Strategic Frontier:

American Bomber Bases Overseas,

1950-1960

Kurt Wayne Schake

Department of History

Norwegian University of Science and Technology

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To

Tore Tingvold Petersen

for always asking the eternal historical question:

What does it all mean?

Contents

Illustrations

The following photographs appear courtesy of the Air Force History Office and can be found between pages 143 and 143:

General Curtis E. LeMay
SAC Emblem
General Hoyt S. Vandenberg
General Nathan F. Twining
General Lauris Norstad
Brigadier General Emmett O'Donnell
Convair B-36 Peacemaker
Boeing B-47 Stratojet
Boeing B-52 Stratofortress

The cover photograph appears courtesy of Colonel Gerald Adams, USAF (retired). It was taken 2 November 1953 at Sidi Slimane Air Base, French Morocco, and shows the arrival of the 305th Bomb Wing, the first B-47 rotational wing to use the facility.

Tables

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Abbreviations and Conventions

AAF	Army Air Forces
AB	Air Base, a common term used for an American base on foreign soil
AD	Air Division
AEC	Atomic Energy Commission
AFB	Air Force Base
AII	Aggregate Industrialized Index
ARW	Air Refueling Wing
AWPD	Air War Plans Division
BS	Bomb Squadron
BW	Bomb Wing
CEP	Circular Error of Probability, radius in which half the weapons will hit
CG	Commanding General
CIA	Central Intelligence Agency
DoD	Department of Defense
FEAF	Far East Air Force
HQ	Headquarters
ICBM	Intercontinental Ballistic Missile
IRBM	Intermediate Range Ballistic Missile
JCS	Joint Chiefs of Staff
MATS	Military Air Transport Service
NATO	North Atlantic Treaty Organization
NEAC	Northeast Air Command
NSC	National Security Council
RAF	Royal Air Force
RAND	Research and Development Corporation
SAC	Strategic Air Command
SACEUR	Supreme Allied Commander Europe
SHAPE	Supreme Headquarters Allied Powers Europe
SLBM	Sea-Launched Ballistic Missile
SOF	Status of Forces Agreement
SSBN	Fleet Ballistic Missile Submarine
USAF	United States Air Force, often merely AF
USAFE	United States Air Forces Europe
USEUCOM	United States European Command
WW	World War
ZI	Zone of the Interior, the continental United States

All figures of distance and speed are given in nautical miles. A nautical mile is 6,080 feet, which is 800 feet more than a statute mile. A knot (nautical mile per hour) is 1.15 times greater than a statute mile per hour.

Prominent Terms[1]

Base: used here primarily in reference to strategic bomber bases controlled exclusively by the Strategic Air Command (SAC), meaning the command was the only military unit stationed upon it.[2] Unless otherwise noted, no distinctions should be inferred with other terms that are used interchangeably, such as air base, facility, installation, or site. Two aspects of a base will serve here as its defining characteristics, physical structure and military mission. The first portion is a main Air Force facility comprised of a runway, buildings, and personnel. The second portion requires fulfillment of all military functions related to flight operations, including direct combat operations and necessary support, such as planning, maintenance, armaments, and supply.

Air Force: the American military service primarily responsible for aerial operations. The Air Force became independent from the Army in September 1947, so three previous organizational names appear in the early chapters: Air Service (1918-1926), Air Corps (1926-1941) and Army Air Forces (1941-1947).

Bomber: a combat aircraft dedicated to surface attack from the air. Traditionally, a bomber can fly farther and carry more munitions than other aircraft involved in direct combat operations, but this distinction blurred with the advent of

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[1] These definitions are derivations of those found in Woodford Agee Heflin, ed., The United States Air Force Dictionary, (Princeton: D. Van Nostrand Company, Inc., 1956), (hereafter cited as Heflin, AF Dictionary), and primary documents of the era from JCS and AF records. These terms are not eternal, but relatively fixed during the decade addressed. When changes of meaning did occur, an explanation is provided in subsequent footnotes.

[2] There were three general forms of basing arrangements for United States forces stationed at foreign facilities during this period, and 'exclusive use' was the highest. The others were 'joint use' (American and host nation forces) and 'participating use' (American and allied countries as designated by the host country). SAC held access rights to facilities around the Northern Hemisphere through all of these arrangements, but the primary concern here is those bases controlled by the command under exclusive use.

fighter-bombers, air refueling, and tactical nuclear weapons. Adjectives modified this term throughout the early Cold War. By the middle of the 1950s the distinguishing feature was gross weight (including crew, fuel, and bomb load). A medium bomber, such as the B-29 and B-47, weighed from one hundred thousand to a quarter billion pounds; a heavy bomber, such as the B-36 and B-52, exceeded this weight. These terms changed in the decade after World War II, and this is noted in the text.[3]

Host Nation: often simply host, a foreign country that allows an American military base on its soil.

Intercontinental: a precise operational definition appropriate for the 1950s is distances beyond 3,300 miles, the air mileage from the closest bomber base in the continental United States to primary target complexes in the Soviet Union.[4]

Overseas: the area outside the continental (lower forty-eight) United States.[5]

Radius of Action: the maximum distance an aircraft can operate, under given conditions, from the center of a circle and return to the same point.[6] This term makes

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[3] Previously these adjectives were used in reference to range and altitude, but by 1955 referred only to weight For instance, in WW II the B-17 and B-24 were both heavy bombers, while the B-29 was a very heavy bomber. But these terms changed with the advent of larger aircraft. The B-29 remained in the Air Force inventory through 1954 and its status changed repeatedly: it became a heavy bomber in 1947, and a medium bomber in 1950. See Heflin, AF Dictionary, and Marcelle Size Knaack, Post-World War II Bombers, 1945-1973, vol. II of Encyclopedia of US Air Force Aircraft and Missile Systems, (Washington: Office of AF History, 1988), (hereafter cited as Knaack, Bombers).

[4] Mere continental separation is inadequate, for North America and Eurasia are separated by only twenty miles across the Bering Strait. This term is my definition and is derived from the B-47 base at Limestone, Maine, to the area around Moscow. A detailed listing of distances from SAC bases in the continental US to Soviet target areas can be found in E.P. Oliver and J.A. Wilson, "A Soviet Target Complex for Strategic Systems Studies," RAND Research Memorandum RM-1683, 7 February 1956, (hereafter cited as Oliver and Wilson, RAND RM-1683). This distance is slightly less than the "intercontinental" label used by ballistic missiles, which drew the partition between IRBMs and ICBMs at 3,500 miles.

[5] SAC eventually had two bomber bases in Alaska, which became a state in 1959, but by the connotation of the 1950s, it remained an overseas location.

[6] This term is often interchanged with range, a misnomer, which should refer only to the absolute distance an aircraft can fly from takeoff until fuel exhaustion. Range is a vague term in reference to aircraft due to extreme variations of aerodynamics, climate, and mission. Range (straight line distance) is often confused with the term radius (half of a round trip). However, some quotes and paraphrases featured here will use the more common term 'range.' Range is best applied to missile systems for they use a one-way flight profile.

allowances for imposed constraints, such as expected combat conditions which require a specific bomb capacity and flight profile.

Staging Base: an advanced air base, usually with minimum facilities, where aircraft prepare for impending air operations.

Strategic: generally this signifies support of broad national objectives, and often contrasts with tactical (support of specific battlefield objectives in a region of surface combat). Strategic is defined here in a very narrow sense with reference to offensive air power--direct aerial attacks on the enemy homeland.

The air has become a highway which has brought within easy access every point on the earth's surface--a highway to be traveled in peace, and in war, over great distances without limit at ever-increasing speed. Continued development is indicated in the machines and in the weapons which will travel the reaches of this highway...[We] must govern the place accorded Air Power in plans for coordination and organization of our resources and skills for national defense.

United States Strategic Bombing Survey
Summary Report (European War), 1945

Chapter 1

Introduction

On the morning of 16 January 1991, the eve of the Gulf War, seven SAC

bombers took off from Barksdale Air Force Base (AFB) in Louisiana, laden with

weapons for use against Iraq. After fifteen hours of flight, which included two hours of

air refueling by each plane, they arrived at launch points in northern Saudi Arabia and

released thirty-five cruise missiles at eight target complexes in the Mosul area, then

returned to the United States. This flight lasted over thirty-five hours and covered

fourteen thousand miles--the longest time and farthest distance of any combat mission in

aviation history.[1] This was also the first wartime demonstration of an ideal sought by

American leaders since before World War II and proclaimed by Air Force leaders since

the late 1950s: the intercontinental reach of aerial platforms. Strategic weapons based in

the United States attacked a distant enemy nation, seemingly without the many political,

economic, social, and military encumbrances of overseas bases. But bases beyond

North America were used for support of this mission; the bombers were refueled by a

fleet of fifty-seven aerial tankers from bases in Spain and the Azores. Even today, at the

end of aviation's first century, if aircraft are the intercontinental weapons of choice,

bases beyond national borders are still required.

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[1] The bombers were B-52Gs, a later version of the venerable aircraft that first became operational in the late 1950s. Supporting the strike were thirty-eight KC-135s from Lajes Air Base in the Azores, and nineteen KC-10s from Spain. Eliot A. Cohen, director, <u>Gulf War Air Power Survey</u>, vol. II, (Washington; United States Government Printing Office, 1993), pp. 138-141; Richard P. Hallion, <u>Storm Over Iraq</u>, (Washington; Smithsonian Institution Press, 1992), pp. 163-65, 171-72; James P. Coyne, "A Strike by Stealth," <u>Air Force Magazine</u>, March 1992, pp. 38-44.

Overview

This dissertation presents an analysis of a specific type of American military base used during the 1950s, namely overseas bomber bases controlled by the Strategic Air Command (SAC). These facilities were unique, by mission and command lines, and were pivotal to the national security strategy of the United States during a crucial period of the Cold War.

The collection of SAC bomber bases which developed around the Northern Hemisphere was a means of projecting America's strategic aerial forces towards distant, prospective enemies. The bases were an interim solution, primarily designed to forestall any Soviet military move in Western Europe. They were an expedient, which readily accommodated the existing American strategic arsenal and bolstered one aspect of America's deterrent posture. The first of the SAC overseas bases opened in 1950, and by 1960 their demise was fully underway. This epoch witnessed a change in the projection of American long-range military power, moving from a perimeter strategy, which relied upon strategic air bases located in foreign countries, to a polar strategy, which thereafter allowed strategic forces to operate from bases in the continental United States and traverse the Arctic region.

At the core of this analysis is military operations, but these cannot be analyzed independently, especially with regard to foreign bases. Military power does not exist in a vacuum, and throughout, I shall place my topic into a wider context. There are many historical elements which contribute to the story of this SAC base network, and this is an effort to present, describe, and interpret many facets of these unique facilities. Aspects of strategy, politics, diplomacy, and economics will emerge as contributory elements, but I shall continually relate these to the more restricted focus of the policies,

problems, and practices of overseas bomber bases. This considerably limits the scope of this topic. The fundamental purpose of this dissertation is to conduct a systematic analysis of these unique bases abroad. This is not the final word on the topic of overseas SAC bases, merely an illumination of a neglected, but critical, historical topic.

Historiography

The secondary works mentioned below provide many underlying assumptions and permit an initial assessment of SAC overseas bases in the 1950s, thus establishing the context for a more detailed analysis of my particular subject. Each of these works represents important scholarship in its given area, yet due to focus, topic, or time period, each proved to be insufficiently specific in regards to SAC bases. The contribution and limitations of these works will be briefly addressed here and later chapters will examine these elements in greater detail.

The Cold War literature is enormous and the basic outlines well known. The shifts from realist to revisionist to post-revisionist perspectives will not be traced here, I will concentrate on particular aspects most relevant to my topic. The Cold War took a militant turn in the nine month period between September 1949 and June 1950, from the explosion of the first Soviet atomic device to the start of the Korean War. During this time, the United States leadership turned from the original constructs of Containment put forth by George Kennan, towards a more adversarial stance versus the Soviet Union. Signifying this turn was the endorsement of National Security Council (NSC) document NSC-68, which defined the Soviet Union as a world-wide threat to the Western allies, and advocated a military build-up to contain it. American leaders used the Korean War

as justification for expanding the American defense budget and seeking a military presence abroad.

Two prominent Cold War authors briefly address the overseas bomber bases as part of their larger studies. Melvyn Leffler discusses the American desire for bomber bases abroad and some of the locations sought, but he stops there, with the preliminaries, and never fully examines the accumulation of the sites. Additionally, Leffler's book ends with the second Truman Administration, so it covers only the first portion of my period. Stephen Ambrose briefly discusses the need for these bases due to the limited range of bomber aircraft, but his aim is much broader and he too never fully addresses the specific topic of bomber bases.[2]

Strategic studies assess the American military strategy of this era, with particular emphasis on nuclear weapons. These works have tabulated the extensive growth of the American nuclear stockpile in the early Cold War: from two in 1945, to 450 in 1950, to over eighteen thousand in 1960. Reliance on these weapons is also well established, as America's post-war leaders consistently placed priority on the nuclear arsenal. On the high end of this stockpile were the strategic weapons, the larger ones designed for targets deep in enemy territory, which could initially only be delivered by aircraft. The fulcrum of American strategic power during this period thus lay with the Air Force bomber, but most of these strategic studies stop there.[3] I have a major contention with

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[2] Melvyn P. Leffler, A Preponderance of Power: National Security, the Truman Administration and the Cold War, (Stanford: Stanford University Press, 1992), (hereafter cited as Leffler, Preponderance), strategic bases are briefly discussed throughout the book, see especially pp. 56-59, 226-228; Stephen Ambrose, Rise to Globalism: American Foreign Policy Since 1938, 6th rev. ed., (New York: Penguin Books, 1991), (hereafter cited as Ambrose, Globalism). A general book very helpful for the context of the Cold War is John Lewis Gaddis, Strategies of Containment: A Critical Appraisal of American National Security Policy, (New York: Oxford University Press, 1982), (hereafter cited as Gaddis, Strategies).

[3] Stockpile figures from Thomas B. Cochran, William M. Arkin, and Milton M. Hoenig, Nuclear Weapons Databook: U.S. Nuclear Forces and Capabilities, vol. 1, (Cambridge: Ballinger Publishing Company, 1984), (hereafter cited as Cochran, et al, Databook), table 1-4. Other prominent strategic

this scholarship as it relates to elements of my specific historical topic. I feel a separation should be made between weapons and means of delivery, in this case nuclear weapons and strategic bombers. The tremendous weight given to nuclear weapons obscures the more fundamental importance of these aircraft: they possessed *strategic capability*, entirely independent of the weapons they carried. I will develop this point in greater detail later.

Also beneficial were historical studies of SAC, which reveal the unique status held by this American military unit. It was the primary command responsible for strategic warfare until the late 1950s, and held the predominate position in the American military structure at least through that time. Despite periods of reduced defense budgets, military draw-downs, and continual political scrutiny, SAC forces underwent tremendous growth throughout the post-World War II era. As Appendix A.2 shows, the numbers are staggering. In the ten year span following the command's 1946 inception, SAC bases increased three-fold, personnel almost six-fold, and bombers eleven-fold. In 1956, the peak of the overseas base network, SAC had 1,650 bombers; for comparison, in 1996 the United States Air Force had only 218 bombers. Another noteworthy feature

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studies referenced in this work include Richard G. Hewlett and Francis Duncan, <u>Atomic Shield, 1947-1952</u>, vol. II of <u>A History of the United States Atomic Energy Commission</u>, (University Park: The Pennsylvania State University Press, 1969), (hereafter cited as Hewlett and Duncan, <u>Atomic Shield</u>); Desmond Ball and Jeffrey Richelsen, eds., <u>Strategic Nuclear Targeting</u>, (Ithaca: Cornell University Press, 1986), (hereafter cited as Ball and Richelsen, <u>Nuclear Targeting</u>), a fine work which offers tremendous insights, but my copy had a chapter which was printed upside down and backwards, so I do fault the publishers; David Alan Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945-1960," <u>International Security</u> 7 (Spring 1983), pp. 3-71, (hereafter cited as Rosenberg, "Overkill"); McGeorge Bundy, <u>Danger and Survival: Choices About the Bomb in the First Fifty Years</u>, (New York: Random House, 1988), (hereafter cited as Bundy, <u>Danger</u>); Richard Rhodes, <u>Dark Sun: The Making of the Hydrogen Bomb</u>, (New York: Simon and Schuster, 1995), (hereafter cited as Rhodes, <u>Dark Sun</u>); Lawrence Freedman, <u>The Evolution of Nuclear Strategy</u>, (London: The Macmillan Ltd., 1981), (hereafter cited as Freedman, <u>Evolution</u>), an excellent book but, in relation to this topic, makes one glaring error on page 64, stating that the B-46 (a test bomber, of which only two were produced) became the core of the SAC bomber force in the 1950s; Samuel R. Williamson and Steven L. Rearden, <u>The Origins of US Nuclear Strategy, 1945-1953</u>, (New York: St. Martin's Press, 1993), (hereafter cited as Williamson and Rearden, <u>Origins</u>), this book is an exception to several of the criticisms mentioned in the text, it does discuss bombers and bases, but stops in 1953.

of SAC was that it was the only military unit designated a specified command--which meant its command lines did not run through any regional or allied structure. This is a crucial distinction, which leads directly to SAC control of its own overseas bases. SAC forces, regardless of their local position, answered to SAC Headquarters in Omaha, Nebraska. SAC was a purely national force, an exclusive means of delivering, or threatening to deliver, American weapons on distant targets. There is agreement that General Curtis E. LeMay, SAC Commander from 1948 to 1957, was primarily responsible for building the command into a premier combat-ready unit, and I will go into his role in some detail.[4]

The SAC histories trace the rise of the command, and some discuss the need for overseas bases, but most end before the command gained full use of these sites in the middle of the decade. Walton Moody discusses the need and desire for world-wide bomber bases, and offers rich primary sources, especially those internal to the Air Force and SAC. Meetings and memorandums are presented and analyzed, but Moody stops in 1952. William Borgiasz assesses the expanding power of SAC as its forces, capabilities, and centralization of command increase in the post-World War II decade. His focus is more on organization and training, little mention is made of overseas bases and he too stops short of the full base use period, ending in 1955. Likewise, Harry Borowski's book finishes before the Korean War.[5]

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[4] Walton S. Moody, Building a Strategic Air Force, (Washington: Air Force History and Museums Program, 1996), (hereafter cited as Moody, Building); William S. Borgiasz, The Strategic Air Command: Evolution and Consolidation of Nuclear Forces, 1945-1955, (Westport: Praeger, 1996), (hereafter cited as Borgiasz, SAC); Harry A. Borowski, A Hollow Threat: Strategic Air Power and Containment Before Korea, (Westport: Greenwood Press, 1982), (hereafter cited as Borowski, Hollow); David A. Anderton, Strategic Air Command: Two-Thirds of the Triad, (London: Ian Allan Ltd., 1976), (hereafter cited as Anderton, Two-Thirds). As can be seen by some of the titles, three of these four SAC histories stop part way through the 1950s, thus they do not cover the full period of the overseas bases.
[5] Moody and Borgiasz trace the growth of SAC and the tremendous capability the command eventually assumed, although they disagree as to the timing. Moody finds SAC powerful by 1952, whereas Borgiasz has it three years later. Moody, Building; Borgiasz, SAC. In contrast Borowski depicts the

The historiographical areas mentioned thus far provide a broad contextual framework for a study of SAC overseas bases, but as we have seen these sites remain only a minor element of much larger stories and are never fully analyzed. More focused on the subject of SAC facilities abroad is the historiography of American overseas bases. SAC bases were a critical, but small, portion of the American base network during the 1950s: at peak numbers SAC had thirty overseas bases, the Air Force had 309, and the American military approximately 950.[6] These secondary works can be grouped into three categories: general base studies, base studies of particular countries, and specific studies of strategic air bases. These works form the nucleus of secondary sources used in this analysis. The common features, particular approaches, and limitations of each of these sources will now be briefly assessed, including some general problems which will be treated more thoroughly in subsequent chapters. Some of the disagreements and contradictions found in these works, which this analysis seeks to remedy, will become readily apparent.

Of the general base studies, James Blaker offers the finest global perspective in United States Overseas Bases: An Anatomy of the Dilemma. The dilemma addressed by Blaker is that while American bases decline, they also become increasingly expensive--a point also brought out briefly by Paul Kennedy.[7] Armed with an

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weakness of the command through the late 1940s, with great disparity between the political reliance placed on SAC and the command's poor military capability before the Korean War. Borowski, Hollow.

[6] These peak numbers were not concurrent, and vary depending on the definition of an overseas base. These figures are from Office of the Historian, Headquarters Strategic Air Command, The Development of Strategic Air Command, 1946-1986: The Fortieth Anniversary History, (Offutt Air Force Base: SAC, 1 September 1986), (hereafter cited as HQ SAC, Fortieth): Study of Airpower, Hearings before the Subcommittee on the Air Force of the Committee on Armed Services, United States Senate, 84th Congress, second session, (Washington: GPO, 1957), (hereafter cited as 84th Congress, SOAP).

[7] James Blaker, United States Overseas Bases: An Anatomy of the Dilemma, (New York: Praeger Publishers, 1990), (hereafter cited as Blaker, Dilemma); Paul Kennedy, The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000, (London: Fontana Press, 1989), (hereafter cited as Kennedy, Rise and Fall), pp. 517-519.

impressive collection of data, Blaker begins just before World War II and assesses these bases across almost half a century, then offers many broad conclusions. According to Blaker, America's Cold War bases evolved from those built during World War II, when the United States established its general policy on the role of overseas sites, a perspective which remains even today:

> Overseas basing was the necessary vehicle by which the United States would determine world events and was a legitimate instrument thorough which to exercise US power. This view rejected the notion that the structure and character of overseas bases would be determined by how other nations reacted to the bases, replacing it with a very different emphasis: the bases were how the United States would structure the character of other nations.[8]

Underlying all of this, according to Blaker, is a belief that overseas bases directly and visibly represent an American move from pre-war isolationism to post-war internationalism. Blaker has a credible discussion of the costs of overseas bases, but due to his methodology, his work neglects other aspects of the sites. He readily admits that his book entirely ignores political and diplomatic dimensions, focusing instead on interdependence and interrelationships among the facilities. There is no particular discussion concerning SAC bases, for Blaker uses a unique definition for a base (a collection of facilities within twenty-five miles of a population center), and thus cannot separate sites by function, size, or command lines. Blaker's focus is wide, as he uses a "systems approach" to describe the entire assortment of American overseas bases.

Robert Harkavy also puts overseas bases in a broad context through a survey of foreign military bases in regions around the globe. In stark contrast to Blaker, Harkavy addresses only the diplomatic dimension, even going so far as to define a base not as a

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[8] Blaker, <u>Dilemma</u>, p. 29.

physical structure, but as access rights granted to an external power. His analysis has a geopolitical framework, but blurs the chronology and distinctions between planning, acquisition, and development of various base sites.[9] Harkavy wrote a second book on overseas bases, reiterating his previous definition of a base as "a situation in which the user nation has unrestricted access and freedom to operate." This book is very ambitious, going beyond mere American bases to a global assessment of bases held by all major powers on the soil of another country.[10] Harkavy discusses SAC bases in both books, when they arise as a part of wider themes.

