During the Berlin blockade, President Truman's military option was the threat of an air-atomic offensive, despite continuing problems with the atomic arsenal. Navy objections to Grabber and the desire for greater flexibility after Berlin encouraged the creation of the Fleetwood plan, which still relied primarily on Air Force strikes with 133 atomic bombs against 70 Soviet cities but added a naval blockade of the Soviet coast and carrier aviation strikes against Soviet coastal cities. Truman and the Navy objected to the plan, the former because it relied on an immediate atomic offensive, the latter because the atomic offensive exceeded military objectives and violated traditional morality. With budgetary restraints, the small number of atomic bombs available, and the limits of bombing accuracy, Fleetwood's strikes against Soviet cities were the cheapest and most efficient way of fighting the Soviet Union—the objections of the president and Navy notwithstanding.

President Eisenhower's New Look strategy of massive retaliation—NSC-162, announced in his State of the Union Address on 7 January 1954—completed the transition to a strategy based on nuclear deterrence. President Truman had seen the nuclear bomb as a weapon of last resort, but President Eisenhower wanted it as a weapon of first resort and a means of deterring war. If the Soviet Union attacked Europe, the United States would use tactical nuclear weapons to stop the assault while SAC destroyed the Soviet homeland. By 1960 SAC had identified over 20,000 Soviet and Eastern bloc targets for nuclear attack and had 18,000 nuclear bombs to carry out a nuclear war.[24] Even though the Navy had jumped to 14 aircraft carriers and 16 air groups, the Air Force's aerial nuclear offensive—forced on it by technology, the nature of the enemy, and limited funding—had become America's first line of defense. There was no jointness in this process. In 1956 the National Security Council preauthorized SAC's use of nu

clear weapons to insure a rapid response.[25] Gens Maxwell Taylor and Matthew Ridgway wanted minimum nuclear deterrence and a greater emphasis on conventional forces, but Congress and the president supported maximum deterrence and the Air Force. The remaking of America's defense paradigm was complete.

The successful development of the Polaris missile and submarine was the Navy's opportunity to restore a portion of the traditional paradigm. President Eisenhower rejected a Navy suggestion that Polaris replace SAC, with the budget savings used to build up conventional forces. The Air Force wanted to put Polaris under SAC. In August 1959 Air Force general Nathan Twining, chairman of the JCS, established the Joint Strategic Target Planning Agency, with the SAC commander as director of targeting and a Navy officer as deputy director. The agency's assignment was to create a national strategic target list and single integrated operational plan (SIOP). This allowed Polaris to remain under Navy control but with targets set by SAC. The Navy did not consider this a victory, however, because Eisenhower ordered that Polaris be used to suppress Soviet defenses to clear the way for SAC attacks on the Soviet Union. The joint chiefs approved SAC's first SIOP in December 1960—over Navy objections.[26]

Budgetary Restrictions

The Department of Defense (DOD) came to life in an era of limited budgets. The lesson of World War II was that airpower, land power, and sea power were inseparable components of national strategy, but despite being the world's richest nation, America could not afford to have the world's largest and most powerful army, navy, and air force. DOD had to make choices and establish priorities. For over 100 years, the Navy had dominated the defense budget. After 1945 the Air Force was going to do to the Navy what the Navy had been doing to the Army for so many years. Navy resistance should have come as no surprise.

President Truman held the line on the military budget, which dropped from $45 billion in FY 1946 to $14.5 billion in FY 1947, $11.25 billion in FY 1948, and $11 billion in FY 1949 before rising to $14.2 billion in FY 1950. The conflict between the Navy and Air Force in the immediate postwar period, as Philip Crowl has observed, "was essentially a contest over slices of an ever-diminishing pie."[27] The Army had wanted a postwar force of 25 divisions, the Navy a two-ocean force of 300 ships, and the Air Force 70 groups. When Truman submitted his fiscal year 1949 budget to Congress in January 1948, the $11 billion he asked for would pay for 11 weak divisions, 277 ships (including 11 carriers), and 48 Air Force groups. Defense Secretary Johnson's cancellation of the USS *United States* supercarrier was unavoidable in the face of an $11 billion budget for fiscal year 1949.