Alvin Cottrell and Thomas Moorer provide a narrower focus in United States Overseas Bases: Problems of Projecting American Military Power Abroad. The historical context provided by these authors is well developed, and they view the 1950s as the prime, then waning, days of an American "containment ring" of bases around the Soviet Union. They find that the rationale for seeking overseas military installations throughout this early post-war period was to position American military strengths (global mobility and strategic air power) as a counterbalance for Soviet military strengths (geographic location and land armies). A strong point of the book is its assessment of political risks to American access around the world, but the argument has a strong naval slant as the authors often overlook the role of air bases while advocating naval facilities. They also proclaim that the United States sought remote locations, such as Greenland and Iceland, not so much to aid American strategy but to deny use of the sites to the Soviets; a point that the present study refutes.[11]

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[9] Robert E. Harkavy, Great Power Competition for Overseas Bases: The Geopolitics of Access Diplomacy, (New York: Pergamon, 1982), (hereafter cited as Harkavy, Access).

[10] Robert E. Harkavy, Bases Abroad: The Global Foreign Military Presence, (New York: Oxford University Press, 1989), (hereafter cited as Harkavy, Presence), see particularly pp. 249-255.

[11] Alvin J. Cottrell and Thomas H. Moorer, Admiral, US Navy (retired), United States Overseas Bases: Problems of Projecting American Military Power Abroad, The Washington Papers, vol. V, no. 47,

An article from 1951 by Buel Patch assesses the extensive American overseas base build-up then underway. The primary emphasis of this article is the mechanisms necessary to acquire new overseas air bases, and he lists treaties, agreements, locations, costs, and construction practices. This article presents a number of issues which are further considered in this dissertation.[12]

The next major grouping within the historiography of American overseas bases concerns studies of specific countries. Simon Duke's <u>United States Military Forces and Installations in Europe</u> is the broadest and discusses the historical background, formal and informal basing agreements, and future expectations within each country. This work is valuable as a reference for American bases in the European area, details abound with charts, maps, and figures depicting locations, units, equipment, and personnel in each nation. Duke's book is also notable for its insightful and thorough assessment of treaties and operational restrictions (such as storage of nuclear weapons) for bases in Greenland, Spain, and the United Kingdom. In regards to SAC bases though, I take issue with several of his findings. In a broad overview and again in his summary, Duke holds that America established a "haphazard pattern" of European bases in the late 1940s and 1950s, which gained a "raison d'être, almost independent of significant political and military changes." Within my narrower field of study, this claim is untrue. SAC bases were built and occupied in many countries discussed by Duke at a precise time and for an express purpose--and all of these were closely attuned with military and

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(London: SAGE Publications, 1977), (hereafter cited as Cottrell and Moorer, <u>Problems</u>). The naval slant should be no surprise: Cottrell is a former Professor of Foreign Affairs at the Naval War College and Moorer is the former Chief of Naval Operations. Their book was an advocacy piece which sought to persuade the Carter Administration away from overseas bases (especially air bases) and towards increased reliance on floating naval assets.

[12] Buel Patch, "Overseas Bases," <u>Editorial Research Reports</u>, vol. II, 1951, pp. 435-452, (hereafter cited as Patch, "Overseas").

political changes which occurred throughout the decade. This theme will be further developed in the following chapters.[13]

The largest collection of studies of American bases in a particular country concern the United Kingdom, a convenient point for this analysis as fifteen of SAC's thirty overseas bases were in Britain. Another book by Duke, <u>United States Defence Bases in the United Kingdom: A Matter for Joint Decision?</u>, analyzes the bases and holds that they have always been primarily for American benefit, without the full knowledge of the British government or population. This is a thorough assessment, especially of the period from 1945 to 1950, as the wartime relationships between Anglo-American air leaders resulted in covert military-to-military agreements to develop British bases suitable for American bombers and nuclear weapons. The book focuses on the role of these bases during international incidents, such as the crises over Berlin and the Suez Canal.[14]

Duncan Campbell, an investigative reporter for the <u>New Statesman</u>, uses the post-war development of American military bases in the United Kingdom to launch an attack on the Tory government and administration of the 1980s. Campbell's book is meant as an exposé of what he views as an extensive and shrouded American military base network throughout the United Kingdom. The "nuclear axis" running through these post-war British bases is traced through war plans and world crises, as Campbell recounts SAC operational practices with an emphasis on the political ramifications, such as overflights of Britain with nuclear weapons. Campbell primarily registers the extent

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[13] Simon Duke, <u>United States Military Forces and Installations in Europe</u>, (London: Oxford University Press, 1989), (hereafter cited as Duke, <u>Europe</u>), quote p. 43. The prominence of aircraft range is cited in chapters on Norway, Iceland, Greenland, Spain, and the United Kingdom.
[14] Simon Duke, <u>United States Defence Bases in the United Kingdom: A Matter for Joint Decision?</u> (London: Oxford University Press, 1982), (hereafter cited as Duke, <u>UK</u>).

of the American presence, so the policies and practices at these bases are only presented superficially to support his larger premise: America has militantly taken advantage of British goodwill by unilaterally developing these bases, all the while keeping information, decisions, and practices away from the British public. And, the Tory government allowed this all to happen.[15]

Two other authors counter the views of Duke and Campbell. Patrick E. Murray, historian of the United States Third Air Force which is based in Britain, examines the foundations of the American bases in "An Initial Response to the Cold War: The Build-up of the US Air Force in the United Kingdom, 1948-1956." For Murray, the cooperation between the two nations was one of respectful partnership and mutual consent throughout this period. Murray lists all the American air bases, as had the others, but further delineates command lines to the facilities as well. Likewise, Michael Bowyer's title underscores his theme, Force for Freedom: The USAF in the UK since 1948.[16] I hope to be able to provide additional light on the Anglo-American "special relationship," particularly in the matter of air base arrangements.[17]

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[15] Duncan Campbell, The Unsinkable Aircraft Carrier: American Military Power in Britain, (London: Michael Joseph, 1984), (hereafter cited as Campbell, Unsinkable). Benito Mussolini first coined the phrase "unsinkable aircraft carrier" during WW II, and Winston Churchill later used it as well.

[16] Patrick E. Murray, "An Initial Response to the Cold War: The Build-up of the US Air Force in the United Kingdom, 1948-1956," pp. 14-24 in Roger G. Miller, ed., Seeing Off the Bear: Anglo-American Air Power Cooperation During the Cold War, (Washington: Air Force History and Museum Program, 1995), (hereafter cited as Murray, "Initial"); Michael J.F. Bowyer, Force for Freedom: The USAF in the UK since 1948, (London: Patrick Stephens Limited, 1994), (hereafter cited as Bowyer, Freedom).

[17] Many books have traced the development of the so-called special relationship. Some of the more notable include: John Baylis, Anglo-American Defence Relations, 1939-1984: The Special Relationship, 2nd ed., (London: Macmillan, 1984), which stays strictly within defense issues; the topic is placed in a broader context in William Roger Louis and Hedley Bull, eds., The Special Relationship: Anglo-American Relations Since 1945, (Oxford: Clarendon Press, 1986), which is a series of presentations made before five conferences held jointly by the Ditchley Foundation and the Woodrow Wilson International Center for Scholars; an early assessment which takes a much longer view is H.C. Allen, Great Britain and the United States: a History of Anglo-American Relations 1783-1952, (London: Oldhams, 1954); see also Coral Bell, "The Special Relationship," in Michael Leifer, ed., Constraints and Adjustments in British Foreign Policy, (London: Allen and Unwin, 1972).

The final group of literature concerns SAC bases abroad, and collectively these works are either outdated or too narrow. Martin Packman, in a 1957 article, recounts in great detail problems then emerging with American overseas strategic air bases. Packman assembles a wide collection of evidence, then predicts that the use of these bases will soon decline. This article illuminates many facets of the overseas air base system: Soviet reactions, diplomatic difficulties, costs, host nation concerns, and American political opposition. Packman examines routine problems, such as newly-independent Morocco demanding large rental payments, as well as problems particular to nuclear weapons, such as intense public and political opposition against American bases in Japan.[18]

There is one book which specifically examines SAC bomber bases in a single country, Gerald Adam's A History of US Strategic Air Bases in Morocco, 1951-1963. The chronology offered by Adams, a retired Air Force colonel and former commander of one of the bases, begins with "the hasty build-up" from 1951 to 1953 and ends when the Air Force left Morocco in 1963. This book was published by the (USAF) Moroccan Reunion Society and is primarily a social history, exceedingly rich with details, photographs, and personal reminisces.[19]

In addition to these published sources, several doctoral theses provided information relevant to my topic. The structure and content of these dissertations were

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[18] Martin Packman, "Future of Overseas Bases," Editorial Research Reports, vol. I, 1957, pp. 65-82, (hereafter cited as Packman, "Future").
[19] Gerald M. Adams, Colonel, USAF (retired), A History of U.S. Strategic Air Bases in Morocco, 1951-1963, (Omaha: The Moroccan Reunion Association, 1992), (hereafter cited as Adams, Morocco). I would like to thank Colonel Adams for providing me with the last available copy of his book.

helpful, but none directly addressed the topic of overseas strategic air bases in the 1950s.[20]

Problems and Focus

Many previous works treat overseas bases merely as an inventory to be listed, rather than an issue to be analyzed. As is evident from the above discussion there exists no systematic, comprehensive analysis of the development, strategy, and demise of SAC overseas bomber bases of the 1950s. These sites have never been split out from other American overseas bases to reveal their purpose, risks, costs, challenges, and special contributions of the American strategy of the period.

Many previous studies stress the continuity of American overseas bases from World War II to the late 1950s, yet little attempt has been made to actually appraise the details of this continuity, or any breaks in it, which signaled significant changes for these facilities. The overall impact of Korea on American strategy has been noted by most authors, but unexamined is why and how this war became the decisive impetus for pursuit of SAC overseas bases. Many unasked questions also exist about the process by which SAC gained direct control of these facilities and the rationale for seeking specific

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[20] Two dissertations specifically examine overseas bases, but each focuses on a different decade from my topic. Elliot V. Converse, "United States Plans for a Postwar Overseas Bases System, 1942-1948," Ph.D. diss., Princeton University, 1984, covers an earlier period and has a broader scope. James W. Chapman, "United States Bases Abroad: Technological and Political Considerations Affecting Their Value," Ph.D. diss., Princeton University, 1966, focuses on changes to the base structure with the new American national security strategy of the 1960s, Flexible Response. Strategic air power is intimately linked with nuclear weapons in Donald John Mrozek, "Peace Through Strength: Strategic Air Power and the Mobilization of the United States for the Pursuit of Foreign Policy, 1945-1955," Ph.D. diss., Rutgers University, 1972; Larry Dean O'Brien, "National Security and the New Warfare: Defense Policy, War Planning, and Nuclear Weapons, 1945-1950," Ph.D. diss., The Ohio State University, 1981; and Mark Bernard Schneider, "Nuclear Weapons and American Strategy, 1945-1953," Ph.D. diss., University of Southern California, 1974. Tactical nuclear weapons are separated from strategic weapons in Kenneth Jerold Comfort, "National Security Policy and the Development of Tactical Nuclear Forces: 1948-1958," Ph.D. diss., Columbia University, 1970; and the resulting impact of these new weapons can be found in Jerome Martin, "Reforging the Sword: American Tactical Air Power in the 1950s," Ph.D. diss, The Ohio State University, 1987.

locations. I seek to answer the following question: Why and how did SAC bases develop in specific locations at the time they did?

The present study will consider overseas bomber bases as but one alternative among many means of projecting strategic military power. I shall analyze the overall American strategy of the period, with an emphasis on strategic options which developed over the course of the decade. Separate chapters will assess the evolution of the American strategic arsenal, to explain the need, use, and demise of the bomber bases. An entire chapter is dedicated to SAC aircraft development, and another concentrates on alternatives to the bases which became operational late in the 1950s. Most of the existing studies describe the close-down of these sites, but the reasons given lean toward technological determinism, simply stating that the appearance of missile systems and long-range bombers replaced overseas bomber bases. I shall go much deeper into the nature of this complicated process of bomber bases closure which occurred about 1960.

Additionally, I will also go into more detail than previous works in two major areas: the costs of overseas bomber bases, and the international politics necessary to gain access to these sites.

There still remain several important perspectives that are not examined here. The views of the host nations and the effect on the Soviet Union are both touched upon, but largely through the filtered lens of American documents. NATO warplans and related operational concerns are not specifically analyzed, but are discussed only as SAC bases contributed to these topics. Nuclear weapons are not a prominent issue, and the reasons for this will become clear in subsequent chapters. These issues are integrated into this history of SAC overseas bases, but they do not receive systematic treatment.

My level of analysis stays primarily within the highest echelons of the United States Air Force, thus several additional levels are not fully addressed: the Joint Chiefs of Staff, the National Security Council, the Department of Defense, the Presidential Cabinet, the State Department. I will touch upon many concerns expressed at these other levels, but constantly return to the views, concepts, and plans expressed within the Air Force chain of command. The logic of base decisions made by SAC and Air Force leaders are fully traced. The resulting policies supported by officials beyond the Air Force are apparent, but not followed in detail.

Primary Sources

Primary sources are the foundation of this analysis, and those used here come mainly from government records, government service organizations, and Air Force records. As mentioned above, I will concentrate on the decision-making process within the Air Force command structure, so appropriate internal documents and reports receive the greatest attention. An initial assessment of the key bodies of documents is in order, to reveal my selection criteria and value of these items to this study. The following information is organized by repository, to show the current location of evidence used in this dissertation.[21]

The Dwight D. Eisenhower Library in Abilene, Kansas, holds two Presidential reports on overseas bases from the 1950s. Both feature prominently in this work and neither has previously received thorough historical treatment. Eisenhower directed Secretary of Defense Charles E. Wilson to begin the first report in October 1956, and

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[21] To place the names with job titles in this section, see Appendix A.1 'Players' for a list of American leaders of this period.

Wilson selected former Assistant Secretary of Defense (International Security Affairs) Frank C. Nash to lead the assessment. Nash obtained cooperation from the highest levels of the American government, including interviews, reports, and data from the Secretaries of Defense and State, the Secretaries of each military service, the Chairman and all members of the Joint Chiefs of Staff, the chief of the US diplomatic mission in every country with an American base, and all unified and specified military commanders responsible for overseas forces. Nash and his assistants made four trips abroad as part of this fourteen month study, which was complete in December 1957. Titled simply 'United States Overseas Military Bases,' it is known as the Nash Report in accordance with American governmental policy of naming a report after its chairman (although Nash died shortly before finishing the final version). The report runs over three hundred pages and consists of two parts, the main body of findings and an appendix of country studies for each host nation. The report offers a wealth of detailed information concerning overseas bases: negotiating processes, costs, recurring problems, force structures, formal agreements. SAC bases are only a portion of this study, but are treated as the overriding element of the American base system. By Eisenhower's request, the Nash Report was distributed throughout the American government and appropriate agencies implemented many of its recommendations. The report arises in discussions at several NSC Meetings for the remainder of the decade.[22]

In October 1959 Eisenhower requested a follow up to the Nash Report. William Lang, from the Office of the Assistant Secretary of Defense (International Security Affairs), conducted the study aided by three members of the Joint Staff. In December

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[22] 'United States Overseas Military Bases,' Report to the President by Frank C. Nash, December 1957. Dwight D. Eisenhower Library (DDEL), Ann Whitman Files (AWF), Admin Files, box 27, folder Nash Report (1), (hereafter cited as Nash Report, DDEL).

1959 members of the National Security Council requested that this report, then in progress, specifically address the basing implications of ballistic missile development. The Lang Report, formally titled 'Review of United States Overseas Military Bases,' was finished in April 1960 and focuses on recent changes to the overseas base structure and those expected to occur in the near future. Although primarily a military assessment, and thus not nearly as extensive as the Nash Report, it serves as a milestone to mark major implications of newer weapons systems on the overseas bases, particularly those bases used by SAC bombers.[23]

The Eisenhower Library holds several collections which helped place these Presidential base reports in context, revealing the thinking behind them and the decision-making process which sprang from them. The Ann Whitman Files contain two pertinent collections, the first being the NSC Files which include detailed minutes of meetings in which these bases reports were presented, subsequent discussion among council members, as well as related topics such as nuclear weapons, air defense concerns, Soviet capabilities and perceived intentions, and the status of SAC. The second valuable collection from the Ann Whitman Files is the Admin(istrative) Files, which has extensive collections categorized under the titles of air bases, Air Force, nuclear weapons, and prominent figures involved in basing decisions. Files from the White House Office of the Staff Secretary (Eisenhower's answer to a Presidential Chief of Staff, a position held by General Andrew Goodpaster the entire time) hold extensive notes of meetings and private conferences held with the President. Files from the White House Office of the Special Assistant for National Security Affairs provided

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[23] 'Review of United States Overseas Military Bases,' Report to the President by William E. Lang, Colonel Wilmot R. McCutchen, Captain Charles C. Coley, and Colonel Jack T. Bradley, April 1960, DDEL, White House Office of Special Assistant for National Security Affairs (WHO: SANSA), Subject files, NSC, box 2, Base Rights (3), (hereafter cited as Lang Report, DDEL).

background information to much of what appeared before the National Security

Council, such as formal reports and briefing notes used at the meetings. Topical files,

organized around people and issues, helped illuminate aspects of particular subjects, the

most notably being the (General Lauris) Norstad files. Norstad was an Air Force

general assigned to Europe throughout the entire 1950s, as USAFE Commander (1950-

1952), NATO Commander for Air (1953-1956), and finally SACEUR (1956-1963). If

any officer in Europe would have vied for control of SAC bases, it would have been

Norstad, but as will be seen, he remained supportive of SAC's overseas status. Norstad's

collection has over one hundred boxes, filled with information internal to NATO,

discussions with SAC and the Joint Chiefs, as well as personal correspondence with

Eisenhower.

The US National Archives in Washington, DC, and Suitland, Maryland, contains

record groups with information specifically related to overseas bases. Record Group

218 (Joint Chiefs of Staff) is a massive collection, but it is somewhat disorganized and

rather difficult to work with. Additionally, during my three visits over the course of

several months, this collection was still undergoing a move from Washington to

Suitland. Luckily though, many documents concerning the Joint Strategic Plans

Committee, the Soviet threat, and custody of nuclear weapons were found. Especially

useful was the 570 series of documents, known as the "Basing Bible." Record Group

330 (Secretary of Defense) and Record Group 349 (US European Command) contain

military evaluations of NATO nations throughout the 1950s, which reveal some of the

military rationale for seeking SAC bases in particular countries. The latter record group

also holds memos of base visits by high-level American officials and summaries of

foreign military aid provided during the decade, containing information about the

political rationale for seeking certain countries and the economic incentives offered as part of the process. Record Group 46 (Congress) holds Congressional travel reports as well as correspondence to and from members of the Senate Committee on Real Estate and Military Construction; these greatly aided the political and economic picture of the overseas bases. Record Group 341 (Headquarters USAF) and Record Group 340 (Secretary of the Air Force) were disappointing and sparse concerning this subject, and several seemingly promising inventories revealed little useful information, the one exception being formal reports of overseas air base construction.

Two published Congressional hearings from Record Group 287 (Congress) were particularly valuable. The 1952 "Hiring for Work at Overseas Bases" before the Preparedness Subcommittee of the Senate Armed Services Committee shows the tremendous scrutiny given to cost overruns at SAC bases in French Morocco. And most illuminating was the 1956 "Study of Airpower" before the Subcommittee on the Air Force of the Senate Armed Services Committee. Chaired by Senator Stuart Symington, formerly the Secretary of the Air Force, this was a successful effort to rally political support for increased Air Force spending amidst ongoing defense cuts by the Eisenhower Administration. Over one hundred witnesses were called, including the Secretary of Defense, all service secretaries, all members of the Joint Chiefs of Staff, retired and active duty general and flag officers who controlled aviation assets, and various civilian experts. The published report and summary run over two thousand pages, revealing a wealth of information about the course of American military aviation. The interviewee comments are the most useful part, because it is readily apparent that Symington used these hearings as a public forum to paint a bleak picture of the status of American air power, so to gain a larger share of future defense funds for the Air Force.

The Library of Congress's Manuscript Reading Room in Washington, DC, was the most in-depth asset for this study. Examined were the collections of every Chairman of the Joint Chiefs of Staff, every Air Force Chief of Staff, and every SAC Commander from 1946 through 1960. The Papers of General Hoyt S. Vandenberg (Air Force Chief of Staff from 1949 to 1953) were particularly useful, especially declassified red line messages concerning issues pertinent to overseas SAC forces and bases.

The heart of this study comes from the Manuscript Reading Room's 218 boxes within the Papers of General Curtis E. LeMay, particularly the declassified files towards the end of the collection. LeMay was omnipresent in strategic warfare throughout this period: he designed the famed bomber box formations used in World War II, he led the second portion of the infamous Schweinfurt-Regensburg raid of October 1943, he commanded all B-29 units in China in 1944, then all B-29 units in the Marianas the following year. After the war LeMay served as Deputy Chief of Staff for Research and Development (responsible for new bomber designs and nuclear weapons), United States Air Forces Europe (USAFE) Commander at the start of the Berlin airlift, SAC Commander from 1948 to 1957, Vice Chief of Staff through 1961, and then Air Force Chief of Staff until his 1965 retirement. The LeMay collection is rich and detailed, with extensive letters, memos, speeches, studies, and reports. Valuable insight was gained by tracing files to find what the SAC Commander discussed with the Chief of Staff about overseas bases, and also what he did not, choosing instead to handle internally within the command.

A large body of empirical data comes from reports issued by two Air Force research organizations. The Air Force Director of Statistical Services, Comptroller, issued an annual Statistical Digest throughout the period, which registered the service's

aircraft, personnel, and commands around the world. It is an invaluable reference, and although it does not address the 'why' portions of this topic, it fully presents the 'where' and 'what' aspects. The Research and Development (RAND) Corporation is an Air Force-sponsored research institution in Santa Monica, California. Bernard Brodie, Herman Kahn, Leo Rosten, and Charles Hitch are but a few of the prominent individuals who worked at RAND in the 1950s. A plethora of formal reports was examined across a range of topics relevant to overseas bomber bases: air strategy, nuclear weapons considerations, strategic targeting, and Soviet military progress. These RAND reports are excellent sources, but care must be taken to discern their underlying assumptions. The typical methodology involves operations research, seeking to quantify decisions and other vague elements of military strategy. Assumptions are clearly noted at the beginning of each report, but the numerical details tend to cloud this, and conclusions generally present only clear, distinct options. The findings of these reports will be cited as they arise, but one of these many RAND reports deserves special mention.

RAND Report R-266, "Selection and Use of Strategic Air Bases," was led by a young scholar named Albert Wohlstetter. The Air Force commissioned the report in 1951, received numerous presentations on interim findings over the next few years, and obtained the final version in April 1954, at the midpoint of SAC's development of these bases. This 383 page report caused a stir within the Air Force community, for rather than merely chronicle past pursuits of these sites, Wohlstetter and his three colleagues used it as an advocacy piece for seeking changes to SAC operations abroad. RAND R-266 is a logical tour de force, presenting a massive amount of data on military and economic issues surrounding these bases, along with assessments of emerging Soviet

threats to the facilities.[24] The Air Force reception of this report was initially cool, but

the service implemented many of its suggestions later in the decade, matters which will

be examined in later chapters.[25]

Research Limitations

No currently classified documents or closed record sources have been used in

this analysis, although most of the documents mentioned above were previously labeled

Top Secret, Eyes Only, or NOFORN (No Foreign dissemination). Several

declassification requests were quickly and graciously granted by the National Archives

(Record Groups 340 and 341) and the Library of Congress (LeMay Papers), but the

resulting information was of only minor value. It was readily apparent at the outset that

the open documentary record of nuclear weapons in the early Cold War still possesses

wide gaps, even after almost half a century. The strategic war plans of the era are still

highly classified, as are some key aspects of the American nuclear stockpile. This study

seeks to work around much of this by addressing other, more readily available elements

of overseas bases. Any speculations based on partial information are noted in the text.

This study is entirely based upon American sources. This was a conscious

decision to restrict the scope of my analysis, but it is also justified due to the nature of

my topic: SAC bases belonged only to the United States, and answered only to

American leaders, a theme that will be fully explored in ensuing chapters.

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[24] A.J. Wohlstetter, F.S. Hoffman, R.J. Lutz, and H.S. Rowen, "Selection and Use of Strategic Air Bases," RAND R-266, 1 April 1954, (hereafter cited as Wohlstetter, et al, RAND R-266). This report was declassified in 1962, and subsequently published by RAND.

[25] The formation, production, and reception of RAND R-266 is the subject of an extensive article by Bruce L. R. Smith, "Strategic Expertise and National Security Policy: A Case Study," Public Policy, XIII, 1964, pp. 69-106, (hereafter cited as Smith, "Expertise").

Method of Presentation

The remaining portion of this dissertation separates along a mix of thematic and chronological lines. The following is a brief description of later chapters, to provide an overall outline and to show the goals sought for each part of this work.

Chapter Two, "Lessons from the Past," develops three distinct lines of historical continuity, all of which will later play an important role in the development of SAC overseas bases. The first part is a brief account of the long history of American overseas bases, to place the bomber bases in context with other eras and other bases. The second is a short exploration of some prominent tenets of air power theory, which form the intellectual basis for Air Force officers to seek SAC control abroad. The third part examines the American bomber bases of World War II, to note their placement and use throughout the conflict. The chapter ends with wartime lessons which strongly influenced the later acquisition of overseas bomber bases.

Chapter Three, "Development of SAC Overseas Bases, 1950-1957" analyzes changes in American national security policy during these years, with the goal of discovering how these changes affected overseas bomber bases. The issue of exclusive SAC control of bases abroad is specifically traced. The purpose of obtaining these bomber bases is presented, with particular emphasis on the motives of American leaders for seeking these sites. The chapter ends with a detailed analysis of the military considerations entailed in the selection of these overseas sites, to determine the military rationale for seeking facilities in specific locations.

Chapter Four, "Politics of Foreign Bases," is the longest chapter and bears out many of the themes mentioned in previous chapters. The goal is to undertake a systematic approach to the international politics of these sites. Some of the more

prominent topics addressed are the American negotiating tactics, the precise terms of access rights secured, and growing retention difficulties.

Chapter Five, "Economics of Foreign Bases," analyzes the costs associated with the sites. This aspect of overseas bases has generally been shunned by historians, and upon examining the historical record, I can now see why. These are only shards of evidence, partial and incomplete, compounded by governmental practices which were intentionally deceptive. Here I have sought a new synthesis through primary documents of the era, but can only further the issue, not fully analyze it.

Chapter Six, "Wars and Crises," is very short and seeks to appraise the overseas bomber bases through prominent international incidents of the decade. The emphasis is upon turning points which occurred with the use of these sites. This chapter is a broad analysis which remains on the high level of American national security policy.

Chapter Seven, "Aircraft Issues and Implications," is in many respects the core of this study. It is an detailed analysis of SAC aircraft and their capabilities during the early post-war period. The goals are to assess why the bomber bases were needed and attempts to replace the sites by extending bomber radii of action.

Chapter Eight, "Alternatives and Withdrawal, 1957-1960" examines the waning period of the overseas bomber bases. American national security strategy is examined, with particular emphasis on alternatives to the bases which became available late in the decade. The emerging strategic systems are presented separately, and then their collective impact on the bomber bases is analyzed.

Chapter Nine, "Final Assessment," is the concluding chapter which ties together all the previous chapters and consolidates the major themes. In addition, I specify five

new findings that this work makes and place these within context of previous base

histories. I end by placing overseas SAC bases into a much broader context.

Chapter 2

Lessons From the Past

We have won this war, and I am no longer interested in it. I do not think we should spend time debating whether we obtained the victory by sheer power or by some qualitative superiority. Only one thing should concern us: What is the future of air power and aerial warfare?[1]

General Hap Arnold, 1944

The bomber became the predominant strategic weapon in the early Cold War period. Many attribute the dominance of this aircraft, and then the subsequent pursuit of overseas strategic air bases, primarily to nuclear weapons, and previous base histories of this era fixate on aspects of these weapons.[2] When I first began my research, I too, felt this must be the case. For several years after World War II, only the United States had the atomic bomb, and for even longer, only Air Force bombers could deliver it. American air leaders adroitly and successfully used these reasons to seek independence for the Air Force and to channel funding to SAC. Hap Arnold, in his final report as the Army Air Forces (AAF) Commanding General, proclaimed: "The influence of atomic energy on air power can be stated very simply. It has made air power all important...[for the] only known effective means of delivering atomic bombs in the present state of development is the very heavy bomber."[3] After the destruction of Japan from the air, this claim was not without justification. Nuclear weapons allowed the Air Force,

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[1] Cited by Theodore von Karman, The Wind and Beyond, (Boston: Little, Brown & Co., 1967), pp. 267-268.

[2] Harkavy, Access, pp. 115-123; Duke, UK, pp. 13-23; Duke, Europe, pp. 8-9, 293-299; Cottrell and Moorer, Problems, pp. 6-8.

[3] General H.H. Arnold, 'Final Report to the Secretary of War,' 12 November 1945.

through SAC, to reach the pinnacle of the American military force structure in the early Cold War period.

But the atomic bomb was not the primary cause for the ascendancy of the bomber or the build-up of overseas bases. The argument for these aircraft and their placement abroad runs much deeper, and here is where the alleged causality of nuclear weapons errs. Nuclear weapons were used, so to speak, as a tactic for magnifying the unique capability of strategic bombardment, and thus the Air Force. Nuclear weapons heightened this position, but did not change the reasons for seeking overseas bases. Even before nuclear weapons, strategic bombardment possessed unique characteristics and overseas bases allowed these characteristics to be realized. I am convinced that had nuclear weapons not existed in the 1950s, the United States still would have sought bomber bases in the same locations, at the same time, for the same purpose. The strategic bomber had the longest reach, the sole means of strategic access. Nuclear weapons did not alter this. The change with these weapons was the magnitude of striking power, not method.

Overseas bomber bases of the 1950s did not simply appear, they were founded on historical precedence; specifically, these sites were influenced by the American conception and experience with other overseas bases, air power theory which endorsed bombers, and strategic air bases of World War II. These elements merged in the 1950s and SAC overseas bases were one product of this convergence. The bomber bases fit the overall goals of the United States: a distant power could be contained from the air, threatened in peace or reduced in war. The bomber could reach an enemy and get there quickly, if the United States had overseas bases.

This chapter aims to take a long view of the SAC bomber bases of the 1950s, to place them in context with other periods and other bases. Distinct lines of historical continuity fed into the development of SAC bases abroad, and these will be analyzed to glean their later influence. The bomber bases which appeared in late 1950 were firmly rooted in these lessons from the past.

Historical Perspective on American Overseas Bases

Overseas bases allow the projection of military power abroad, and are a manifestation of larger foreign policy aims. Guiding all of this is grand strategy, the assessment of military threats from abroad and the policies developed to maintain international commitments. Whereas military strategy is generally based upon war or conflict, grand strategy precedes this and looks beyond it, to the broader international environment.[4] The grand strategy of the United States over almost two centuries is far beyond the scope of this analysis, but within very narrow confines, some observations can be made. Examining American grand strategy strictly in regards to overseas bases, two distinct labels can be applied: isolationism and counter hegemony. Isolationism is an inward-looking concept, with primary concern placed on the home front and little interest shown beyond national borders. Counter hegemony, for the United States, shall be defined here as a desire to maintain hegemony over the Western Hemisphere and to prevent hegemony by any power elsewhere. I will not go into the many ramifications of these labels. They are merely used here to describe the American strategy in regards to bases on the soil of another country, and in this specific sense, they are appropriate.

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[4] This is just to provide a framework for an historical appraisal of American overseas bases; American Cold War strategy will be discussed in the next chapter. For the differing levels of strategy, see Basil H. Liddell Hart, Strategy, 2nd rev. ed. (London: Faber & Faber Ltd., 1954; reprint New York; Signet, 1967), (hereafter cited as Liddell Hart, Strategy), see particularly pp. 321-322.

For over a century after its founding the United States interest, or lack thereof, with foreign bases seems guided by a policy of isolationism. Since the nation's beginning, several generations of American leaders sought to avoid entangling alliances around the globe, and because of this, the nation had scant experience with foreign outposts prior to the end of the nineteenth century. This was primarily a reflection of geography, the United States was distant, secure, and largely unaffected by shifts in the world balance of power. Europe and Asia were thousands of miles away across vast oceans, and the British Navy guarded the seas. American leaders had little desire to seek military or political involvement beyond the insulation of North America. During this time, there were only a few instances of America seeking or using foreign military sites. In the early nineteenth century, a few small overseas ports allowed American warships to guard against Barbary pirates off the coast of North Africa, a mission which President Thomas Jefferson opposed for "nothing should ever be accepted which would require a navy to defend it."[5] An American naval squadron was based in the Cape Verde Islands during the 1840s to fulfill an obligation with Britain to reduce slave trade. Secretary of State William Seward negotiated the purchase of the Virgin Islands from Denmark in 1867 and the annexation of the Dominican Republic in 1869, but the United States Senate rejected both possessions. Commodore Oliver Perry obtained supply facilities on Okinawa and the Bonin Islands in the 1880s, but these were merely short-term arrangements and the sites subsequently returned to the local governments. The last quarter of the nineteenth century witnessed a modest acquisition of naval facilities in the Pacific, with ports obtained at Somoa's Pago Pago in 1878 and Hawaii's Pearl

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[5] Julius W. Pratt, <u>A History of United States Foreign Policy,</u> (Englewood Cliffs: Prentice Hall, 1955), pp. 108-109.

River Harbor in 1884. These permitted access to a greater portion of the Pacific Ocean, but the Navy did not fortify these ports, or even refer to them as such, calling them merely "coaling stations."[6]

The Spanish-American War was the turning point for American grand strategy and, correspondingly, its attitude towards overseas bases. Events in the Pacific Ocean exposed the precarious American position and highlighted the need for strong diplomatic ties and wartime base commitments with other nations--latent lessons which would be relearned half a century later.[7] Through treaty and financial arrangements, the United States gained new overseas bases as the Spanish government relinquished Cuba, ceded Puerto Rico and Guam, and sold the Philippines for twenty million dollars. America now had a rudimentary overseas base structure, and more importantly, a new grand strategy to guide it. With vast resources and industrial capacity, the United States had become a great power.[8]

At the turn of the twentieth century America's grand strategy--in the narrow sense of this topic--shifted. With the bases as a measure, a new posture now emerged: counter hegemony. For the first time, American leaders began to view issues globally

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[6] A fine analysis of American bases in the nineteenth century can be found in James W. Chapman II, "United States Bases Abroad: Technological and Political Considerations Affecting Their Value," (Ph.D. diss., Princeton University, 1966), pp. 23-32.

[7] Britain and Germany both had prominent ports and large Pacific fleets, but remained neutral during this war. Lack of aid from the first, and potential interference of the second could have been disastrous for the United States Asiatic Squadron. Commodore George Dewey's ships left Hong Kong on 27 April 1898, and the British then closed the port to American warships. Dewey could have been in a precarious situation, but the Battle of Manila Bay was won on 1 May. American naval forces blockaded the city, but had to wait until 30 June to seize the site, when General Wesley Merritt arrived from San Francisco with 10,000 men. During this period Germany dispatched five man-of-wars and several incidents occurred with the American force. The British had two man-of-wars, but relations were friendly towards the American combatants. Thomas A. Bailey, "Dewey and the Germans at Manila Bay," American Historical Review, XLV (1939), pp. 59-81.

[8] Thomas A. Bailey, A Diplomatic History of the American People, tenth edition, (Englewood Cliffs: Prentice Hall, Inc., 1980), Chapter 32, "America as a Great Power," pp. 465-485; George F. Kennan, American Diplomacy, 1900-1950, (Chicago: Mentor Books, 1951), Chapter I, "The War with Spain;" Paul Kennedy, Rise and Fall, pp. 312-320.

and the Monroe Doctrine became too restrictive, the United States hereafter sought a larger role abroad.[9]

In the first score years of the twentieth century American overseas bases began to reflect this new counter hegemonous policy. With the absence of a hegemon in the Far East, only small military contingents remained upon American possessions in the Pacific (Guam, Somoa, Hawaii, and the Philippines). These sites did little more than to keep American access to the Far East and, following the guidance of naval strategist A.T. Mahan, sought to protect developing economic markets.[10] America also maintained forces in the Caribbean and near the Panama Canal to prevent entry of other powers. These southern sites housed small Army and Marine contingents to insure regional stability, for fear that instability might bring intervention from European colonial nations.

From a basing standpoint, it can be argued that the United States fought World War I to prevent German dominance of Europe. The United States did not declare war on Germany until 6 April 1917 (and it would be eight more months before the United States declared war on Austria-Hungary). In the spring of 1917, there was a possibility that Germany might achieve victory and then dominate Europe, for each of its three major opponents was in a dire position. By March 1917 the Russian army had been

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[9] Some of the framework for this discussion comes from John J. Mearsheimer, "The Future of American Continental Commitment," (paper presented at the Norwegian Nobel Institute, Symposium "The United States and Western Europe," Oslo, Norway, 9-12 April 1997). For a more thorough discussion of counter hegemony and the limits of American power, appropriate for this period, see Nicholas J. Spykman, America's Strategy in World Politics: The United States and the Balance of Power, (New York: Harcourt, Brace and Company, 1942).

[10] American naval theorist Captain Alfred Thayer Mahan's most influential work, The Influence of Sea Power upon History, 1660-1783 (1890) proposed that the Royal Navy had allowed and protected the rise of the British Empire. One early adherent to Mahan's theories was Theodore Roosevelt. See Margaret Tuttle Sprout, "Mahan: Evangelist of Sea Power," in Edward Mead Earle, ed., Makers of Modern Strategy: Military Thought from Machiavelli to Hitler, (Princeton: Princeton University Press, 1943), (hereafter cited as Earle, Makers), pp. 415-445.

soundly defeated, a revolution had occurred, the *Czar* had fallen, and a collapse was imminent along the Eastern front. The French army had been bled white. The British Army was intact, but Germany's unrestricted submarine warfare since February 1917 threatened British support for the conflict.[11]

United States bases sprang up in Britain and France to support the American Expeditionary Force. Two million American soldiers were in Europe by November 1918 and, had the war continued, another two million were scheduled to arrive by July 1919. But within a year of the Armistice, America abandoned all of these European sites, with one notable exception--the United States Occupation Force remained in Coblenz, Germany, until 1923, to monitor any resurgence of German military might or territorial aspirations.

During the interwar years American bases in the Far East also show a counter hegemonous stance. There was parity among forces of colonial powers Britain and France, and regional powers China, Japan, and Russia (after 1917, the Soviet Union). The United States still kept only minimal forces in the region, no more were needed to insure the balance of power. The Washington Naval Limitations Treaty of 1922 prohibited fortification and expansion of Pacific outposts held by Japan, the British Empire, and the United States. Without the dominance of any single power in the region, the status quo put forth in Article XIX well-suited America's limited base interests: "...no new fortifications or naval bases shall be established...no measures shall be taken to increase the existing naval facilities...[and] no increase shall be made in the

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[11] David Trask, The AEF and Coalition Warmaking, 1917-1918, (Lawrence: University Press of Kansas, 1993).

coast defenses..."[12] Even after the treaty expired in 1936 America did not acquire new facilities, nor adequately reinforce those already held. American leaders condemned Japan's 1931 invasion and occupation of Manchuria, and the Stimson Doctrine refused to recognize territorial changes brought about by force, but the United States took no part in any efforts towards collective enforcement in the region. Japan's transgressions, at this time, were seen as limited, local issues.

The United States continued with a cursory base position abroad through 1938. That year the entire collection of American foreign military sites--including those in United States protectorates--amounted to four naval bases, six air stations, and twenty army posts.[13] America's Atlantic bases were confined to Panama, Cuba, Puerto Rico, and the Virgin Islands. American naval hubs existed in Hawaii and the Philippines, which further linked with smaller sites at Midway, Guam, the Aleutian Islands, Samoa, and Shanghai. The American Army--and with it aircraft of the Army Air Corps-- retained small contingents only in Panama, Hawaii, and the Philippines.[14]

But in 1941, as Axis conquests accumulated across Europe, President Franklin D. Roosevelt directed the acquisition of sites farther and farther across the Atlantic. These facilities served two purposes, both in line with America's broader grand strategy: deny German access to the Western Hemisphere, and aid nations resisting German dominance of Europe. The expansion of overseas facilities began in March 1941 when the United States traded fifty destroyers to Great Britain in return for base rights in the

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[12] 'Treaty Between the United States, the British Empire, France, Italy and Japan Limiting Naval Armament,' 6 February 1922. Reprinted in J.A.S. Greenville, The Major International Treaties, 1914-1973, (New York: Stein and Day, 1974), pp. 87-89.
[13] 'Report on Need of Additional Naval Bases to Defend the Coast of the Untied States, Its Territories and Possessions,' House Document 65, 76th Congress, 1st Session (Washington: USGPO, 1939); 'The Army of the United States,' Senate Document 91, 76th Congress, 1st Session (Washington: USGPO, 1939), p. 88.
[14] Blaker, Dilemma, p. 9.

Western Atlantic. Through the provisions of this Destroyer-Base Agreement the American Navy acquired a line of sites stretching across British possessions from British Guyana to Newfoundland. In April, Roosevelt placed Greenland under the protection of the United States, and American forces began to move to the island. In July, American troops replaced a British garrison in Iceland. And in September, American destroyers, operating from sites among British holdings, began escorting convoys across the North Atlantic.

Pearl Harbor brought war with Japan. Three days later Hitler declared war on the United States, and America entered the European conflict as well. The American base structure developed to fight the Second World War was massive, exceeding that of any previous world power. By James Blaker's count, from 1941 to 1945 the United States built 30,000 installations in two thousand locations around the world, and at peak activity from late 1944 to early 1945 over one hundred new bases opened each month. Six major base networks sprang up, through the Central Pacific, North Atlantic, Southwest Pacific, Latin America, North Africa, and China-Burma-India.[15]

But the United States abandoned the vast majority of its overseas sites after the conflict. Access rights were also cast aside, so that by 1947 the United States had only three formal overseas base agreements: a ninety-nine year lease with the United Kingdom for naval bases in the North Atlantic, another ninety-nine year lease for base sites in the Philippines, and a continual lease for a facility at Guantanamo Bay in Cuba. American troops served with occupation forces in Germany, Austria, and Japan, while a limited number remained in seven other locations. This was not another retreat to

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[15] Blaker describes these networks in detail and provides the best summation of American WW II bases. Blaker, Dilemma, p. 9-23; see also Patch, "Overseas," pp. 441-445.

isolationism, but rather a recognition that there was no longer a need for a large American military presence abroad. At the direction of the Truman Administration, American forces returned to the United States, forsaking their overseas sites in the process.[16]

Strategic air power began to emerge as a distinct basing concern in this immediate post-war period. Prior to this American overseas bases meant primarily naval facilities, and the Navy served as the most visible element of American military power projection. But overseas bases for bombers now became a separate element of American power projection, although potential facilities abroad were then unavailable. This relegation of overseas sites did not go unnoticed by some members of Congress. The Senate's Mead Committee issued a report in August 1946 sharply critical of the post-war decline of American overseas bases, particularly those for bombers:

> The War, Navy, and State Department should have had plans, before the end of the war, to utilize those overseas bases necessary to our national defense, and they should have used the full weight of our bargaining power in executing these plans. The appropriate government agencies must now work out and set into operation a feasible program for acquiring the use of strategic air bases.[17]

Strong words, but the funds and forces were not there to back them up. A Republican victory in November 1946 brought into office a new group of Congressional leaders, strongly anti-Communist, but also advocates of government spending cuts and tax reductions, which in turn imposed tight fiscal restraints on the Administration. There

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[16] In 1947 the United States had air transient facilities in the Azores, Iceland, and Saudi Arabia, naval personnel in Morocco, and was withdrawing ground troops from sites in China, Korea, and Triest. Nash Report, DDEL, p. 3; for post-war base decline, see Blaker, Dilemma, pp. 28-30 and Patch, "Overseas," pp. 445-447. Figures do not support Harkavy's contention that in the late 1940s the United States was reluctant to abandon it's wartime base sites. Harkavy, Access, pp. 111-112.

[17] Special Senate Committee Report of National Defense Program, 31 August 1946, cited in Hans W. Weigert, "US Strategic Bases and Collective Security," Foreign Affairs (January 1947), pp. 250-262, (hereafter cited as Weigert, "Collective"), citation on p. 257.

was not enough money to support a large assortment of overseas bases. More importantly, there was not a perceived need to acquire and use these facilities. The war had been won, relative peace was at hand, Germany and Japan had been defeated.[18]

But this last point, combined with the difficulties of colonial powers (particularly Britain) to retain their pre-war commitments abroad, eventually led to a resurgence of American overseas bases to counter the Soviet threat. American interests in military sites abroad returned with the Korean War, when the fear of a communist hegemony--internationally lead by the Soviet Union, regionally sponsored by China, specifically executed by North Korea--led to a global base build up by the United States. Through these sites American leaders, this time, sought not merely to counter the perceived hegemonic aspirations of the Soviet Union, but to fill the void that had allowed this situation in the first place. A 1953 report to the Senate Armed Services Committee, prepared by the Subcommittee on Real Estate and Military Construction, examined the developing American bases and underlined the rationale for these sites:

> We have the bases and we have the industrial capacities and we have the transportation. And we do have the friends. The imbalance of world power, the vacuum that was created by the 'unconditional surrender' status forced on Germany and the destruction and full demobilization of Japanese military strength is being corrected.[19]

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[18] When the war ended in September 1945 the United States military numbered over 2.4 million, by May 1947 barely three hundred thousand remained. For the extent of this draw-down and its effects, see Steven L. Rearden, The Formative Years, 1947-1950, vol. 1 of History of the Office of the Secretary of Defense, (Washington: Office of the Secretary of Defense, 1984); and Herman S. Wolk, Planning and Organizing the Postwar Air Force, 1943-1947, (Washington: Office of Air Force History, 1984); using constant 1986 dollars, the American military budget of 1948 was less than ten percent that of 1945. Department of Defense, Office of the Assistant Secretary of Defense (Comptroller), 'National Defense Budget Estimates for FY 1986,' pp. 116-117.