In such an atmosphere, interservice strife was unavoidable. This defense budget meant that only the Navy could be number one in the world, leaving the Air Force's M-day force less than capable of performing the role assigned it by the joint chiefs. America's national strategy and the new defense paradigm were based on SAC's atomic bombs, though in the 1940s the continuing influence of the traditional paradigm kept defense spending roughly balanced among the three services. Friction was the product of too little funding and the gradual readjustment of priorities that accompanied evolving technology, changing roles and missions, and the nature of the Soviet enemy.

Only the Korean conflict soothed the discord, raising the budget for fiscal year 1951 to $47.8 billion, up from a planned $13 billion before the North Korean invasion, with the Army getting 41 percent, the Navy 26 percent, and the Air Force 33 percent. For fiscal year 1952, the Air Force received 44 percent and the Army and Navy 28 percent each of $59.9 billion, as the Air Force expanded toward 143 wings. Most Air Force funding went to SAC. Still, Korea and the intensifying cold war brought enough money for the JCS in October 1951 to establish force levels of 20 Army divisions; 409 Navy combat ships, with 12 carriers and three Marine divisions; and 143 Air Force wings.

Defense spending declined to $28.9 billion in

Even more conservative in its thinking was the Army, which largely ignored the atomic bomb while it planned for the next war to be a repeat of World War II.

FY 1955 before rising through the late 1950s to $41.4 billion in FY 1960, with the Air Force claiming 40 percent in FY 1955 and 47 percent in FY 1960 in support of Eisenhower's New Look nuclear strategy. Despite smaller percentages, higher funding allowed the Navy to exceed the strength levels authorized in 1951, rising to 14 carriers. It purchased large aircraft carriers, beginning with the USS *Forrestal* in 1955; tactical nuclear weapons for carrierborne aircraft, beginning in 1952; nuclear-powered submarines, beginning with the USS *Nautilus* in 1954; and the Polaris missile in 1960. These purchases prevented another Navy–Air Force confrontation like the one that accompanied the cancellation of the USS *United States* in April 1949. By the late 1950s, these new weapon systems made the Navy a full partner in national defense, with a strategic mission, an air force, and a future. In the meantime, despite higher percentages, Air Force strength fell to 137 wings overall although SAC continued to grow. Funding for the Army limited that service to only 17 weak divisions. Nevertheless, SAC had first priority—at least until Polaris. Even Admiral Radford, chairman of the JCS, admitted that strategic bombing was "most important."[28]

Conclusion

World War II proved the need for greater jointness or unification in America's defense paradigm, but the following 15 years brought little progress in that direction. In 1947 the National Security Act created the national military establishment with "three military departments separately administered." Reorganization in 1949 replaced it with DOD but made no move toward greater integration. Measures in 1953 created a direct chain of command that went from the president to the secretary of defense to the joint chiefs to the unified commands but left the individual service secretaries in the loop. President Eisenhower's Department of Defense Reorganization Act of October 1958 gave the secretary of defense greater authority and removed the service secretaries from the chain of command, while maintaining three "separately organized" military departments.

The Army had initiated greater jointness in 1944 with its proposal to Congress's Woodrum Committee for a single executive department with a single civilian and military leader. The Air Force went along but wanted its independence as the services accelerated toward unification. The Navy prevented unification in order to maintain the traditional paradigm that made it America's first line of defense. Changing technology, the nature of the Soviet enemy, changing roles and missions, and budgetary problems ended it anyway. Ironically, the Air Force favored unification, yet its atomic air strategy was the least joint of all the plans proposed in the 1940s and 1950s. Later events would prove the limitations of this strategy, just as events of this earlier period revealed the pitfalls of a disunified defense paradigm. □

Notes

1. In "Jointness: The Fundamental Problem: A Review of Joint Pub 1," *Airpower Journal* 6, no. 2 (Summer 1992), Col Dennis M. Drew argues that this paradigm was the natural result of the services' different viewpoints and operating environments: the restricted perspective of the Army, which fights for every hill and valley; the Navy, which operates globally, whose weapons have long lead times, and whose conflicts are sharp but limited; and the Air Force, which knows no bounds except "those imposed by technology or human endurance" (59).

2. Aaron L. Friedberg, "A History of the U.S. Strategic `Doctrine'—1945 to 1980," *Journal of Strategic Studies* 3 (December 1980): 40.