[19] 'United States Military Construction in England, Europe, and the Mediterranean Area,' Interim Report to the Senate Armed Services by the Subcommittee on Real Estates and Military Constructions, p. 3, 83rd Congress, 1st session, 15 October 1953, NA, RG 46, box 528, file Travel Reports, (hereafter cited as 83rd Congress, "Construction Overseas").

The goal of this global network of bases was to offset potential Communist advances, whether military conquests or political interference. American leaders of this period viewed overseas bases through a geopolitical lens, one which placed local issues on a global scale. Individual bases linked into larger regional collections, which then formed a worldwide network, all designed to contain Communist power.[20] The methods used to achieve this could, arguably, be considered a form of American hegemony. The counter-hegemonous purpose of America's overseas bases could, ironically, be viewed as hegemonous in its own right. The United States actively sought to preempt any Soviet territorial aspirations by positioning American military forces in potential combat zones.

By 1957 the United States had bases in thirty-six countries and territories, controlled four thousand square miles of foreign land, and had one million troops stationed abroad. According to the Nash Report, issued that same year, the American military presence around the globe "provided concrete evidence of US support in case of attack and has served to strengthen resistance to internal and external Communist pressure in many areas."[21] Counter hegemony appears to underlie American overseas bases in the 1950s, as attested by a regional breakdown of the locations:

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[20] See Harkavy, Access, chapter 4; Colin S. Gray, The Geopolitics of the Nuclear Age, (New York: Crane Russack, 1977). Blaker develops this idea of a global network for analyzing overseas bases, where each base is a "node" which links to in a larger collection of regional bases, which then further link to a global base network. Blaker, Dilemma, pp. 2-4.

[21] Nash Report, DDEL, p. 12.

Table 1
American Overseas Bases by Region, 1957

region	number of bases
Europe	566
Pacific	256
Latin America	46
Africa, Middle East	15
South Asia	0
total	1,014

Blaker's definition of a base is unique (see Chapter 1, p. 8), but his tabulations are valuable for they reflect the concentrations of these sites. By his connotations, Pacific includes sites in Southeast Asia (notably Korea), South Asia includes only Pakistan, India, Burma, and Southern China. Source: data from Blaker, Dilemma, p. 33, table 1.2

American military bases were grouped in areas where potential communist enemies had the greatest strength, near the masses of Soviet and Chinese armies.[22] Half of the American overseas bases developed in Western Europe, the primary location of American interests and allies overseas, and not far removed from five million Soviet soldiers.[23]

Air bases equipped with strategic bombers were only a portion of this extensive build-up of United States overseas bases, amounting to less than three percent of the total sites. However, these sites were critical to American strategy. To best understand the role of these aircraft and the rationale for their bases, we now return to the interwar period to examine the developing air power theory. This theory formed the theoretical framework which guided the later employment of air power, and with it, the pursuit of overseas bases.

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[22] The Communist Chinese threat is not the major focus here, it will be addressed in a later chapter. The Nash Report held that, even by 1957, there was active cooperation between these two major communist nations, and repeatedly refers to the collective "Sino-Soviet threat." But, for purposes here, the major opponent of this period and the focus of the overseas bomber bases was the Soviet Union. The next chapter will discuss the American perception of communist complicity around the globe.

[23] Figures for 1957 from Nash Report, DDEL, p. 3.

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Applicable Tenets of Air Power Theory

As the newest form of military power, aviation borrowed much of its employment theory from the other military services. Many of the employment principles for aerial forces came from the classic military theorists, such as Sun Tzu, Antoine Henri Jomini, and Carl von Clausewitz.[24] These traditional theories looked beyond the clash of forces to address broader issues of grand strategy, placing military forces within the framework of national policy. The primary purpose of all military engagements was to support the higher aim of the war. Clausewitz put this most succinctly: "War is nothing but the continuation of policy by other means." Air power advocates seized on this notion, drawing lines of demarcation through a zone of conflict and affixing adjectives: "tactical" issues remained in the battlefield area, while "strategic" issues referred to that beyond, relating to the larger purpose of the war. From the beginning, air power theorists defined aerial bombardment in terms of these broader issues: strategic bombers carried strategic weapons to attack strategic targets. The overall goal of bombardment was strictly Clausewitzian, for these early proponents the primary focus of air strategy should be upon the enemy "centers of gravity...the hub of all power and movement, on which everything depends."[25]

The emerging tenets of air strategy borrowed from naval strategy as well. In many respects, strategic bombardment is merely an extension of traditional naval roles at increased speed across a greater distance: coastal bombardment moved farther inland

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[24] For the most prominent works, see Sun Tzu, The Art of War, ed. and trans. Samuel B. Griffith (New York: Oxford University Press, 1963); Antoine Henri Jomini, The Art of War, trans. G.H. Mendell and W.P. Craighill, (Westport: Greenwood Press, n.d.); Carl von Clausewitz, On War, ed. and trans. Michael Howard and Peter Paret, (Princeton: Princeton University Press, 1976), (hereafter cited as Clausewitz, On War).

[25] Quotes from Clausewitz, On War, p. 69, 595. For the context of these quotes and a thorough discussion of them, see Michael Howard, Clausewitz, (Oxford: Oxford University Press, 1983), especially Chapter 3.

with aviation, battleships became bombers, and economic blockades reemerged as bombardment of economic targets.[26] Discussing the British interwar air theory, historian Lawrence Freedman writes, "It demanded no great conceptual leap to suggest that bombers might achieve through direct assault what the Navy could only achieve through an indirect squeeze"[27] Strategic bombardment emerged within the context of strategy developed for the other military services and, despite the claims of its extremists, bombardment was a supplement, not a substitution, for these traditional military strategies, merely a projection of traditional tenets through a different medium.

The aircraft is a newcomer to military arsenals, yet the concept of aerial bombardment predates it. In 1783 man first lifted from the Earth, aboard a French balloon built by Etienne and Joseph Mongolfier, and that very year the *Journal de France* ran a caption under a drawing of the vessel announcing "Wars in the Air." By 1805 the Prussian General Staff conceived of an armed military balloon to attack troop concentrations, and seven years later a Russian balloon designed to attack Napoleon's invading army failed to get airborne and was overrun by French troops. The first true aerial bombardment occurred in 1849, over half a century before the invention of the aircraft, when unmanned Austrian balloons attacked Venice.[28]

The first aircraft flight occurred on 17 December 1903, and within a decade aircraft were a common adjunct to many military forces. World War I saw the emergence of the aerial weapon, as it progressed from a mere observation platform to a full-fledged combat vehicle, and the practice of strategic attacks fully began. During the

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[26] I am grateful to Alan Milward for this insight.
[27] Freedman, Evolution, p. 11.
[28] For a short but excellent history of the early strategic bombardment, see General Laurence S. Kuter, "An Air Perspective in the Jetatomic Age," Air University Quarterly Review, Spring 1956, pp. 2-17, 108-123.

war England endured over one hundred aerial attacks as German forces dropped 196

tons of bombs, killing over five hundred. Allied aircraft attacked German cities,

railroads, supply depots, and bases. In the last five months of the war alone, allied

aircraft dropped 543 tons of bombs on Germany, killing over seven hundred. Strategic

bombardment was now a routine occurrence, and in the ensuing decades, aerial

strategists began to grapple with the potentialities of this new form of military power.[29]

The golden age of air power theory occurred in the interwar period, when a host

of theorists emerged around the world. Many of these men were military officers

intimately involved with aviation, whose published articles and books span several

decades.[30] From these works emerged a confluence of ideas, most of which can be

traced back to the Italian officer Guilio Douhet, the first and most translated air theorist,

who began writing about air strategy in 1909 and published his seminal work, _Il_

Dominio dell' Aria (The Command of the Air), in 1921. The views of these men differ

slightly, tailored to fit their national frame of reference and international situation, but

there were common features among their works which laid the basis for the subsequent

employment of strategic aviation. An examination of these commonalties provides a

foundation for understanding the intent of World War II strategic air operations, as well

as the purpose of SAC overseas bases in the 1950s.[31]

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[29] WW I air history, see John H. Morrow, Jr., The Great War in the Air: Military Aviation from 1909-1921, (Washington: Smithsonian Institution Press, 1993); statistics from Michael Clodfelter, Warfare and Armed Conflicts: A Statistical Reference to Casualty and Other Figures, 1619-1991, vol. II, (Jefferson, NC: McFarland & Company, Inc. Publishers, 1992), pp. 779-80.

[30] Some of the more prominent works of this period include: Guilio Douhet, The Command of the Air, trans. Dino Ferrari (New York: Coward-McCann, 1942; new imprint Washington: Office of Air Force History, 1983); William Mitchell, Winged Defense: The Development and Possibilities of Modern Air Power--Economic and Military (New York: Putnam's, 1925; reprint New York: Dover Publications, 1988) and Skyways (Philadelphia: J.B. Lippencott Company, 1930); John C. Slessor, Air Power and Armies, (London, 1936); Alexander P. de Seversky, Victory Through Air Power, (New York: Simon and Schuster, 1942). I am grateful to Jerome Martin for guiding me through the principles put forth by these air theorists.

[31] See Bernard Brodie, "The Heritage of Douhet," RAND Research Memorandum RM-1013,

Although air power theory built on traditional military concepts, it also

contained several iconoclastic elements. The leitmotif of air power theory, which ran

counter to the other theories, was the proposition that in the air the offensive is stronger

than the defensive. This concept held that aerial forces were largely immune from

surface-bound forces, unstoppable, and could overfly battlefields and directly attack the

enemy nation. The fundamental goal of an offensive air force, according to this theory,

should be the sources of the military support within the enemy homeland. National

assets behind enemy lines (given such labels as vital centers, bottlenecks, national

structures, economic webs, organic industrial systems, and socio-economic systems)

were the key to air strategy. These targets fueled the enemy war effort, and destruction

of them would disable support for the war. The targets suggested by these air theorists

varied, were usually vague, and generally rested on many assumptions. The specific

targets ranged across the gamut of air forces, military forces, industry, and population.[32]

But all of this was, to borrow a phrase from Marshall John Slessor of the RAF,

"an article of faith." In these days before radar, before integrated air defense systems,

when bombers generally flew higher and faster than fighters, the prevailing maxim was

"the bomber will always get through."[33] Aerial bombardment had not validated any of

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31 December 1953.

[32] For summations of these interwar theories see Edward Warner, "Douhet, Mitchell, Seversky: theorists of Air Warfare," in Earle, Makers, pp. 485-503; and another article in an updated version of Earle's book, David MacIsaac, "Voices from the Central Blue: The Air Power Theorists," in Peter Paret, ed., Makers of Modern Strategy: From Machiavelli to the Nuclear Age, (Princeton: Princeton University Press, 1986), pp. 624-647.

[33] This phrase propagated as an offensive principle and was commonly attributed to bomber generals, but it was first stated by Stanley Baldwin as a fearful pronouncement about the inadequacies of British defenses against air attack. A fuller citation of his 10 November 1932 speech before the House of Commons shows the context of the phrase: "Any town which is within reach of an aerodrome can be bombed within the first five minutes of war from the air, to an extent that was inconceivable in the last war, and the question will be whose morale will be shattered quickest by the preliminary bombing? I think it is well for the man in the street to realize that there is no power on earth that can protect him from being bombed. Whatever people may tell him, *the bomber will always get through.*" Cited in Jay M. Shafritz, Words on War, (New York: Simon and Schuster, Inc., 1990), p. 43.

this theory, but was offered as a tonic to the horrors of trench warfare. The Great War destroyed a generation, as almost half of the sixty-five million soldiers mobilized became casualties. Battle deaths for Germany exceeded 1.8 million, Russia lost 1.7 million, and France almost 1.4 million. Austria-Hungary and the British Empire each surpassed nine hundred thousand combat deaths, all for a exceedingly stagnant war of attrition. Bombers could, supposedly, overfly fixed bloody lines and directly attack the enemy power at its source.[34]

Basil H. Liddell Hart wrote an influential book in 1925 which proposed a new construct for analyzing military power, which also underlies much of the logic of air power theory. Paris: or the Future of Warfare notes that when Germany surrendered in 1918 it still had an undefeated army in the field and national borders firmly intact. The conventional causes of military defeat (battle losses and land invasion) did not fit the circumstances, so other reasons must have had an overriding influence. He proposed two intertwined factors which allow and support the projection of a nation's military power: military capability and the political will to use it. Germany had the first, so it must have lost the second, and here is where Liddell Hart integrates the concept of air power. The components of 'political will' include the leadership of a nation as well as its population, and these could both be influenced through aerial bombardment.[35] By

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[34] The Battle of the Somme is the extreme example of the cost and futility of trench warfare in the First World War. On the first day the ground offensive, 1 July 1916, British forces suffered 60,000 casualties --the largest single day loss in the history of the British Army. (In the summer of 1944 Allied armies fought twenty days across Normandy before reaching the same number.) After four and a half months of continuous fighting and 1.265 million casualties on all sides, the Somme battle line had changed only eight miles. WW I figures from R. Ernest Dupuy and Trevor Dupuy, The Harper Encyclopedia of Military History: From 3500 B.C. to the Present, 4th ed., (New York: HarperCollins Publishers, 1993), pp. 1003-1084.

[35] Basil H. Liddell Hart, Paris: or the Future of Warfare (1925). Three decades later, Liddell Hart qualified some of the claims made in Paris, stating that he went too far by advocating bombardment of civilian objectives, and attacks of industrial centers would not be immediately decisive but rather "produce a prolonged war of attrition in a fresh form." Liddell Hart, Strategy, pp. 350-351.

attacking an enemy's power at its source (he later uses the term "the indirect approach" for seeking victories such as this, without direct frontal assaults), that nation's military forces could be undercut and rendered ineffective. Many air advocates seized on this theme of military capability and political will, and the concept is still prevalent today.[36]

Theorists made several controversial proclamations for this nascent form of military power. The following issues led to continuous internecine struggles among the American military services and frame many of the major issues surrounding SAC overseas bomber bases. Strategic air power could fight first and best at the strategic level, within the enemy nation. In order to properly do this, a strategic air force should be independent from other military forces. With independence, bombers could fulfill their unique strategic role, not be used as mere long range artillery in the battlefield area. Strategic air power should be directed by airmen, freed from the confines of the tactical arena, so as to fight on the strategic level and focus on strategic objectives. This was, in a nutshell, the claims made by the early air power theorists. The extremists took it even further: strategic air forces would eventually become the predominant component of military power, and might achieve victory largely unaided by the other services. This theory placed leaders of the traditional military services on the defensive, relegating their forces to mere support roles--the army to seize and hold forward bases and the navy to transport supplies--and expectedly was received as polemic.[37]

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[36] For the influence of Paris on American interwar theory, see Haywood S. Hansell, The Strategic Air War Against Germany and Japan, (Washington: Office of Air Force History, 1986), (hereafter cited as Hansell, Germany and Japan), pp. 3-20. On page 1 of the March 1992 edition of Air Force Manual 1-1, vol. II, Basic Doctrine of the US Air Force (March 1992) is the following statement: "Military victory is usually attained by destroying the enemy *capability or will* to continue waging war." (Emphasis added.)

[37] The claims of air power theory remain controversial to this day. A recent example can be seen with the extreme divergence of views over the effectiveness of the 1991 strategic air campaign against Iraq. For interpretations of these conflicting views, see James A. Winnefield, Preston Niblack, and Dana J. Johnson, A League of Airmen: US Air Power in the Gulf, (Santa Monica: RAND, 1994), Chapter 12, 'An Assessment Air Power's Role.'

The American strain of air power theory developed largely due to the influence of Brigadier General William (Billy) Mitchell, who integrated many of Douhet's principles. Mitchell used his position as Assistant Chief of the Air Service (from 1919 to 1925) to serve as a tireless, to some tactless, promoter of military aviation. The Army eventually court-martialed Mitchell for the public recriminations he made against superiors over the status of American aviation. But Mitchell's legacy survived, nurtured and developed at the Air Corps Tactical School.[38]

The United States Army Air Corps Tactical School (in existence from 1920 to 1940) served as a think tank for aerial operations, and through an intense fourteen week curriculum trained a generation of future air leaders. The faculty preached the unique, fundamental, and primary mission of the Army Air Corps as strategic bombardment of an enemy nation. The methodology selected to study strategic bombardment furthered the acceptance of air power theory by American political leaders, particularly President Roosevelt. Expressly forbidden from analyzing the aerial vulnerability of a foreign nation, the faculty cadre used American cities instead. Theoretical attacks on New York, Chicago, San Francisco, and Washington, found major cities extremely vulnerable from the air, and even further, the functioning of an entire nation was deemed susceptible to bombardment. Specifically, the Bomber Section of the school proposed that "an economic web" overlaid each major industrial country. Breaks in specific parts of this web could cripple a nation.[39] Air Corps leaders paraded the results to military and Congressional leaders in an effort to gain a larger portion of the scarce

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[38] For the influence of Mitchell and the development of American interwar air theory, see Russell F. Weigley, The American Way of War: A History of United States Military Strategy and Policy, (Bloomington: Indiana University Press, 1973), (hereafter cited as Weigley, American Way), Chapter 11, 'A Strategy for Air Power: Billy Mitchell.'

[39] Stephen L. McFarland, America's Pursuit of Precision Bombing, 1910-1945, (Washington: Smithsonian Institution Press, 1995), Chapters 2 and 5.

interwar defense budget. A 'bomber mystique' emerged at this time, one which created

an image of bomber invincibility and aviation's dominance over warfare.[40]

This promotion of the strategic bomber was ingenious, yet the claims were

unproven. Nonetheless, the aviation portion of the trickle of military funds went

towards development of bombers. On the eve of the Second World War, the strategic

bomber was the core of American air power, a position that would last for the next two

decades.[41] The primary reason for the acceptance and endorsement of the strategic

principles of air power theory was that bombers promised direct *access*. Bombers could

attack before, even without, military conquest of an enemy nation. Bomber advocates

promised quick results, and whether these results would prove to be decisive was not

truly the issue, for the bomber could reach an enemy and nothing else could. But due to

limited radius of action, bombers could only be employed from forward bases within

reach of enemy targets.

World War II Strategic Air Bases

The strategy, chronology, history, and outcomes of the wartime strategic air

campaigns have been ably told by others.[42] The concern here is much more limited;

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[40] For a more detailed discussion of the American public's interwar attitudes about military aviation, particularly the bomber, see Michael Sherry, The Rise of American Air Power: The Creation of Armageddon, (New Haven: Yale University Press, 1987), (hereafter cited as Sherry, Armageddon) Chapter 2, 'The Age of Prophecy.'

[41] Robert T. Finney, History of the Air Corps Tactical School, 1920-1940, (Montgomery: Research Studies Institute, Air University, 1955); Thomas H. Greer, The Development of Air Doctrine in the Army Air Arm, 1917-1941, (Maxwell: USAF Historical Division, 1955; reprint Washington: Office of Air Force History, 1985).

[42] Some of the more prominent works, which have stood the test of time, include: the official AAF history by Wesley Frank Craven and James Lea Cate, eds., The Army Air Forces in World War II, 7 vols. (Chicago: University of Chicago Press, 1948-1958), (hereafter cited as Craven and Cate, AAF in WW II), see particularly vols. II, III, V; Hansell, Germany and Japan; Lee Kennett, A History of Strategic Bombing, (New York: Scribner's, 1982); David MacIsaac, Strategic Bombing in World War II: The Story of the United States Strategic Bombing Survey, (New York: Garland, 1976); Sherry, Armageddon; Charles Webster and Noble Frankland, The Strategic Air Offensive Against Germany, 1939-1945, 4 vols., (London: Her Majesty's Stationery Office, 1961).

what happened during the war is not as important to this topic as from where it occurred. Overseas bases allowed the projection of this strategic force. Wartime bomber bases and the experience of their use, would have a crucial impact on the later development of SAC overseas bases.

Between 1939 and 1940 the Army Air Corps placed production orders for only eighty-seven four-engine bombers, but by June 1941, a massive build-up was underway, and over three thousand were in production.[43] Milestones throughout the war show the composition and growth of this American bomber force:

Table 2
US Strategic Bomber Force, WW II

aircraft category	Sep 1939	Dec 1941	Jun 1945	Sep 1945
Very Heavy Bombers	0	0	2,374	2,994
Heavy Bombers	22	288	12,221	9,383

At this time, the only very heavy bomber was the Boeing B-29 Superfortress. The heavy bombers were the Boeing B-17 Flying Fortress and the Consolidated B-24 Liberator. Data were tabulated quarterly, so no specific figures are available for the May 1945 surrender of Germany. Source: information from HQ USAF, SD FY1947, table 86.

Without overseas bases, none of these aircraft could have been used for strategic purposes. Heavy bombers had a combat radius of eight hundred miles--double the air mileage between London and Berlin, while very heavy bombers could go 1,500 miles. So, during the war there was also a tremendous expansion of American overseas air bases: in late 1941 the AAF possessed sites in only three American protectorates, by September 1945 this had grown to 562 installations outside the United States.[44]

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[43] Director of Statistical Services, Comptroller, HQ US Air Force, United States Air Force Statistical Digest, Fiscal Year 1947, (Hereafter cited as HQ USAF, SD FY19xx), table 72. The peak wartime production year was 1944, when American military aircraft production increased 1,600 percent over figures from 1940. The emphasis on heavy bombers is also apparent, for during this same period total airframe weight increased 4,500 percent.

[44] The number of AAF WW II bases ranges from almost 1,900 to over 2,200, depending on the differing definitions of base, main operating location, installation, and facility. The official AAF history finds that at the end of the war the AAF controlled 1,895 facilities (562 overseas), down from a wartime high of

From overseas sites, American bomber forces waged two strategic air campaigns. In Europe, (what eventually became) the United States Strategic Air Forces Europe operated from bases in the United Kingdom and Italy, while in the Far East, the AAF's Twentieth Air Force operated from bases in China and the Mariana Islands.[45]

The United States Strategic Air Forces Europe (comprised of the Eighth Air Force in England and the Fifteenth Air Force in Italy) had its headquarters at Bushy Park, near London. Here, Americans worked closely with their counterparts in RAF Bomber Command, to plan and fight the air war against Germany. The Eighth Air Force, with headquarters at High Wycombe, developed bases throughout the United Kingdom and nurtured relationships with RAF officers, both of which would serve well into the next decade. Political leaders and diplomats cultivated the Anglo-American special relationship, and this kinship extended to air leaders as well.

American heavy bombers occupied forty-two British airfields (see Appendix A.3), and not a single American bomb unit was kept away due to lack of facilities. The British Air Ministry was responsible for overseeing construction and retained control of the facilities throughout the war. Peak construction occurred in 1943, when thirteen thousand American military engineers joined thirty-two thousand British civilians to build the sites.[46] Every Eighth Air Force bomb group had its own base, an AAF Class A standard airfield. Each facility had three 6,000 foot concrete runways formed in a triangle, took about sixty days to build, contained over two thousand men, seventy-two

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2,252 in December 1943. Chauncey Saunders, "Redeployment and Demobilization," in Craven and Cate, AAF in WW II, vol. VII, p. 569.

[45] There were sixteen American numbered air forces involved in the war. The only ones discussed here are those with bombers dedicated to strategic attacks: the Eighth (from mid-1942), the Fifteenth (after moving to Italy in September 1943), and the Twentieth (from mid-1944).

[46] The peak occurred during the summer, but this frenzied pace caused setbacks in the fall. Much of the original bomber bases had to be rebuilt. Poor construction materials needed to be replaced, narrow British roads had to be widened for the larger American vehicles, and runways had to be reinforced to support the heavier weight of the American bombers.

bombers, and all the equipment necessary for strategic air warfare.[47] All of these American bases were between London and the Wash, in the Huntingdon and East Anglia region of England. These American bomber airfields displaced forty thousand acres of farmland, all in an area that could have fit within the state of Rhode Island.[48]

These American bases, along with those nearby of the RAF Bomber Command, held the greatest concentration of bombers ever assembled, over three thousand aircraft. The United States portion consisted of forty-one bomb groups with 2,100 heavy bombers--almost ten times the number in the current Air Force inventory. These bases in England were four hundred air miles from Berlin, well within the radius of action of the B-17 and B-24.

More American bomber bases developed in Italy, opening a southern air route into Germany. Following the Italian surrender in September 1943, bombers of the Fifteenth Air Force moved to the spur of eastern Italy, around Foggia and Manduria. With the end of the North African campaign, all Fifteenth Air Force bombers left Tunisia for these forward bases. At its height these bases held twenty-one bomb groups and 1,100 bombers, about half the size of the American force in England.[49]

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[47] The bomb group was the standard combat unit during WW II, and its composition varied depending on location, aircraft, and year. By February 1945 the norms for AAF bomb groups were:

	very heavy	*heavy*
type aircraft	B-29	B-17 or B-24
number of aircraft	45	72
aircrews	60	96
officers	462	465
enlisted	1,616	1,796
total personnel	2,078	2,261

Source: data from Craven and Cate, AAF in WW II, vol. VI, p. 59.

[48] For a list of American bomber bases in the UK during the war, see Appendix A.3. Some sources list the American bomber base numbers as higher by including all British facilities used by the Eighth Air Force. The official Army Air Forces history lists sixty-six air facilities in the United Kingdom used by the Eighth. Craven and Cate, AAF in WW II, vol. II, pp. 600-664.

[49] Roger Freeman, The US Strategic Bomber, (London; MacDonald's and Jane's, 1975), pp. 65-69; Craven and Cate, AAF in WW II, vol. II, pp. 508, 563-574, 639, 651.

In the Far East, the Japanese home islands were beyond the reach of American

bombers until mid-1944.[50] All the planned locations for American strategic air bases

(eastern China, northern Philippines, the Ryukyu Islands, and the Mariana Islands) were

initially held by Japanese forces, and until one of the three major axes (Central Pacific,

China-Burma-India, Southwest Pacific) progressed into forward areas, no bombers

could attack Japan. Eventually though, all three axes advanced and bomber bases were

built. The first opened near Chengtu, China, in June 1944, built entirely by hand by

400,000 Chinese laborers. Although Japan was now accessible from the air, logistics

proved insurmountable and the sites were abandoned in early 1945.[51]

American forces invaded three of the Northern Mariana Islands (Saipan, Guam,

and Tinian) between June and August of 1944, and even while the battles raged,

construction began on bomber fields. Across surfaces of volcanic ash, coral, and

limestone, runways were lengthened to 8,500 feet and stressed for the heaviest aircraft

in the American inventory, the B-29, which had a combat radius of action of 1,500

miles. With Tokyo only 1,300 miles away, the Marianas would become the key to the

Pacific air war. By the spring of 1945 there were seven bomber airfields in the

Marianas, and every strategic bomber in the Far East was on one of these bases.[52]

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[50] One exception was the Doolittle Raid on 12 April 1942. Since there were no airfields close enough to attack Japan, AAF medium bombers launched off the deck of the aircraft carrier USS Hornet, attacked Tokyo, then flew to China. This was over two years before an infrastructure was in place to support an offensive air campaign against the Japanese homeland. See James A. Doolittle with Carol V. Glines, I Could Never Be So Lucky Again, (New York: Bantam, 1991).

[51] Specifically the China bases were: Kiunglai, Penshaw, Hsinching, and Kwanchan. The logistics chain to support these sites went the long way around the world, with the last link by air across the Himalayas, aptly named Operation MATTERHORN. Craven and Cate, AAF in WW II, vol. V, pp. 65-73; Robert W. Coakley and Richard M. Leighton, Global Logistics and Strategy, 1943-1945, The United States Army in World War II series: The War Department, (Washington: Center for Military History, US Army, 1966), pp. 519-522.

[52] The Marianas bases were: North and West Fields on Tinian; Kobler and Isley Fields on Saipan; and North, Northwest, and Harmon Fields (headquarters and the air depot for supplies) on Guam. The names differ slightly depending on the source, the Army official histories refer to Saipan's Kobler Field as East Field. For a base reference map, see Craven and Cate, AAF in WW II, vol. V, p. 514. Following the conquest of the Ryukyu Islands in the spring of 1945, construction of three bomber fields began on

All of the bomber bases in Europe were under the direct control of the theater commander, but in the Far East the Twentieth Air Force was entirely independent of the theater chain of command. A convoluted command structure existed in the Pacific, compounded by the fact that potential B-29 bases could be built in areas controlled by separate theater commanders. With a firm belief in the tenets of air power theory, and artful negotiations among the Combined Chiefs of Staff, General Hap Arnold succeeded in gaining independence for the mission, bombers, and bases of the Twentieth. This set a new precedent, one which the Strategic Air Command would follow the next decade, as the Twentieth was responsible only to the JCS. And the leadership of the Twentieth is also telling, with officers who would later play a significant role in the independence of SAC overseas bases: Lauris Norstad was the Twentieth Chief of Staff from April 1944 to the end of the war, Curtis LeMay commanded the Twentieth from January to early August 1945, followed thereafter by Nathan Twining.[53]

The debates over the moral, economic, political, and military effect of these strategic campaigns continues, but the stark clarity of the destruction figures remain firm. According to the United States Strategic Bombing Survey, against Germany bombers of the AAF and the RAF destroyed sixty-one cities, killed 300,000, wounded 780,000, and left 7.5 million homeless.[54] The strategic campaign against Japan lasted fourteen months, less than half that against Germany, and comparably the American

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Okinawa, at Kadena, Bola, and Fultema. Although these sites were not complete until the end of hostilities, two bomb groups of the Eighth Air Force, recently equipped with B-29s, began to arrive on 7 August 1945, but they never participated in the war against Japan. For base construction, see Karl C. Dod, The Corps of Engineers: The War Against Japan, The United States Army in World War II series: The Technical Services, (Washington: Center of Military History, US Army, 1966, reprint 1987), p. 490-504, 657-660. For an overall account of bomber operations in the Far East, see Richard Hallion, "Prelude to Armageddon," Air Power History, Fall 1995, pp. 38-54.

[53] Craven and Cate, AAF in WW II, vol. V, pp. 12-13, 38-41, 316-318. See Appendix A.1 for their later jobs.

[54] United States Strategic Bombing Survey (hereafter cited as USSBS), Summary Report (European War), (Washington: USGPO, 1945).

commitment was much smaller, involving one-third the bomb groups, one-tenth the sorties, and one-seventh the bases. But the bombing of Japan was much more concentrated and the target sets much more susceptible. Using only twelve percent of the bomb tonnage, the overall results of the bombing campaign against Japan were remarkably similar to those against Germany: sixty-three cities destroyed, 330,000 killed, 476,000 wounded, and nine million homeless. The bulk of these damages came from incendiaries, which comprised over sixty percent of the Twentieth Air Force bomb weight and were shockingly effective against the paper and wood structures of Japanese cities.[55] None of this would have been possible without the use of bases within striking distance of the enemy homeland. Air power still had an Achilles heel: forward bases.

Base Lessons Projected

Three base lessons came from the war, and these would continue to apply well in to the next decade. These lessons lay dormant through the five years following World War II, world tension certainly rose, but the actual prospect of global war remained somewhat distant. But American leaders perceived the potential of another global conflict in the summer of 1950, and it was then that these lessons became paramount.

First, without overseas bomber bases no American military forces had direct access to a distant enemy. Until the late 1950s, the only means of effectively delivering weapons on strategic targets was with Air Force bombers, and to do this, aircraft required bases within striking distance of prospective targets. The bomber was the first, and the only, vehicle for strategic air operations. A decade after the war, three-fourths

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[55] Overall statistics from USSBS, Summary Report (Pacific War), (Washington: USGPO, 1946). The Tokyo fire raid on the night of 9-10 March 1945 destroyed over a quarter million buildings and killed 83,000--the highest death toll for a single day of the entire war. This raid features prominently in Sherry, Armageddon, pp. 273-300.

of the SAC bomber inventory was medium bombers, with a radius of action of merely

two thousand miles. The remaining aircraft were heavy bombers, which could fly about

three thousand miles--enough to reach only a handful of prospective foreign targets

from North America, for the average distance from SAC bases in the continental United

States to designated Soviet targets was 4,100 miles.[56]

Second, obtaining wartime bases was costly. Political costs were most evident

when the United States sought air bases in small semi-independent areas, such as

Iceland, Greenland, and the Azores. These sites remained vital in American warplans of

the 1950s, and the political strains from the war continued into the following decade.[57]

The economic costs of overseas bomber bases is difficult to measure due to extreme

variances among location, labor, aircraft, commands, specifications, international

agreements, and time periods. The tally in China can be specified though, for the

United States provided one hundred million dollars to the forces of General Chiang Kai

Shek for construction of four B-29 bases near Chengtu.[58] But the highest cost was a

human one, that needed to seize a forward location. American casualties were over

sixteen thousand on Saipan, almost fifty thousand on Okinawa. These sites had many

other uses, so the casualties cannot be attributed solely to obtaining bomber bases, but

American forces invaded Iwo Jima exclusively to build a bomber base. This small coral

outcrop, positioned halfway between the Marianas and Japan, was an ideal location for a

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[56] A detailed listing of distances from SAC bases in the continental US to Soviet target areas can be found in Oliver and Wilson, RAND RM-1683. The force structure of SAC will be discussed in Chapter 7.

[57] See Nash Report, DDEL, Country Studies, particularly Iceland and Denmark (Greenland).

[58] Stateside bases provide a glimpse of the extent of the costs: during the war the AAF spent $3.152 billion for 783 installations in forty-eight states; overseas AAF bases, of all kinds, numbered about two-thirds of that figure. But the costs cannot be directly correlated, as a major portion of the stateside costs was the purchase of private land, largely not a factor abroad. For an in-depth analysis of AAF wartime bases built within the United States, see Frank Futrell, "Development of Base Facilities," in Craven and Cate, AAF in WW II, vol. VI, pp. 119-168.

B-29 emergency runway. In the last five months of the war 2,251 B-29s landed on Iwo, one landing for every ten American casualties needed to secure it.

The third, and most far-reaching lesson from the war, was that with overseas bases, bombers were the first to fight within an enemy nation, a situation which necessarily entailed heavy bomber losses. For thirty-nine months of the European war, from the withdrawal at Dunkirk until the landings at Calabria, Italy, there were no Allied soldiers on the western portion of the continent, only airmen in the skies above it. Only air forces fought in Germany until the Allied armies breached the West Wall and crossed into the Ruhr in early 1945. And only aircraft attacked Berlin until the Red Army entered the city on 22 April 1945. In the Far East, the first Allied attack on the Japanese mainland came from B-25s with the Doolittle Raiders, the next did not arrive for over two years, and they were also bombers, B-29s from bases in China.

Because bombers could gain access, strategic bombardment became a political expedient, and pressures forced bombers into action early. The Soviet Union faced the brunt of the German army after June 1941, and from early 1942 Stalin pressed Roosevelt to open a second front in Europe, to drain German resources and ease pressure on Soviet forces. It would be years before the western Allies could muster a force to breach Europe laterally, but vertically, this could be accomplished much quicker. Roosevelt's solution, like Churchill's in June of 1941, was to open a front in the skies over Germany with a strategic air campaign.[59] Against Japan, the situation was more drawn-out, for no bases were available early in the war, but Roosevelt continually pushed for bases to attack Japan. At the Casablanca Conference in January

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[59] For Stalin's requests see Richard Overy, Why the Allies Won, (London: Jonathan Cape, 1995), pp. 101-103, 110.

1943 the President successfully advocated development of strategic air bases in China

so bombers could attack Japan, well before other military forces were in range.

Strategic air forces had access that other forces did not, and so they were called into

use.[60]

Bases and forces within striking distance of an enemy nation allowed strategic

bombers to enter combat, but there was a price. Several years after the war, in a speech

at the National War College, LeMay reflected on the early air war in Europe:

> There were many competing requirements for the resources of our nation which hindered the development of a strong strategic bombing force during the last war. .... It required three dangerous years for the United States to build and deploy a bomber force capable of bringing decisive blows to bear. The results during the first three years were discouraging. In my opinion about all we did during that time was to provide operational training for the *Luftwaffe*, unfortunately at the cost of many of our best airmen.[61]

Statistics from American strategic air campaigns confirm LeMay's notion of "three

dangerous years" and show that bomber crews were fighting, and dying, in the enemy

country long before any other forces could reach it:

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[60] The heaviest percentage of American bomber losses during individual missions occurred in the fall of 1943, when the strategic forces were less than half of their wartime peak. At the end of September 1943 there were twenty-seven AAF bomb groups in the European theater; nine months later there would be sixty-two. HQ USAF, SD FY1947, pp. 1-11.

[61] LeMay, "Strategic Air Operations," (speech presented to the National War College, Washington, 8 March 1952), p. 14. Library of Congress (LOC), Manuscript Reading Room (MRR), The Papers of General Curtis E. LeMay (LeMay), box 80.

Table 3

Bombing Statistics, AAF Strategic Air Forces, WW II

	Eighth AF		Fifteenth AF		Twentieth AF	
	tons dropped	*bombers lost*	*tons dropped*	*bombers lost*	*tons dropped*	*bombers lost*
1941	-	-	-	-	-	-
1942	1,411	42	-	-	-	-
1943	44,185	1,036	12,144	64	-	-
1944	389,119	3,497	240,260	1,974	9,064	95
1945	188,573	966	90,899	467	160,572	399
total	623,288	5,541	344,303	2,505	169,636	494

The bomber losses of the Eighth and Fifteenth Air Forces were B-17s and B-24s which carried a crew of ten. The Twentieth losses are all B-29s, each with a crew of eleven. Source: data from John Ellis, The World War II Databook, (London: Aurum Press Ltd., 1993), pp. 234-235, 244, 260.

Seventy percent of the American bombs on Germany landed before any Allied soldier set foot in that country. The first Allied soldier arrived in Japan on 30 August 1945, when American paratroopers landed at Atsugi airfield as part of the Army of Occupation, fifteen days after cessation of hostilities.

Continually through the post-war period Air Force generals, seeking to avoid a recurrence of the heavy wartime losses, sought to position a massive collection of combat-ready forces at overseas bases. Recognizing the political and military value of having these sites, and acknowledging the human cost should they ever be used, prompted these leaders to seek "forces in being at their primary operating locations." This phrase appears continually in basing documents of the post-war period.

All of these lessons are simple and straightforward, and they form the logical foundation for the future development of SAC overseas bomber bases in the 1950s. Wartime experience underlined the importance of host nations, countries in key locations that would allow the construction and occupation of American bomber fields.

The central element in each of these lessons was the bomber, the only viable strategic vehicle in the American inventory.

There was a fundamental caveat with all of these lessons, though: they only applied until the appearance of other strategic weapons, less cumbersome politically, economically, and militarily. Once some future weapons systems could be accurately launched at a target thousands of miles away, the logic underlying all these lessons vanished. When strategic access could come from North America or neutral waters, America would no longer depend on forward sites for the projection of strategic air power and costly wartime bases would not be needed. When other weapons could travel at supersonic speed, bombers would no longer be the first to attack. The demise of these overseas bases was thus built into the thinking that preceded them. Intercontinental capability would be reached, no one doubted that, but the issue was: when? Until that time, SAC overseas bases would serve as America's strategic frontier.

Chapter 3

Development of SAC Overseas Bases, 1950-1957

All the information we get indicates that the Soviets are very much worried about this ring of [B-47] bases of ours. In fact it worries them more than anything. The fact it does indicates to me that it is a pretty good program.[1]

General Nathan F. Twining, 1956

They must be scared as hell.[2]

President Dwight D. Eisenhower, 1953

This chapter will examine the development of SAC overseas bomber bases, from inception to their full use. A proper starting point is American national security policy. The over-riding theme of American strategy during this decade was Containment, and this era witnessed a continual struggle to match military capabilities to political commitments.[3] Throughout, the United States sought to maintain its world role and to

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[1] Continuing, Twining considers the entire collection of American military bases aligned around the Soviet Union: "I often think that I would hate to see our country...rimmed with three or four hundred Russian bases in Canada and Mexico. It would be a pretty bad situation here." 84th Congress, SOAP, pp. 1530-1531.

[2] Eisenhower made this comment following a briefing on NSC-140, which appraised the strategic advantages held by the US, particularly a ring of SAC bases around the Soviet Union. 148th NSC Meeting, 4 June 1953, p. 6, DDEL, AWF, NSC collection.

[3] As mentioned earlier, the historiography of the Cold War is enormous, however, the many interpretations can generally be grouped into one of the following schools: realist, revisionist, post-revisionist. These roughly correspond to time periods, and were greatly influenced by contemporary events and the availability of sources. The realist school began at the onset on the Cold War and continued unopposed through the 1950s. Works of this period came primarily from Western authors, many of them biographical accounts of American diplomats seeking to explain the origins and development of the early Cold War. The typical method was to stress the evils of communism and to pronounce Soviet hegemonic aspirations. One of the countless examples of this early, orthodox school is Herbert Feis, Churchill, Roosevelt, Stalin: The War They Waged and the Peace They Sought, (Princeton: Princeton University Press, 1957). Beginning in the late 1950s, other authors began to challenge these early assessments and the revisionist school emerged. This school was heavily influenced by America's involvement in Vietnam, which bred mistrust of the American government and thereby produced a reassessment of previous American motives. The Soviet Union was seen as defensive, merely reacting to the military and economic power of the United States. Some of the more prominent examples of this include: William Appleman Williams, The Tragedy of American Diplomacy, (New York: Norton, 1959),

prevent the success of a rival world power. American leaders continually rejected any notion of roll-back of communist successes, and dismissed the prospect of preventive war. As Colin Gray notes, the "master concept" of American post-war strategy was stability.[4] Overseas bases were visible reminders of this task and, in regards to strategic air power, this epoch separates into three distinct periods, each of which I shall label after a prominent event: the Korean War, the New Look, and Sputnik. Each period carried specific implications for strategic air bases, and the first two of these will be examined in this chapter.

Korean War Period

American leaders realized the political potential of strategic air power and its military limitations during the Korean War period, defined here from June 1950 to September 1953.[5] The need for these bases and the impetus for their growth is best seen through the central strategic document of the era, NSC-68, "US National Security Objectives."[6]

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one of the first to criticize the role of the United States; Louis Halle, The Cold War as History, (New York: Harper & Row, 1967); and Joyce and Gabriel Kolko, The Limits of Power: The World and the United States Foreign Policy, 1945-1954, (New York: Harper & Row, 1972), a Marxist interpretation, harshly critical of American leaders. During the 1970s, the post-revisionists sought a somewhat middle ground between previous interpretations, viewing the Cold War as a series of misunderstandings that propagated due to over-reaction on both sides. The dean of this school is John Lewis Gaddis, and two of his books largely defined this new perspective: The United States and the Origins of the Cold War, 1941-1947 (New York: Columbia University Press, 1972), and the previously mentioned Strategies of Containment from 1982. There are signs that yet another interpretation is now emerging with the opening of Soviet archives. It appears that this fourth school may bear closest resemblance to the original realist views, largely placing blame upon the Soviet Union, particularly Stalin. See Gaddis, Now We Know: Rethinking Cold War History, (Oxford: Oxford University Press, 1997).

[4] Colin Gray, Strategic Studies: A Critical Assessment, (London: Aldwych Press, 1982), (hereafter cited as Gray, Strategic Assessment), p. 11.

[5] The Korean War ended in July 1953, but as Chapter 6 will show, SAC bombers were still in the Far East until September to support the truce. So for purposes of analyzing the use of overseas bases I have chosen to define the period slightly longer than the official end of the war.

[6] NSC-68 historiography is extensive, see especially Samuel F. Wells, Jr., "Sounding the Tocsin: NSC-68 and the Soviet Threat," International Security, Fall 1979, pp. 118-158, (hereafter cited as Wells, "Tocsin"); Paul F. Nitze, "The Development of NSC 68," International Security (Spring 1980), pp. 170-176; Gaddis and Nitze, "NSC-68 and the Soviet Threat Reconsidered," International Security, Spring

Following the "shocks of 1949" (the Communist victory in China, the Soviet atomic bomb, and a very-public rivalry among American military leaders) Truman authorized a broad study of American international interests, expected threats, and possible responses.[7] Led by Paul H. Nitze, George Kennan's successor as head of the State Department's Policy Planning Staff, the study was completed in April 1950, and was a fundamental break with previous American strategy, a renunciation of several tenets championed by Kennan. Specifically, the resulting document, named NSC-68, dismissed previous concepts of the threat and the strategies deemed necessary to counter it. The Soviet Union was no longer merely a geopolitical adversary, but a direct danger to world order and American interests: "the Soviet Union, unlike previous aspirants to hegemony is animated by a new fanatical faith, antithetical to our own, and seeks to impose its absolute authority over the rest of the world."[8] And time was working against the United States, for a period of "maximum danger" would occur in mid-1954. The report recommended a shift away from Kennan's "selected strong points" and emphasis on diplomacy, advocating instead a broad build up of Western military power, arrayed in a perimeter around the Soviet Bloc.[9] This document encouraged a militant stance in the Cold War, one which developed from a different perspective of the Soviet

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1980, pp. 164-176; Paul Y. Hammond, "NSC-68: Prologue to Rearmament," in Warner R. Schilling, Hammond, and Glenn H. Snyder, Strategy, Politics, and Defense Budgets, (New York: Columbia University Press, 1962), (hereafter cited as Schilling, et al, Defense); Gaddis, Strategies, Chapter 5; Leffler, Preponderance, Chapter 8.

[7] Gaddis uses this term "shocks of 1949" to describe the difficulties faced by American leaders, of trying to meet expanding commitments with limited resources, Strategies, p. 90.

[8] NSC-68, "US National Security Objectives," FRUS 1950, 1: 235-292, quote p. 237, (hereafter cited as NSC-68, FRUS).

[9] To support this buildup, the authors of NSC-68 advocated expanding the economy by increasing efficiency, thus allowing a "peacetime" military build up without lowering the standard of living. See Gaddis, Strategies, p. 93.