3. Edward Teller estimated that the Navy would not be able to damage the interior of the USSR unless it used a ship or submarine to deliver a dirty bomb of at least 1,000 megatons to a Soviet coastal city. See Richard Rhodes, *Dark Sun: The Making of the Hydrogen Bomb* (New York: Simon and Schuster, 1995), 418. The Soviets attempted the same solution, designing a 40-ton torpedo with a thermonuclear warhead that would be launched by submarine against an American coastal city. The device was never deployed because of aiming problems and the difficulty of launching the torpedo undetected. See A. M. Antonov, "The Birth of Red November," US Naval Institute *Proceedings* 121 (December 1995): 79–81.

4. Rhodes, 225.

5. Gregg Herken, *The Winning Weapon: The Atomic Bomb in the Cold War, 1945–1950* (New York: Knopf, 1980), 197.

6. Congressman James E. Van Zandt of Pennsylvania, acting on information from Cedric Worth, special assistant to the undersecretary of the Navy, had charged that Secretary of the Air Force W. Stuart Symington and Secretary of Defense Louis Johnson had conspired with Floyd Odlum of the Atlas Corporation—which owned B-36 manufacturer Convair—to switch Air Force contracts to buy more B-36s. See House Committee on Armed Services, *Investigation of the B-36 Bomber Program,* 81st Cong., 1st sess., 1949, 13.

7. In 1949 a group of Navy officers led by Arleigh Burke and Arthur Radford protested before Congress when Truman's defense budget forced a reduction from eight to four active carriers and the cancellation of a new supercarrier—the USS *United States* .

8. Herken, 333.

9. W. Stuart Symington, transcript of oral history interview by Hugh N. Ahmann and Herman S. Wolk, 2 May 1978, 199, United States Air Force Historical Research Agency, Maxwell AFB, Ala.

10. Harry R. Borowski, *A Hollow Threat: Strategic Air Power and Containment before Korea* (Westport, Conn.: Greenwood Press, 1982), 93–94.

11. House Committee on Armed Services, *The National Defense Program—Unification and Strategy,* 81st Cong., 1st sess., 1949, 401.

12. Ibid., 476.

13. In congressional hearings, the Navy charged that the United States Strategic Bombing Survey (USSBS) had proved that strategic bombing in World War II was a failure. Franklin D'Olier, who headed the survey, wrote Louis Johnson on 23 August 1949, claiming that the Navy had distorted the USSBS findings and that strategic bombing had been critical to victory. See House Committee on Armed Services, *The National Defense Program,* 405–7.

14. The 70-group Army Air Forces became official policy on 29 August 1945, down from a plan of July 1943 for a 105-group postwar force. See Perry M. Smith, *The Air Force Plans for Peace, 1943–1945* (Baltimore: Johns Hopkins Press, 1970), 58.

15. Michael S. Sherry, *Preparing for the Next War: America Plans for Postwar Defense, 1941–45* (New Haven, Conn.: Yale University Press, 1977), 110.

16. Borowski, 91, 95–97.

17. Herken, 195–96.

18. Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic*

Thinking in the United States Air Force, vol. 1, *1907–1960* (Maxwell AFB, Ala.: Air University Press, December 1989), 419.

19. Smith, 60; House Committee on Armed Services, *The National Defense Program,* 398, 409, 422, 491, 514, 473, 522, 525; James C. Freund, "The `Revolt of the Admirals,'" *Air Power Historian* 10 (January 1963): 2–4; and Warren A. Trest, "View from the Gallery: Laying to Rest the Admirals' Revolt of 1949," *Air Power History* 42 (Spring 1995): 21.

20. President Truman established this commission in 1947 to examine the state of aeronautics in the United States. The President's Air Policy Commission, popularly known as the Finletter Commission (after its head, Thomas K. Finletter), recommended more spending on research and development, a 70-group Air Force, and a strong Air National Guard and Air Force Reserve.

21. Herman S. Wolk, "The Defense Unification Battle, 1947–50: The Air Force," *Prologue* 7 (Spring 1975): 23.

22. Herken, 219.

23. Ibid., 227–28, 235.

24. Desmond Ball and Jeffrey Richelson, eds., *Strategic Nuclear Targeting* (Ithaca, N.Y.: Cornell University Press, 1986), 42.

25. Ibid., 45.

26. Ibid., 53.

27. Philip A. Crowl, "What Price Unity: The Defense Unification Battle, 1947–1950," *Prologue* 7 (Spring 1975): 5.

28. Trest, 28.