Union: Kennan had appraised Soviet intentions, while Nitze assessed Soviet capabilities.[10]

The purpose of this build-up would be to confront the Soviet Union with a powerful, unified front which would deter Kremlin advances of all forms: "The frustration of the Kremlin design requires the Free World to develop a successfully functioning political and economic system and a vigorous political offensive against the Soviet Union. These in turn, require an adequate military shield under which they can develop."[11] The study offered a blueprint for the subsequent American military expansion, a balanced build-up phased over a period of several years, which later military scholars found "offered something for everyone--more divisions for the Army, more ships and carriers for the Navy, and, of course, more planes, including long range strategic bombers, for the Air Force."[12]

NSC-68 was an expensive proposition, with expected annual costs ranging from thirty-five to fifty billion dollars. After submission it sat for months, without Truman taking any action. But the outbreak of war in Korea seemingly validated its underlying assumptions. Had this war not erupted, it is highly doubtful Truman would have approved any major portions of NSC-68, but as Samuel Wells observes, "The real significance of NSC-68 was its timing, the tocsin sounded just before the fire."[13] To American leaders, the conflict was a direct Soviet move against Western interests, and

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[10] Kennan versus Nitze, see Wells, "Tocsin," pp. 120-123, 128, 130; Gaddis, Strategies, p. 91-92.
[11] NSC-68, FRUS, p. 282.
[12] Williamson and Rearden, Origins, p. 135. This book is an excellent book which is an expanded version of their 1975 DoD study of US-USSR strategic arms competition; it has an fine discussion of the influence of Korea in Chapter VI, 'Re-arming for the Cold War,' p. 131-162. Much of the framework for the following section comes from this source. Other works which were particularly helpful for framing parts of this section include a short, but insightful work by David W. Tarr, American Strategy in the Nuclear Age, (New York: Macmillan Company, 1966); and a thoroughly ambitious and successful work by Barry Buzan, An Introduction to Strategic Studies: Military Technology and International Relations, (London: Macmillan Press, Ltd., 1987), (hereafter cited as Buzan, Strategic Studies).
[13] Wells, "Tocsin," p. 139.

accepting this premise, the President formally approved NSC-68 in September 1950.[14]

This document was the first comprehensive proclamation of American national security

policy in the post-World War II era. It provided a strategic framework for the ensuing

Cold War and oriented American leaders towards viewing individual incidents within a

global context.

Korea carries the label "the Forgotten War," but it was actually experienced as an

extreme crisis for the United States. One NSC assessment warned that the outbreak of

war in Korea "might well be the first phase of a general Soviet plan for global war."[15]

According to a Gallup Poll of August 1950, half the Americans surveyed thought Korea

was the opening act of World War III.[16] In September, George C. Marshall came out of

retirement to return to the Pentagon, this time as Secretary of Defense. Three months

later, Eisenhower returned to military service and accepted the position as the first

Supreme Allied Commander Europe (SACEUR). For the first time, the Truman

Administration accepted a budget deficit, and through this, military spending increased

four-fold as the United States began a massive military build up. Marshall held that

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[14] Recent scholars using documents now available in Communist archives have questioned the role of Stalin in initiating the Korean War. Shu Guang Zhang argues that Mao Zedong deserves much more credit for the conflict. Mao sought to exploit the Korean War to bolster his political power, at home and abroad. Mao's Military Romanticism: China and the Korean War, 1950-1953, (Lawrence: University Press of Kansas, 1995). Three scholars have assessed the communist relations during this conflict, and found strain and disagreement. Their depiction shows a lack of unity, little common ground, and strong differences over the meaning, conduct, and support for the Korean War. Sergei N. Goncharov, John W. Lewis, and Xue Litai, Uncertain Partners: Stalin, Mao, and the Korean War, (Stanford: Stanford University Press, 1993). Vojtech Mastny finds Stalin offered little aid or encouragement for the Korean War, and largely credits North Korea with precipitating the conflict and Mao for supporting it. Stalin's concern, by this book, was with possible American designs on Europe, thus they mirrored US concerns. The Cold War and Soviet Insecurity: The Stalin Years, (New York: Oxford University Press, 1996). For an overview of the current state of research, see Lester H. Brune, ed., The Korean War: Handbook of the Literature and Research, (Westport: Greenwood Press, 1996), which offers chapters across a wide range of topics, including historical interpretations, national policies, participants, public opinion, diplomacy, and popular culture.

[15] NSC 73/4, "The Position and Actions of the US with Respect to Possible Further Moves in the Light of the Korean Situation," August 1950, FRUS 1950, 1: 376-378.

[16] Cited in Wells, "Tocsin," p. 141.

Korea "left no doubt that the Soviet government and its satellites were willing to risk a general [world] war by multiple aggression all over the world," and that America's "well known military weakness encouraged Communist aggression in Korea."[17] Marshall's primary job was to oversee the extensive American military build up, of which only a third was intended for Korea. The goal was to prepare for global war, in the belief that these preparations might prevent it from happening. Melvyn Leffler summarizes American national security policy in late 1950:

> The administration's strategy was clear: wage limited war in Korea; prepare for a global conflict; and utilize the growing military capabilities of the United States to furnish the backdrop for an aggressive foreign policy aimed at creating a favorable balance of power in Europe, the Middle East, and Asia.[18]

This was a significant break with previous American policy, and signals one of the most important turning points of the entire Cold War.

As part of this American build up, the Air Force rapidly expanded.[19] In June 1950 the Air Force consisted of forty-eight wings (and SAC possessed zero overseas bases).[20] By September of that year the Joint Chiefs of Staff recommended the Air Force expand to reach ninety-five wings by June 1954. But by this first fall of the Korean War, the United Nations (UN) forces had turned the tide and it appeared the conflict might soon end. Then MacArthur's ill-conceived offensive in late November

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[17] Cited in Roger Trask, The Secretaries of Defense: A Brief History, (Washington: USGPO, 1985), p. 15.

[18] Leffler, Preponderance, p. 403.

[19] For an overview of American national security concerns, perspectives, and reactions during the Korean War, see Samuel F. Wells, Jr., "The First Cold War Buildup: Europe in United States Strategy and Policy, 1950-1953," pp. 181- 197, in Olav Riste, ed., Western Security: The Formative Years, European and Atlantic Defence, 1947-1953, (Oslo: Norwegian University Press, 1985), (hereafter cited as Riste, Western Security).

[20] SAC bombers did use overseas bases prior to this time. Rotations to several RAF bases in England had been continuous since the Berlin Crisis of 1948, and routine bomber deployments went to several bases in the Pacific controlled by American regional military commands. Throughout this period though, SAC did not control any of these overseas sites.

1950 formally brought Communist China into the war (although Chinese "volunteers"
had been fighting UN forces for several months).[21] MacArthur cabled the JCS that "we
face an entirely new war" and requested to expand the air war to China.[22] Truman
refused to broaden the war, but he did speed preparations for a possible global conflict.[23]
The President's approval of NSC-68/4 in December 1950 moved up military force goals
two full years, and through this, the Air Force was to expand to eighty-seven wings by
June 1951, ninety-five wings by June 1952.[24] The largest increase would be among
medium bomber wings.[25] It was at this point that a fundamental change occurred with
the chain of command to overseas bomber bases.

Genesis of SAC Control

SAC gained control of overseas bases as a response to frustrations encountered
with bomber employment in Korea. Overseas bases under SAC control ensured that
America's main strategic assets could focus on strategic objectives, and would not be
relegated to a mere adjunct support role by theater commanders. In the first six months

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[21] For background to the situation faced by UN force in November and December of 1950, see Roy E. Appleman, Disaster in Korea: The Chinese Confront MacArthur, (College Station: Texas A & M University Press, 1989).

[22] Cable, MacArthur to JCS, 28 November 1950, FRUS 1950, 7: 1237.

[23] At a press conference on 30 November 1950 Truman announced that use of the atomic bomb was under "active consideration." Despite repeated attempts by reporters to let him qualify the statement, Truman let it stand, bringing a quick clarification from the White House press office and a trip to Washington by a concerned Prime Minister Clement Attlee.

[24] NSC-68/4, "United States Objectives and Programs for National Security," 14 December 1950, FRUS 1950, 1: 488-489. For changes to the Air Force structure see Robert F. Futrell, Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907-1960, (Maxwell Air Force Base: Air University Press, 1971), pp. 316-319, (hereafter cited as Futrell, Ideas). For the situation in December 1950, see Harry S Truman, Years of Trial and Hope, 1946-1952, (Garden City: Doubleday & Company, Inc., 1956), (hereafter cited as Truman, Trial), pp. 417-428.

[25] In an attempt to meet projected force goals, SAC removed and refurbished B-29s from long-term storage. This was a makeshift measure until the arrival of new B-47s. See Minutes of AF and Wing Commanders Conference, (Washington), 6-8 December 1950, LOC MRR, LeMay, box 100. The composition of the SAC bomber force will be discussed in the next chapter. For the overall growth of SAC, see Appendix A.2.

of the Korean War, SAC gained authority to possess its own collection of bases abroad, and six months later all the necessary structures were in place to ensure that this would happen. This issue straddles two geographic theaters, and marks the genesis of the bases and the consolidation of SAC control.

Analysis of this subject begins within the high echelons of the Air Force chain of command, to uncover the rationale for seeking control of these sites, and the tactics used to gain it. The matter can be traced very precisely and in great detail through the document collections of the two primary actors, SAC Commander LeMay and Air Force Chief of Staff Vandenberg.[26] If viewed from a perspective of bureaucratic self-interests, one could surmise that these two generals sought SAC control of overseas sites purely as a means of expanding Air Force influence and gaining a larger share of military resources. This is possible, and a common venture of any large bureaucracy, but any evidence of it is lacking. Another perspective, which I adhere to and will develop here, holds that these officers sought SAC control due to the tenets of air power theory and the limits placed upon bombers during the Korean War. I shall even take this one step further: SAC control of overseas bases occurred because this fulfilled the purpose and roles assigned to these sites by American leaders. This issue is first treated as an Air Force decision, for it began among these officers, but approval of the policy required far more than mere endorsement from high-ranking officers in blue.

The impetus for SAC control of overseas bases came from the Far East, but rather indirectly. The frustration exhibited by Vandenberg and LeMay over bomber operations in Korea would eventually lead these generals to seek to obtain SAC

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[26] The most recent biography of Vandenberg is very thorough on most counts, but does not even mention his involvement with SAC bases abroad. Philip S. Meilinger, Hoyt S. Vandenberg: The Life of a General, (Bloomington: Indiana University Press, 1989).

overseas bases. Cables sent to and from Vandenberg and LeMay reveal the conceptual

development for SAC to command its own overseas bases.

When war broke out on 25 June 1950, the American bomber force in the Far

East consisted of a single unit, the 19th Bomb Group, which flew B-29s from Okinawa.

This unit was unusual, for it was part of the Far East Air Forces (FEAF), commanded by

Lieutenant General George E. Stratemeyer; all other American bombers belonged to

SAC. On 3 July 1950 Vandenberg obtained approval from the Joint Chiefs of Staff to

send two additional B-29 groups, both from SAC's Fifteenth Air Force, to the Far East.

Vandenberg's guidance to Stratemeyer read:

> As primary consideration in making these additional groups available is the vital
> necessity of destruction of North Korean objectives north of the 38th parallel.
> While I do not presume to discuss specific targets, it is axiomatic that tactical
> operations on the battlefield cannot be fully effective unless there is a
> simultaneous interdiction and destruction of resources behind the battlefield.[27]

The next day both SAC units left the United States, bound for prepared

American air fields in the Far East: the 22nd Bomb Group went to Kadena Air Base on

Okinawa, and the 92d Bomb Group went to Andersen AFB on Guam. Both of these

bases belonged to the FEAF and had been in constant use since the Second World

War.[28] In accordance with standard procedure, operational control of these

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[27] Message Vandenberg to Stratemeyer, 3 July 1950, LOC MRR, The Papers of General Hoyt S. Vandenberg (Vandenberg), box 86, file July '50.

[28] Neither of these were SAC bases, for at this time the command did not have any bases outside the US. Kadena served as headquarters for the Eighth Air Force in 1945, remained a US site after the war, and was a FEAF base since 1947. It would be used by SAC throughout the 1950s, but never belonged to the command. Anderson AFB was known as North Field when used by the Twentieth Air Force in WW II. It, too, had seen constant American use since the war. It became an FEAF base in 1949, and would become a SAC base in 1955. Harry R. Fletcher, Air Force Bases Outside the United States, vol. II of the United States Air Fore Reference Series: Air Force Bases, (Washington: Center for Air Force History, 1993), (hereafter cited as Fletcher, Bases Outside), pp. 1-3, 59-63. See also Moody, Building, map on pp. 382-383.

augmentation forces shifted to the theater commander upon arrival. General David A.

Burchinal, a SAC commander at many levels during this period, commented:

> I think there was one thing learned: that SAC could deploy fast, that forces could
> be brought from the United States if there were bases prepared for them.
> Bombers could be brought to bear very rapidly. I believe that led to bases in
> North Africa, bases in England, and the rotation concept.[29]

Only nine days after the deployment began, SAC bombers were flying combat missions

over Korea.[30]

These two deployed bomb groups, and two more that would follow, were a

major force commitment from SAC. Vandenberg requested the units for Korea, but

LeMay could choose which ones to send, and he selected "the low-priority outfits, the

lowest ones on the totem pole...the outfits that were not fully manned and not combat

ready for the overall strategic war plan." He later stated in an interview that, "I did not

want to destroy the capability that we had built up for a strategic war if we had to go to

war [against the Soviet Union]."[31] LeMay's rationale was in line with American

national priorities: fight a limited action in Korea, and prepare for global war.[32]

Vandenberg directed FEAF Commander Stratemeyer to form a new unit to

control the rapidly building bomber assets, and selected Major General Emmett "Rosie"

O'Donnell to be in charge of this FEAF Bomber Command (Provisional) at Yokota Air

Base, Japan. This organization was under the direct operational control of the theater

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[29] Base information from Fletcher, Bases Outside, pp. 2-3, 62-64. Quote from Richard H. Kohn and Joseph P. Harahan, Strategic Air Warfare: An Interview with Generals Curtis E. LeMay, Leon W. Johnson, David A. Burchinal, and Jack J. Catton, (Washington: Office of Air Force History, 1988), (hereafter cited as Kohn and Harahan, SAW), p. 88.

[30] HQ SAC, Fortieth, pp. 22-23; Robert Futrell, The United States Air Force in Korea, 1950-1953, (1961; reprint, Washington: Office of Air Force History, 1981), (hereafter cited as Futrell, Korea), pp. 69-74.

[31] Kohn and Harahan, SAW, p. 87. Also confirmed by O'Donnell in his initial report to LeMay, which reads "We [SAC] have not been hurt too much because these groups are low priority." Letter O'Donnell to LeMay, 21 July 1950, LOC MRR, LeMay, box 200. Also see Futrell, Korea, p. 71.

[32] For American priorities see Truman, Trial, pp. 345-346; Leffler, Preponderance, pp. 410-414.

commander: O'Donnell worked for Stratemeyer, who worked for General of the Army

Douglas C. MacArthur, the Commander in Chief Far East. But O'Donnell remained a

confidant of LeMay, and kept the SAC commander well informed of the bomber

situation in Korea.[33]

The greatest challenge faced by O'Donnell was how to persuade his superiors to

attack strategic targets. The theater commander dictated bomber priorities, and

MacArthur told Stratemeyer the first role of the B-29s was support for the Eighth Army.

All aviation assets were to be used for tactical support of the battlefield situation.

Stratemeyer, under pressure from MacArthur's headquarters, sent O'Donnell written

mission directives on 11 July 1950: the first bomber priority--to be met at the exclusion

of all others--was close air support in the immediate vicinity of ground troops, the last

priority was enemy industrial sites. O'Donnell, viewing this from a strategic air power

standpoint, formally and forcefully protested these priorities as "diametrically opposed

to what they should be."[34] Citing experiences from World War II and the original

guidance from Vandenberg, O'Donnell suggested allocating two-thirds of the bomber

assets to a strategic campaign against North Korea, for "any bomber priorities which

directed piecemeal daily individual strikes at small targets...will lead only to dissipation

of effort with mediocre and indecisive results."[35] But Stratemeyer would not allow it.

The protestations were overruled and the recommendations ignored. O'Donnell and his

successors could not change targeting priorities, nor could LeMay, nor even the Joint

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[33] O'Donnell had been a wartime squadron commander in the Marianas under LeMay, and most recently, commanded SAC's Fifteenth Air Force.

[34] This was a very strongly worded letter. It is quite unusual for a subordinate commander to send a written protest to a superior, let alone forward copies to other more senior officers. This shows LeMay's external position in Korea, but also his interest in the use bombers borrowed from his command. Letter O'Donnell to Stratemeyer, 19 July 1950, and attachment to 21 July letter from O'Donnell to LeMay, both in LOC MRR, LeMay, box 200. See also Futrell, Korea, pp. 47-49.

[35] Letter O'Donnell to Stratemeyer, 19 July 1950, LOC MRR, LeMay, box 200.

Chiefs. MacArthur was the theater commander, the bombers were firmly under his control and he could do with them as he saw fit. And beyond this, MacArthur had been a general officer for over thirty years, and technically outranked every officer in the American military.

By late July 1950 the Joint Chiefs of Staff were disturbed that the in-theater B-29s had little opportunity to attack strategic targets deep inside North Korea. They made two more B-29 units available to the FEAF for thirty days temporary duty, for the express purpose of strategic bombing. MacArthur accepted the offer, and on 2 August 1950 two more SAC units went to the FEAF: the 98th Bomb Group went to Yokota, and the 307th Bomb Group to Kadena.[36] By late September, MacArthur proclaimed the strategic air campaign complete, and the two original SAC bomb groups sent the Far East returned to the United States. Two months later, amidst the onslaught of Communist Chinese forces, MacArthur requested atomic strikes in China, but approval for this never came, nor did additional SAC bomb groups. But LeMay used this opportunity to gain the authority to command SAC's deployed forces should the war expand beyond Korea.[37] To ensure SAC control over strategic operations, LeMay announced that he would personally lead the SAC command element to the Far East should the President request the war go beyond the Korean Peninsula.[38]

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[36] These two other bomb groups stayed in the Far East for the remainder of the war. Futrell, Korea, pp. 71-74; HQ SAC, Fortieth, p. 23.

[37] Within a year, the JCS would approve the concept of "exempt forces" for SAC and MATS. The idea was that theater commanders could not seize forces that were within a geographic theater on a JCS-directed mission. According to Moody, SAC achieved this by claiming that atomic forces were limited and therefore had to be closely controlled by the JCS. By early 1952, some senior officers began to forcefully question the logic of this concept. See Moody, Building, pp. 370-371.

[38] LeMay's proposal, message LeMay to Vandenberg, 2 December 1950, LOC MRR, LeMay, box 196. Vandenberg explains this arrangement in a cable sent to the FEAF, message Vandenberg to Stratemeyer, 15 December 1950, LOC MRR, Vandenberg, box 86. A later series of messages between HQ SAC, HQ USAF, HQ FEAF and SAC X-Ray (a command element established in the Far East to direct SAC operations in general war) shows that the Chief of Staff approved the decision for all SAC units in the Far East to revert to SAC control upon outbreak of general war. The resolution of this can be found in

The FEAF-controlled bombers conducted 21,328 combat sorties and dropped

167,000 tons of bombs during the conflict, but despite these numbers, it was a

frustrating experience for SAC commanders. Due to the small number of strategic

targets in North Korea and a ground-oriented air campaign, bomber commanders held

that strategic air power had not been used to its full potential.[39] Reflecting on this,

LeMay stated "we never did hit a strategic target in Korea," and SAC's experience with

the FEAF showed "how not to use the strategic weapon."[40] The SAC commander

actively moved to prevent this situation from happening again. LeMay sought to

formalize SAC control of the bomber mission elsewhere, to ensure that that SAC assets

would be free from theater command structures. The watchwords for this can be found

in the initial letter O'Donnell wrote to LeMay in July 1950:

> My only recommendation to you is—for God's sake!--never let a SAC unit go
> under a theater command again. This should be a horrible example! ... I should
> have known better! I might have known there wasn't a prayer of coming out to
> this theater and working on our own. It was too God-damned sensible.[41]

LeMay chose his fight very carefully. He accepted the command arrangements of

former SAC bombers in Korea, yet at the same time, sought to ensure this would not be

repeated.

Korea was not the major strategic focus of the United States, and SAC

deployments clearly show this. By late September 1950, there were two SAC bomb

groups in the Far East, both units were relatively lowly, and none of these bombers had

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message Power to LeMay, 2 May 1951, message Vandenberg to Stratemeyer, 9 May 1951, both LOC
MRR, LeMay, box 197.

[39] Four prominent SAC commanders reflect on the Korean War in Kohn and Harahan, SAW, pp. 86-90.

[40] Kohn and Harahan, SAW, pp. 87-88.

[41] Emphasis in original. Letter O'Donnell to LeMay, 21 July 1950, LOC MRR, LeMay, box 200.

undergone modification to carry nuclear weapons.[42] Concurrently, there were three

SAC bomb groups in Europe, all in the United Kingdom, and all among the top-tier of

the command's force. And for the first time, SAC aircraft were deployed with nuclear

bombs. The nuclear components (the pit, the core, and the initiator) stayed in the United

States under the control of the Atomic Energy Commission, but the remaining bomb

components (the outer case, the internal sphere, the electronics cartridge, the electrical

fuzing, the firing system, and the detonators) went with the units when they were

deployed in July 1950.[43]

LeMay used logistics as the initial justification for seeking full operational

control of SAC overseas forces. On 22 August 1950 he sent a package to Lieutenant

General Howard A. Craig, the Inspector General of the Air Force, soliciting help. The

package contained correspondence received at SAC Headquarters, which LeMay's cover

later explained "will serve to bear out the point I make to you regarding the theater

command problem. It is apparent to me, at this time, that we will not get sufficient

priority assigned to the strategic air offensive to ensure all-out support by theater

commanders."[44] Craig agreed with LeMay's assessment, and on 2 September LeMay

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[42] SAC did station the 43d Bomb Wing on Guam, they flew the B-50 and were atomic capable. This unit remained under the operational control of SAC, through SAC X-Ray in Japan. Kohn and Harahan, SAW, p. 90-92; HQ SAC, Fortieth, pp. 16-23; letter Power to Vandenberg, 18 September 1950; report by HQ SAC, 'Comments on the Initial Strike Capability of SAC,' 11 September 1950, all in LOC MRR, LeMay, box 196.

[43] This information comes from a series of redline messages exchanged between Major General Leon W. Johnson (Third AF Commander, in the UK), Norstad (Vice Chief of Staff, USAF) and LeMay: Norstad to LeMay, 2 July 1950; Norstad to Johnson, 9 July 1950; Johnson to Norstad, 10 July 1950; Norstad to LeMay, 10 July 1950; Norstad to Johnson, 12 July 1950; all from LOC MRR, LeMay, box 196. For preparations and arrival of the atomic bombs in the UK see the following: redline message LeMay to Johnson, 10 July 1950; letter from Colonel Steed (301st BW Commander) to Major General J.H. Atkinson (Second AF Commander), '301st BW Situation Report in UK,' 28 July 1950, both found in LOC MRR, LeMay, box 195. Richard Rhodes incorrectly refers to 43rd BW deployment to Guam on 5 August 1950 as "the first deployment with nuclear weapons since Hiroshima and Nagasaki." Rhodes, Dark Sun, pp. 445-446. The SAC movement to England in July 1950 preceded it.

[44] Letter LeMay to Craig, 22 August 1950, and a follow-up letter written 9 September 1950, both LOC MRR, LeMay, box 196. LeMay had been building this case for some time. A 1949 letter to the Chief reveals his frustration with theater commanders and support agencies responsible for moving SAC

wrote Norstad (then, the acting Vice Chief of Staff) formally proposing that SAC

control its own overseas forces, a notion Norstad fully supported.[45]

The wide scattering of SAC forces around the Northern Hemisphere served to

reinforce LeMay's case. By late 1950, the command was using or preparing facilities in

Puerto Rico, the United Kingdom, Guam, Okinawa, Alaska, and French Morocco.[46]

Each of these was in a region controlled by a separate theater commander. But LeMay

stressed that SAC forces, unlike all other American military commands abroad, were

under the direction of the Joint Chiefs of Staff and only by consolidating control of

these forces could they be properly directed.[47] This argument was perfectly in accord

with air power theory: mission, not geography, should dictate the command

arrangements for strategic assets.

The proposal for SAC to control its own forces abroad floated for several

months, but on 22 December 1950 a meeting was held in Washington, attended by

Vandenberg, Norstad, LeMay, and General Nathan F. Twining (commander of the

Twentieth Air Force in August 1945, Air Force Chief of Staff in 1953, and JCS

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equipment abroad. Letter LeMay to Vandenberg, LOC MRR, LeMay, box 61, file Vandenberg. At the start of the Korean War LeMay wrote to HQ USAF recounting problems with theater commanders and requesting priority for SAC's airlift and logistics requirements, but this priority did not come. Letter LeMay to AF Director of Plans, 'Priority for the Atomic Offensive,' 27 June 1950, LOC MRR, LeMay, box 195. See also report HQ SAC to Deputy Chief of Staff, Operations, HQ USAF, 'SAC Requirements for Airlift,' 29 May 1951, LOC LeMay, box 197.

[45] Norstad had worked closely with SAC commanders during the initial bomber deployments to the UK in 1948 and 1950. Upon leaving the Pentagon in October 1950, Norstad assumed command of the United States Air Forces Europe (USAFE), and controlled all American aviation assets in Europe and the bases to which they flew. If anyone could behave vied for control of deployed SAC forces, it would first be the USAFE commander, acting on behalf of the theater commander. In November 1956, just as SAC overseas bases peaked, Norstad became SACEUR. Throughout the decade, Norstad continued to support SAC's control of its overseas assets.

[46] This argument parallels the one used by General Hap Arnold in 1944, when seeking independence for the Twentieth Air Force, which would have bombers located in several different theaters, the China-Burma-India, the Southwest Pacific, and the Central Pacific.

[47] JCS 1259/110 of 4 January 1949 designated the AF Chief as the executive agent for SAC, representing the command directly to the JCS (just as with the Twentieth Air Force). For a fine synopsis of SAC's position within the American military chain of command see Walton S. Moody, "The Specified Command: SAC in the Unified Command Structure," presentation before America's Shield Symposium, Offutt Air Force Base, Nebraska, 15 May 1996.

Chairman in 1957). Shortly thereafter, LeMay wired several subordinate SAC commanders, to clarify their position in the chain of command. He announced that those at the meeting were in complete agreement about establishing the command lines to SAC's deployed bombers, and hereafter, SAC forces--regardless of their location-- would answer only to SAC Headquarters.[48]

Within five weeks LeMay maneuvered to get control of more than just the deployed bomber forces. On 6 February 1951 he wrote Vandenberg stressing "the base complement, including the base commander, must be under the command of SAC."[49] LeMay's concern centered upon England, for facilities there were already occupied by SAC bombers. This same month LeMay sent Major General Samuel Anderson to Europe to negotiate SAC's overseas bases with the new commander of the United States Air Forces Europe (USAFE), Norstad. A stream of messages between Anderson and LeMay reveals the firmness with which these generals sought to establish SAC's position within this geographic theater. In March 1951 LeMay wired Anderson: "I still insist that in order for the Strategic Air Command to retain continuity and complete control of its operations in the UK, *I must have control of the bases themselves.*"[50] A solution was reached between the USAFE commander and the SAC commander: USAFE would control the administrative details, such as negotiations with the host country, while SAC would control all operational matters. This served as the precedent for all subsequent SAC overseas bases.

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[48] The establishment of SAC HQ overseas can be seen in a number of messages: LeMay to Johnson, 6 January 1951; LeMay to Major General Samuel A. Anderson, 10 March 1951; Anderson to LeMay, 12 February 1951; Anderson to Norstad, 10 February 1951, all in LOC MRR, LeMay, box 197. This did not include those SAC forces already operating under the FEAF.

[49] Message LeMay to Vandenberg, 4 February 1951, LOC MRR, LeMay, box 199.

[50] Emphasis added. Message LeMay to Anderson, 10 March 1951, LOC MRR, LeMay, box 197.

NATO had just been formed in 1949, and by early 1951 the military command structure was still embryonic. The North Atlantic Council had only authorized the position of Supreme Allied Commander Europe (SACEUR) in December 1950, Eisenhower then agreed to take the job, but he did not arrive on the continent until the following month. The issue of SAC bases and forces being outside the theater command was one of the first items addressed. Staff officers within the fledgling SACEUR chain of command questioned this policy, but it was made possible by the status of one man, Norstad. The USAFE Commander was trusted by Eisenhower, and would serve as the liaison between SAC and NATO, at the discretion of the SACEUR. A small amount of opposition towards this liaison arrangement continued from officers within Supreme Headquarters Allied Powers Europe (SHAPE), but Eisenhower fully endorsed 's Norstad's straddling role.

I can only surmise Eisenhower's motives for allowing this, but by his earlier words he appears to have recognized the advantages of an independent strategic air force. During the Second World War he oversaw the thorny issue of overall command of the allied heavy bomber forces in Europe. The original decision of 1942 was to place these forces under a theater air commander, one who was responsible for tactical operations. Recalling this issue in his wartime memoirs, Eisenhower acknowledged the protests of the strategic air commanders:

> Their objections, I felt sure, were not based upon personal reasons but upon a conviction that a Tactical Air commander, who is primarily responsible with the support of front-line troops, could not be expected to appreciate properly the true role and capabilities of Strategic Air Forces and would therefore misuse them. A broader contention was that these great bomber units, with their ability to strike at any point in western Europe, should never be confined, even temporarily, to a

role wherein their principal task would be to assist in a single ground operation.[51]

To prevent this eventuality, in 1942 Eisenhower placed all strategic air forces directly under the operational control of the Supreme Allied Commander, a position he held for the remainder of the war. In early 1951, he even went beyond this previous arrangement. Once again a theater commander in Europe, he allowed SAC forces to remain outside the theater command structure. Norstad was the key to this, for although a member of the theater command, he was SACEUR's representative for any external bomber support. Only Norstad would make requests to SAC, and he fully understood SAC's position and perspective. Eisenhower evidently trusted Norstad implicitly, as did other allied officers within SHAPE. This was not a formal arrangement, but rather an ad hoc negotiation between Eisenhower, Norstad, Vandenberg, LeMay, and General Thomas D. White (then the Vice Chief of Staff, and Chief of Staff in 1957).[52] After it was accepted air leaders withheld any paperwork about formal command arrangements, for fear that renewed discussion might disallow the unique status of SAC forces.[53]

The first half of 1951 saw the activation and deployment of two new SAC air divisions (a command level between a bomb wing and a numbered air force), created

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[51] The heavy bomber forces were placed directly under Eisenhower's command. Dwight D. Eisenhower, Crusade in Europe, (Garden City: Doubleday & Company, Inc., 1948), pp. 221-222.

[52] The details of Norstad's position between SACEUR and SAC is explained in letter LeMay to White, 'Meetings from European Trip,' 19 December 1951, LOC MRR, LeMay, box 199; and also in a lecture given by LeMay to the National War College, "Strategic Air Operations," 6 March 1952, LOC MRR, LeMay, box 80.

[53] The complicity between these officers over the formation of an external SAC command structure can be seen in numerous documents within the LeMay collection. A series of letters and messages sent between Vandenberg, White, and LeMay from December 1951 and February 1952, includes proposed letters to Eisenhower and General Alfred E. Gruenther (SHAPE Chief of Staff) that the air leaders decide not to send, fearing other SHAPE officers might question the tentative agreement that then existed. LOC MRR, LeMay, box 199. Also see: letter White to LeMay, 'SAC-SACEUR Agreement,' 18 February 1952; message LeMay to Norstad, 20 March 1952; message Eisenhower to LeMay, 28 March 1952, LOC MRR, LeMay, box 200.

specifically to control bombers and bases overseas. The 5th Air Division, responsible for French Morocco, formed on 14 January 1951 at Offutt AFB, Nebraska. Major General Archie J. Old commanded this unit, and expected to move to North Africa in June. The 7th Air Division, responsible for the United Kingdom, formed on 10 March 1951 at Offutt. Brigadier General Paul T. Cullen was the first commander, and two weeks later he and fifty members of his staff left for the United Kingdom, but their C-124 transport crashed in the North Atlantic and all were killed.[54] In late April, Old went to England to serve as the interim SAC commander there. The following month Major General Joseph P. McConnell assumed command of the 7th Air Division at South Ruislip, near London. Old and his staff then left for Rabat, French Morocco, to open the 5th Air Division.[55] SAC's overseas base system was now firmly established in the United Kingdom and French Morocco. More bases would follow, and a few years later so would another air division. The FEAF disbanded at Yokota Air Base, Japan, on 18 June 1954. That same day SAC activated the 3rd Air Division at Andersen AFB, Guam, under the command of Brigadier General Joseph D. Caldara.[56] LeMay would jealously guard these SAC air divisions and their overseas bases.

The preceding information is new and explains much about these sites, but the question of motives still remains. The influence of Korea is apparent, but were there other reasons that influenced Vandenberg and LeMay to seek SAC control of overseas bases? Vandenberg sought SAC control primarily to keep strategic assets away from

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[54] There was a massive search and rescue effort using aircraft, an aircraft carrier, thirty ships, and submarines. Charred plywood from footlockers, with the name and unit of officers aboard the plane, was found about two-thirds of the way to the UK. The rescue effort was called off on 30 March, and all aboard presumed dead. See series of messages between Johnson and Twining, sent 25-30 March 1951, LOC MRR, Vandenberg, box 86, file 'redline messages Jan-Feb '51.'

[55] Air Division information, HQ SAC, Fortieth, pp. 32-33.

[56] HQ SAC, Fortieth, p. 49.

theater commanders, fearing a ground-oriented perspective would confine bombers to the battlefield area. The capacity of the strategic mission, to him, could only be assured through Air Force officers with an appreciation of operations and objectives within the enemy homeland, and SAC control of bases was the only way to achieve this. Control the bases, control the bombers, control the mission. Evidence of this can be found in a message the Chief sent LeMay in April 1951, just as the command structures in England were firming up: "for your information, what I am trying to do is set up an Air Force base command in the British Isles and I want it to be controlled by an airman. I do not want some anti-aircraft artillery Joe top man there." SAC was the only specified command, and it answered not to any theater commander, but to the JCS (through the Air Force Chief). Vandenberg achieved this goal in May 1951, when a major reorganization took place in England: the new 3rd Air Force gained control of all tactical air forces in the United Kingdom and belonged to USAFE, the new 7th Air Division gained control of all strategic air forces in the United Kingdom and belonged to SAC.[57]

LeMay's motives sprang directly from air power theory and the Korean War. The SAC commander vigorously defended his command's overseas bases amidst posturing by several theater commanders to gain operational control over these sites. One message from the middle of the decade is particularly relevant and ties together many of the concepts developed in this chapter. In an extensive message to General Twining (now, Vandenberg's successor as Air Force Chief), LeMay began by assessing the outcome of a recent exercise, which showed "many of the top field commanders still feel they must have direct control over a portion of the offensive air power...[and]

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[57]Message Vandenberg to LeMay, 13 April 1951, LOC MRR, LeMay, box 197.

consider themselves air tacticians better qualified than professional airmen to direct

offensive air actions in their respective areas of responsibility." LeMay appears

contemptuous of the qualifications and capacities of these field commanders in regards

to the strategic air mission, yet he also recognizes their desire to gain control of strategic

bombers. Continuing, the SAC Commander expresses more specific criticisms, which

shall be quoted at length, to convey a more thorough context:

> The employment of three medium bomb wings under the operational
> control of the Theater Commander in the Korean conflict is an example of top
> US military decisions in the relatively recent past which have reflected a trend of
> thinking contrary to the best interests of the AF and the nation as a whole...
> I am unalterably opposed in principle to the transfer to or operational
> control of medium or heavy bombers by theater commanders. One of the salient
> principles involved in the long fight to raise air power to its proper position has
> been resisting the tendency to use air power piecemeal. The medium and heavy
> bomber force is designed to do a job, and under SAC it has the capability to do
> that job. This capability is still increasing. The bombardment force...should be
> one organization under direct control of the Chief of Staff of the Air Force.[58]

LeMay wanted SAC to control the strategic mission, the bases were merely a means of

achieving this. In principle, SAC had enjoyed independence since its inception, but in

practice--due to the limitations of bomber combat radii--no such status existed unless

the command controlled its own assets overseas. SAC bases were a means of gaining

control over strategic assets, and through this, the strategic mission.

New Look Period

The end of the Korean War in 1953 saw a redirection of American military

strategy, largely due to the Eisenhower Administration's concerns over the legacies of

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[58] Letter LeMay to Twining, 28 May 1955, LOC MRR, LeMay, box 207.

the conflict.[59] Korea had been a frustrating war, with limited aims and no measure of

victory, and the new administration sought to prevent another such conflict.

Additionally, as candidate and president-elect, Eisenhower had promised to rein in

military spending and balance the budget.[60] Thus, the central problem faced by the new

administration was, in the words of one scholar, "the reconciliation of security with

solvency."[61] For several months after the Korean armistice, the Eisenhower

Administration solidified its national security policy, which formally emerged in

October 1953 as NSC-162/2, "the New Look." In an early meeting with the Joint Chiefs

the President explained his rationale for this shift in strategy:

> I stressed that the United States would not employ the same policies and
> resources to fight another war as were used in the Korean conflict. I saw no
> sense in wasting manpower in costly small wars that could not achieve decisive
> results under the political and military circumstances then existing. I felt that
> this kind of military policy would play in the hands of a potential enemy [the
> Soviet Union] whose superiority in available manpower was obvious. We
> should refuse to permit our adversary to enjoy a sanctuary from which he could
> operate without danger to himself...the Communists would have to be made to
> realize that should they be guilty of major aggression, we would strike with
> means of our own choosing at the head of Communist power.[62]

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[59] Ambrose, Globalism, p. 137; Weigley, American Way, p. 402.

[60] From FY 1950 to FY 1953 the percent of gross national product allocated to defense had tripled, from 4.6% to 13.8%. Bureau of the Census, US Department of Commerce, Historical Statistics of the United States: Colonial Times to 1970, (Washington: USGPO, 1975), (hereafter cited as US Bureau of the Census, Historical Statistics), pp. 224, 1116.

[61] This quote builds on a statement made by Eisenhower during his election campaign. One of the most thorough assessments of the New Look policy remains Glenn H. Snyder, "The New Look of 1953," in Schilling, et al, Defense, p. 379-524, quote p. 384 (hereafter cited as Snyder, "New Look."); also see Gaddis, Strategies, Chapters 5 and 6; Duane Windsor, "Eisenhower's New Look Reexamined: The View from Three Decades," in Joann P. Krieg, ed., Dwight D. Eisenhower: Soldier, President, Statesman, (New York: Greenwood Press, 1987); Robert A. Divine, Eisenhower and the Cold War, (New York: Oxford University Press, 1981), pp. 33-39; Borgiasz, SAC, Chapter 2; Robert J. Watson, The Joint Chiefs of Staff and National Policy, 1953-1954, History of the JCS, vol. V, (Washington: Historical Division, JCS, 1986), (hereafter cited as Watson, JCS), pp. 21-37.

[62] Dwight D. Eisenhower, Mandate for Change: The White House Years, 1953-1956, (Garden City: Doubleday & Company, Inc., 1963), (hereafter cited as Eisenhower, Mandate), p. 454.

Eisenhower's success instituting this policy was largely due to his background and convictions. He considered himself his own military expert.[63] He had commanded the largest invasion force in history and his military assignments dealing with nuclear weapons issues gave him, in the words of Rosenberg, a "more thorough knowledge of nuclear weapons than any president before or since."[64] He quickly dismissed any personal or professional criticism of the New Look, feeling that he was the best qualified to redirect national security policy. Conveniently, the Joint Chiefs of Staff had a complete turnover during the initial months of the first Eisenhower Administration and, by the President's direction, the selection of every military officer on the Joint Staff would thereafter require personal approval from the Chairman, who was, of course, a Presidential appointee.[65] The new President had the experience, the desire, and the bureaucratic structure necessary to personally remold American national security policy.

The New Look period, as defined here, lasted from October 1953 to October 1957. The resulting policy followed an examination of the national security tasks required by each military service (a process Eisenhower called a "horizontal analysis"). Through this, the Air Force emerged the clear winner, as a breakdown of Eisenhower's first military budget shows:

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[63] Fred I. Greenstein, The Hidden-Hand Presidency: Eisenhower as Leader, (New York: Basic Books, 1982); Douglas Kinnard, President Eisenhower and Strategy Management, (Lexington: University Press of Kentucky, 1977); John Sloan, "The Management and Decision-Making Style of President Eisenhower," Presidential Studies Quarterly 20 (1990), pp. 295-314.

[64] Rosenberg, "Overkill," p. 27. For a description Eisenhower's post-war military assignments related to nuclear weapons, see Bundy, Danger, pp. 236-237.

[65] For details of the JCS turnover and new JCS procedures instituted by Eisenhower, see Watson, JCS, pp. 14-21; Eisenhower writes that this was due to routine turnover and implied no dissatisfaction on his part, Mandate, pp. 447-449.

Table 4
Military Budget Shift under the New Look
(billions $)

	FY 1954	FY 1955
Army	12.9	8.8
Navy	11.2	9.7
Air Force	15.6	16.4
total	39.6	34.9

Source: Eisenhower, Mandate, p. 452

This was the start of several trends which would continue throughout Eisenhower's presidency: military spending declined and would stabilize, roughly half of the budget would go the Air Force and, of that, forty percent would go to SAC.[66] This priority stems from NSC-162/2, which listed the first requirement for the American military as "a strong military posture, with emphasis on the capability of inflicting massive retaliatory damage by offensive striking power."[67]

The New Look built upon the progress made by NSC-68, but rejected its tenets of deficit spending, high military budgets, and balanced forces. In essence, this policy was a recognition of limited economic means which forced a reliance on nuclear weapons.[68] But the timing was significant, for this came during a period of lessened tension between the United States and the Soviet Union: the Korean War was over, Stalin was dead, and a thaw had begun between the two powers (one which would continue until the 1955 Geneva Summit). The predication of this policy was "sufficiency," implying that the United States--through SAC--could destroy the Soviet Union. With the coverage allowed by SAC forces, America could prepare for what Eisenhower called "the long haul." Superpower adversity would continue, Soviet

[66] Eisenhower, Mandate, pp. 133, 449-450; Gaddis, Strategies, p. 171.
[67] NSC-162/2, "Review of Basic National Security Policy," 30 October 1952, FRUS 1952-1954, 2:578-97, (hereafter cited as NSC-162/2, FRUS), quote p. 593.
[68] Bundy, Danger, p. 246.

strategic capabilities would grow, but throughout, the United States would maintain a steady pace, guarding its economic health and world-wide commitments. The second to last paragraph of NSC-162/2 illustrates this point:

> In the face of the developing Soviet threat, the broad aim of US security policies must be to create, prior to the achievement of mutual atomic plenty, conditions under which the United States and the free world coalition are prepared to meet the Soviet-Communist threat with resolution and to negotiate for the alleviation under proper safeguards.[69]

The New Look codified American strategy. The report defined the focus and the purpose of American strategic policy: "*The* major deterrent to aggression in Western Europe is the manifest determination of the US to use its atomic capability and massive retaliatory striking power if the area is attacked."[70]

At this point, some clarifications should be made. The New Look policy, then and now, remains buried under buzzwords: Secretary of State John Foster Dulles's professed phrase of "massive retaliation," and Secretary of Defense Louis Johnson's dictum of "more bang for the buck."[71] Perhaps, as Gaddis observes, these were not loose utterances, but intentional phrases meant to frighten adversaries.[72] Either way, two issues of this policy stand out in regards to strategic air power. First, the political reliance on strategic air power was not a new policy, just an enunciation of the existing

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[69] NSC-162/2, <u>FRUS</u>, p. 596.

[70] NSC-162/2, <u>FRUS</u>, pp. 584-585. Emphasis added. The original working document read "a major deterrent," but Eisenhower personally insisted on changing it. To him the indefinite article "failed to meet a primary objective, which was to establish a clear priority among the various kinds of military force." This issue is discussed in Snyder, "New Look," pp. 437-438, and Bundy, <u>Danger</u>, p. 247.

[71] Gaddis discusses this point in <u>Strategies</u>, p. 152-161, stressing that the non-nuclear components of the New Look were often lost by its overblown rhetoric. He notes that Dulles's 1954 article ("Policy for Security and Peace," <u>Foreign Affairs</u>, April 1954, pp. 353-364) meant to explain the Massive Retaliation policy, placed alliances ahead of nuclear deterrent capability in order of its importance to international security.

[72] Gaddis, <u>Strategies</u>, p. 162. Ambrose adds to this argument, noting that the Secretary of State had little else to wield to threaten the Soviets, <u>Globalism</u>, p. 138-140.

one. SAC bombers had been deployed abroad in 1946, 1947, 1948, 1950, and 1953 in response to international incidents.[73] All of these were before NSC-162/2, and whether described as "goodwill flights," "international diplomacy," "bomber diplomacy," or "nuclear flourishes" they were all clearly intended to signal American strength, commitment, and resolve through the primacy of strategic bombardment (underlined, obviously, by the potential dispatch of atomic weapons).[74] The intent of these missions was to threaten enemies and encourage allies: strategic bombers were predominate tools, politically and militarily, well before Eisenhower. The emphasis on bombers also predates the New Look; the military budget of fiscal year 1953 clearly favored SAC bomber forces, and this took place before Eisenhower's presidency.[75] There was continuity between the Truman and Eisenhower Administrations on the use and status of strategic air power; Eisenhower and his cabinet merely declared it publicly. One recent assessment finds, "what the years of the Truman presidency had initiated, the 'new look' defense policies of the ensuing Eisenhower administrations would confirm and institutionalize."[76]

Another vital clarification of the New Look, is that it relied on nuclear weapons in general, not just those used by SAC bombers. During a December 1954 White House

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[73] The November 1946 deployment was to Europe after Yugoslav fighters shot down two US Army C-46 transport aircraft. February 1947 was for the inauguration of the President of Uruguay. The July 1948 deployment of SAC bombers to the UK was in response to the Berlin Crisis. The last two will be discussed in Chapter 5. For specific information on these early deployments see Anderton, Two-Thirds; HQ SAC, Fortieth; Borowski, Hollow.

[74] In order, the quotes are from: HQ SAC, Fortieth, pp. 5-6; Futrell, Ideas, p. 216; Anderton, Two-Thirds, p. 34; The Brookings Institution, The Use of Armed Force as a Political Instrument, (1977). Anthony Cave Brown, ed., Operation World War III: The Secret American Plan DROPSHOT for War with the Soviet Union, 1957, (London: Arms and Armour Press, 1979), also discusses American and Soviet "flourishes" on pp. 14-18.

[75] FY 1953 budget, Williamson and Rearden, Origins, p. 144-149; Leffler, Preponderance, pp. 450-453. In regards to Massive Retaliation, Eisenhower merely capitalized on forces already made available by decisions of the Truman Administration. Samuel Wells argues that the growth of SAC in the early 1950s led directly to the later policy of Massive Retaliation. "The Origins of Massive Retaliation," Political Science Quarterly 96 (Spring 1981), pp. 31-52.

[76] Williamson and Rearden, Origins, p. 149.

meeting, Army Chief of Staff General Matthew Ridgway expressed deep concerns about the security of American forces overseas, especially in Europe. Eisenhower reiterated his policy position and through this revealed American reliance on all forms of nuclear weapons, particularly tactical ones for battlefield use:

> I could not help being sympathetic...But we knew that the Soviets maintained something in the neighborhood of 175 divisions active in Europe at all times. The United States had [a worldwide total of] twenty divisions, only five of which were in Europe. Therefore, in view of the disparity in strengths of the opposing ground forces, it seemed clear that only by the interposition of our nuclear weapons could we promptly stop a major Communist aggression in that area. Two more divisions or ten more divisions, on our side, would not make very much difference against this Soviet ground force.[77]

Nuclear firepower, of all kinds, could buttress allied defenses and reduce manpower requirements; they were the only viable recourse at the time. Additionally, these weapons lowered associated defense expenditures and allowed, according to Dulles, "maximum deterrence at a bearable cost."[78] Comparably, their effects were very cheap: one thousand tons of TNT cost $1,700, whereas fissionable material needed to produce a kiloton blast cost only $23.[79]

It is too simple to equate the New Look and massive retaliation, a distinction must be drawn to separate two elements of the policy: tactical nuclear weapons and strategic air power.[80] Both of these elements had a recurring impact on SAC's overseas bases, and unless this differentiation is made, a fundamental issue of these bases is missed: they had *strategic value* wholly independent of nuclear weapons. Perhaps the best summation of this concept comes from Gaddis:

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[77] Eisenhower, Mandate, p. 453.

[78] Speech of John Foster Dulles, Secretary of State, before the Council on Foreign Relations, 12 January 1954, in Documents on American Foreign Relations, 1954, pp. 7-15.

[79] Williamson and Rearden, Origins, p. 182.

[80] Ambrose also draws this distinction in Globalism, p. 137.

> It would be a mistake to view the Eisenhower Administration's "New Look" strategy as revolving around that [massive retaliation] concept...the central idea was that of asymmetrical response--of reacting to adversary challenges in ways calculated to apply one's own strengths against the other side's weaknesses, even if this meant shifting the nature and location of the confrontation. The effect, it was believed, would be to regain the initiative while reducing costs.[81]

This *asymmetry* is the essence of SAC bomber bases abroad.[82]

The common distinction among forces of this period, nuclear and conventional, is unsuitable to this study. A more appropriate demarcation is between strategic and tactical forces, with a line drawn at the battlefield. Tactical forces, regardless of weapons, would fight to support the immediate battlefield action, while strategic forces went beyond it, to the sources of enemy support for the war.[83] Tactical nuclear weapons would make up for manpower shortages, serving as a great equalizer along the potential battle zones around Europe. Strategic air power would offer this "asymmetrical response" in which American strengths rested with the speed, accuracy, and weapons of SAC bombers. The weaknesses of the Soviet Union lay with its vastness, and at the time, its lack of strategic weapons. The United States, through its SAC bases, possessed unequaled and unrivaled access to the Soviet Union.[84]

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[81] Gaddis, Strategies, p. 147, see also p. 151. Walter LaFeber is perhaps most guilty of this, equating the New Look, more bang for the buck, and massive retaliation. He makes only cursory mention of these three, lumping them all into a mere two-sentence discussion. To him, the New Look was purely a military policy for strategic nuclear weapons, a claim I find frightfully inadequate. LaFeber, America, Russia and the Cold War, 1945-1990, 6th ed., (New York: McGraw-Hill, Inc., 1991), p. 156.

[82] An examination of Dulles's famous phrase (which emerged slightly misquoted) reveals this asymmetrical contribution of strategic air power: "Local defense will always be important. But there is no local defense which alone will contain the mighty land power of the Communist world. Local defenses must be reinforced by the further deterrent of *massive retaliatory* power."

[83] See 'Prominent Terms' and Chapter 2 'Applicable Tenets of Air Power Theory.'

[84] In an influential 1954 book, Air Marshall John Slessor describes the air defense situation faced by the Soviets: "Air power had turned the vast spaces that were her prime defense ... into a source of weakness. In these days of near-supersonic speeds, the depth of penetration necessary to reach some of her vital centres is offset by the size of the area to be defended and the fact that it can be attacked from almost all round the compass." Strategy for the West, (London, 1954), p. 34.

Purpose of Acquiring Overseas Bases

The primary purpose of SAC overseas bomber bases was to gain time, thereby consolidating allied resistance against the Soviet Union and constructing American forces for a shift to a polar strategy. Under the coverage of these sites, efforts could be made--particularly by governments in and around Europe--to further their economic health, political solidarity, military integration and forces build up. SAC overseas bases, and the forces they held, served as a *strategic* umbrella, to allow time for all of this to take place. As Secretary of State Dean Acheson testified to Congress in 1951:

> The best use we can make of our present advantage in retaliatory air power, is to move ahead under the protective shield to build the balanced collective forces in Western Europe that will continue to deter aggression after our atomic advantage has been diminished.[85]

There was to be an overall build-up of forces, for no single service or weapons system could fulfill Western security requirements. But even at this early date, it was apparent that Western allies could not possibly equal the massive manpower of the Soviet forces.

The SAC sites are generally included as a portion of the American nuclear umbrella covering Europe, and certainly, that was part of their role. But the distinguishing feature, and unique element, of these sites was not their nuclear capability. In the early 1950s only SAC bombers had nuclear weapons, but other forces, other countries, gained nuclear weapons during this decade.[86] By 1957 the United Kingdom had became a nuclear power and France had begun efforts to do the same.[87]

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[85] Testimony of Secretary of State Dean Acheson, Hearings of the Senate Foreign Relations and Armed Services Committees, "Assignment of Ground Forces of the United States in the European Area," 82nd Congress, 1st session, (Washington: USGPO, 1951).

[86] The US Army deployed atomic artillery in October 1953. That same month Eisenhower authorized the JCS to plan on the use of strategic and tactical nuclear weapons against conventional attacks. In December 1954, the NATO Council approved MC-48, which authorized NATO commanders to plan on the availability and probable use of nuclear weapons. In 1956 NATO approved MC-70, a "forward

The exclusive feature provided by these bases, and only these bases, was their *strategic* capability. Through most of the decade, only SAC bombers could reach the heartland of the Soviet Union. Through these sites, America could threaten a truly asymmetrical response. The Soviets could not be matched "man for man, tank for tank," their military presence in Europe (which stayed relatively constant at 175 divisions-- although the strength of these units varied considerably, from about three million to six million soldiers). A direct military counter would entail raising a comparable army, and where would this army have come from? The Senate's "Great Debate" in the winter of 1950-1951 showed the divisive, controversial nature of sending more American troops to Europe. The "Fortress America" contingent, led by former President Herbert Hoover, rallied for the traditional American strategy of non-entanglement. In the end, the Senate by a close vote approved the deployment of four additional divisions to NATO, a token force meant to show American commitment and bolster European morale.[88] The NATO rearmament program, begun in 1949 and primarily funded with American dollars after mid-1950, was predicated on the expectation that European nations would develop their

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strategy" in which thirty front-line divisions possessed tactical nuclear weapons under US control. See Robert E. Osgood, NATO: The Entangling Alliance, (Chicago: University of Chicago Press, 1962), Chapter 5. For the movement to this nuclear strategy, see Thomas H. Etzold, "The End of the Beginning...NATO's Adoption of Nuclear Strategy," in Riste, Western Security, pp. 285-314.

[87] There are numerous books on the British nuclear program, among the more prominent: Margaret Gowing, Independence and Deterrence: Britain and Atomic Energy, 1945-1952, 2 vols., (London: Macmillan, 1974), (hereafter cited as Gowing, Independence); Richard N. Rosecrance, Defense of the Realm: British Strategy in the Nuclear Epoch, (New York: Columbia University Press, 1968); Andrew J. Pierre, Nuclear Politics: The British Experiences with an Independent Strategic Force, 1939-1970, (London: Oxford University Press, 1972), (hereafter cited as Pierre, Nuclear Politics). For the French program see Wilfred L. Kohl, French Nuclear Politics, (Princeton: Princeton University Press, 1971), (hereafter cited as Kohl, French Nuclear Politics).

[88] Even the JCS originally opposed sending these divisions to Europe, for fear that American forces were being spread too thinly. See Hearings of the Senate Foreign Relations and Armed Services Committees, "Assignment of Ground Forces of the United States in the European Area," 82nd Congress, 1st session, (Washington: USGPO, 1951; Ted Galen Carpenter, "United States NATO Policy at the Crossroads: The Great Debate of 1950-1951," International History Review 8 (August 1986), pp. 389-414; Leffler, Preponderance, pp. 406-408.

own defensive capabilities, particularly ground forces.[89] In February 1952 at the Lisbon

meeting of the North Atlantic Council, member nations pledged a NATO expansion

from thirty-four to fifty-one divisions by the end of 1952, and eighty-nine divisions by

the end of 1954. Neither of these goals would ever be achieved. The rearmament

burden was far too great for allied economies, and political leaders, to bear.[90] German

divisions under NATO control was another possibility, but due to the extreme political

sensitivities involved, the first prepared German units would not be integrated with

NATO forces until 1956.[91]

Thus, the vast Soviet advantage on the ground could not be directly countered by

any conceivable allied army. The military, political, and economic price was simply too

great for allied nations. The solution was to offset the Red Army with American

strategic air power. Only the inherent deterrent power of strategic bombardment,

regardless of the weapons it might employ, could shore up the precarious security

situation faced by Western Europe in the early 1950s. Strategic bombers on overseas

bases could imperil the core of the Soviet nation, signaling that any battle for Europe

would involve not just the immediate area, but the Soviet interior. In other words, the

Red Army held Western Europe hostage on the ground, and SAC--through its overseas

bases--held the Soviet Union hostage from the air.

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[89] See Lawrence S. Kaplan, A Community of Interests: NATO and the Military Assistance Program, 1948-1951, (Washington: Office of the Secretary of Defense, 1980).

[90] Lawrence S. Kaplan, The United States and NATO: The Formative Years, (Lexington: University Press of Kentucky, 1984), (hereafter cited as Kaplan, US and NATO), pp. 145-175. Williamson and Rearden write in Origins, p. 175: "the Lisbon formula was a charade, the beginning of the end to NATO's Korean War-inspired re-armament and the eclipse of any hopes of reviving conventional deterrence." I do not dispute this assessment, hereafter NATO forces increasingly turned to nuclear weapons for their defense. But these were *tactical* nuclear weapons. The distinction between tactical nuclear weapons and strategic air power still holds. SAC bases would have been placed around Europe, due to the range capacity which only their strategic bombers could offer.

[91] For the background to the rearmament of West Germany, see Christian Greiner, "The Defense of Western Europe and the Rearmament of West Germany, 1947-1950," in Riste, Western Security, pp. 150-180.

Deterrence

The purpose of deterrence is to dissuade enemy action by engendering a fear of attack.[92] A deterrent force must project a credible threat, one which is received by the enemy. Thus, the concept hinges on the enemy's assessment of this threat, he must know the potential capabilities of his opponent.[93] The protection of Europe with forward-based American bombers is a classic example of extended deterrence, in which the United States threatened the Soviet Union in order to protect a collection of distant nations. This was a relatively easy task until the mid-1950s, for the Soviet leaders had no comparable strategic threat to wield towards Europe or towards the United States. The chief quality of this extended deterrence in the early 1950s was formidability, and to attain this, SAC bombers needed only to endanger Soviet targets.[94]

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[92] For excellent summations of deterrent concept, the theorists, and its various schools, see Buzan, Strategic Studies, Part III; Freedman, Evolution, Section II; Brent D. Brandon, "Deterrence in the Nuclear Age," in Schuyler Foerster and Edward N. Wright, eds., American Defense Policy, 6th ed., (Baltimore: Johns Hopkins University Press, 1990), pp. 63-72. Michael Howard discusses the evolution of deterrent concepts in the nuclear age in "The Classical Strategists," in George Edward Thibault, ed., The Art and Practice of Military Strategy, (Washington: National Defense University, 1984), pp. 535-552. Bernard Brodie notes that deterrence is an old concept, nuclear weapons merely heightened the dangers should it fail. Brodie, Strategy in the Missile Age, (Princeton: Princeton University Press, 1959), (hereafter cited as Brodie, Missile Age), p. 271. Thomas Schelling in Arms and Influence, (New Haven: Yale University Press, 1966) takes examples dating from Xenophon's Persian expedition in 400 BC to the Cuban Missile Crisis to show the roots of the deterrent concept. The best analysis of the deterrent use of air power, before nuclear weapons, remains George H. Quester, Deterrence Before Hiroshima: The Air Power Background of Modern Strategy, (New Brunswick: Transaction Publishers, 1986).

[93] An example of this appears during a 1955 meeting at Air Force Headquarters where Dr. C.M. Mottley (from the Office of Research and Development, Assistant Secretary of Defense) stated, "Our strategy should be partly open and partly closed. We should impress upon the world some of the conditions of our military posture. Some of the planned leaks of SAC capability are examples. We should make this information available to Soviet strategic planners ... [to] confront them with dilemmas." Memo for File, Subject: Discussion by Dr. C.M. Mottley, 'Possible Strategies to Contain the Soviet Threat, 1955-1965,' 18 January 1955, p. 1, United States Air Force Academy Library Special Collections, (Colorado Springs, Colorado), (hereafter cited as USAFA), General Nathan F. Twining Collection (Twining), series 2, box 9, file 2.

[94] Gray provides three periods of Western Nuclear Strategy: the First Wave (1945-mid-1950s), the Golden Age (mid-1950s to mid-1960s), and the Third Wave (mid-1960s onwards). SAC overseas bases developed before deterrent theory blossomed, and predates the Golden Age (the most vibrant and well-defined of the three) which occurred during the bipolar nuclear age. Gray, Strategic Assessment, pp. 15-17.

The relationship between SAC and NATO was interdependent, each directly relied on the other. This notion is fundamental, but not new. In 1959 Bernard Brodie wrote:

> The NATO powers were induced to make the precedent-shattering commitments of that alliance only upon our promise that the United States SAC stood ready at all times to implement it. The NATO alliance was the means by which our partners could avail themselves of that kind of support, and it was the only way in which the United States could bind them, if attacked, to defend themselves vigorously and in combination. It was also the only way in which the United States could get them to contribute the complementary forces which the entire defense scheme was deemed to require, as well as to provide the advance bases considered essential at the time for the appropriate wartime employment of SAC.[95]

NATO was by no means merely an adjunct to SAC, nor was SAC merely an adjunct to NATO. SAC bombers required overseas sites to become a credible threat towards the Soviet Union; NATO countries required the security guarantees that only SAC bombers on overseas bases could offer. The goal of both of these organizations was to deter a war against the Soviet Union.

Site Selection: Military Considerations

LeMay viewed SAC's role very simply: "The paramount aim expressed in the National Security Policy is to deter war, and to prevail should war eventuate...Strategic air forces provide the greatest single deterrent to war. As such, they hold the key to the

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[95] Brodie, Missile Age, p. 252. See also, Leffler, Preponderance, pp. 406-408; Freedman, Evolution, pp. 74-75. Former Secretary of the Air Force Thomas Finletter constantly discusses the concept of "NATO atomic air power" in Power and Policy, (New York: Harcourt Brace, 1954), but he never makes clear the interrelationship. He explains the matter as if SAC was subjugated to NATO, which was not the case. It appears his aim was more political than strategic, for he emphasizes the great Soviet military presence in Europe and the strong interdependence of NATO allies.

security of the nation."[96] The mission of SAC was to prepare to conduct long range

offensive operations in any part of the world, and this preparation was an invocation of

the *para bellum* doctrine: let he who desires peace, prepare for war.[97]

Offensive considerations favored sites with access to the western side of the

Soviet Union. The specific target lists of this period are still classified, but for our

purposes, general target types and locations will suffice.[98] In August 1950 the JCS

defined three categories of wartime targets for SAC, and these would remain with the

command for the rest of the decade. The three are best known by their NATO

designations: BRAVO--"blunting" of enemy atomic forces, ROMEO--"retardation" of

advancing enemy forces, and DELTA--"disruption" of the enemy war economy.

Intelligence information needed for the BRAVO mission, on the budding capabilities

and placement of Soviet strategic forces, remained vague until pinpointed by new

reconnaissance platforms later in the decade.[99] The ROMEO task was the most

contentious among American military services and among NATO allies, leading to

divisiveness and disagreement. NATO commanders were concerned with slowing or

stopping a ground advance, while strategic air planners (and particularly LeMay)

[96] Letter, LeMay to General Nathan F. Twining (AF Chief of Staff), 3 March 1956, LOC MRR, LeMay, box 207.
[97] SAC mission, see HQ SAC, Fortieth, p. 2; Moody, Building, pp. 65-66.
[98] According to the Air Force historian who retains them, SAC warplans from the 1950s still hold a classification beyond Top Secret. Parts of these plans have emerged, but the complete information has never been released. Discussion with Dr. Ed Mark Air Force History Office, (Bolling AFB, Maryland), 1 September 1995. Even so, some assessments have been made. See particularly Ball and Richelsen, Nuclear Targeting; Ball, "Targeting for Strategic Deterrence," Adelphi Papers, no. 185 (Summer 1983), (hereafter cited as Ball, Adelphi); Rosenberg, "Overkill," and "A Smoking Radiating Ruin at the End of Two Hours: Documents of American Plans for Nuclear War with the Soviet Union, 1954-1955," International Security, vol. 6, no. 3 (Winter 1981/1982), pp. 3-38. Rosenberg's articles are often cited as definitive sources, but a careful review shows that very few of his references come from SAC sources. His assessment of SAC is inferred, drawn indirectly with documents from the JCS and the Navy.
[99] The BRAVO mission became increasingly important in SAC plans throughout the decade, and by the late 1950s was the primary objective of SAC targeting. But this was not the case early on, though, when choosing medium bomber bases. RAND R-266 mentions BRAVO targets, but is entirely based on assessment of DELTA targets. Wohlstetter, et al, RAND R-266, p. xl.

viewed this task as tactical support, unsuited for SAC's mission, weapons, and strategy. So, for the initial selection of SAC overseas bases, emphasis rested with the DELTA mission. The Soviet economy was the easiest of the three areas to assess, and target sets could be pre-planned. SAC planners could allocate weapons and assign individual bomb units to these targets, which lay deep in Soviet territory.[100]

The grouping of SAC's DELTA targets can be gleaned from two RAND studies of the 1950s.[101] Using the best available intelligence data, RAND analysts calculated an Aggregate Industrial Index (AII) to measure the capital investment of each proposed economic target within the Soviet Union, with a weighted factor added for certain key facilities such as petroleum refineries. The top 250 targets were then rank-ordered to assess the geographical distribution. Soviet industry was highly concentrated, with a mere one-third of the cities holding eighty percent of all industrial sites. Further, separating the nation into quadrants, with the most prominent boundary dividing the country east-west through Lake Aral, also reveals great geographic concentration:

Table 5
Distribution of Soviet Strategic Targets
by Geographic Quadrant, 1953

AII rank	Northwest	Southwest	Northeast	Southeast
1-50	17	29	3	1
51-100	43	4	3	0
101-150	19	20	11	0
151-200	28	11	6	5
201-250	43	6	0	1
Total	150	70	23	7

Source: Dalkey, et al, RAND RM-1011.

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[100] For a thorough explanation of these three tasks, see Rosenberg, "Overkill," pp. 16-18: Moody, Building, pp. 357, 360-367; Futrell, Ideas, pp. 142-144; Ball, Adelphi, pp. 3-5.

[101] The figures cited are from Norman Dalkey, Olaf Helmer, and F.B. Thompson, "Report of a Preliminary Systems Analysis for Strategic Targets," RAND Research Memorandum RM-1011, 1 January 1953, (hereafter cited as Dalkey, et al, RAND RM-1011); Oliver and Wilson, RAND RM-1683, used a similar process, and had similar results, three years later. The sections of RAND R-266 describing Soviet target complexes come entirely from data appearing in RAND RM-1011.

Eighty-eight percent of the strategic targets were located in the western portion of the Soviet Union, with sixty percent in the north-west portion alone.[102]

From these forward sites SAC officers could plan a considerable number of attacks upon Soviet targets. This greatly complicated the Soviet air defense situation; American bombers could threaten from several different axes and Soviet air coverage had to spread to protect against a vast array of possible entry routes, diluting defenses and forcing a substantial commitment of resources.[103] The growth of *PVO Strany* (the Soviet military branch responsible for homeland defense, which became a separate air force during a 1954 reorganization) illustrates the seriousness of this perceived threat from SAC bombers. The number of Soviet interceptors doubled from 1950 to 1955, and by the end of the decade there were five thousand aircraft assigned to the command, and almost the same number of surface-to-air missile launchers. Moscow alone had three thousand of these missile launchers, which could only be used for defending against high-altitude bomber attacks. *PVO Strany* also possessed ten thousand anti-aircraft artillery cannons.[104] The Soviet air defense problems were severe. In a 1952 speech to

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[102] Wohlstetter, et al, RAND R-266, pp. 163-169, 180-181. SAC sought wartime operating rights around the Middle East, but most of the area was considered too dangerous for full rotational bases. American warplans from the late 1940s increasingly found the Middle East indefensible if faced with a Soviet offensive. The first joint-approved warplan, HALFMOON of 1948, assumed an allied loss of the Middle East and most of Europe. Starting with the 1949 warplan OFFTACKLE, SAC bombers planned on the use of bases in the UK and northwest Africa. Moody, Building, pp. 288-290.

[103] For the complexity wrought by the bomber threat from overseas bases, see Wohlstetter, et al, RAND R-266, pp. 172-187. A detailed mathematical analysis of Soviet defenses can be found in R. Schamburg, "Generalized Analysis of Aerial Campaigns Against Strategic Targets," RAND Pamphlet P-1017, 9 May 1957. The most useful portion of this pamphlet, for my purposes, can be found in pages 11-23, where Schamburg discusses various enemy air defense configurations. He presents several theoretical models, the advantages and disadvantages of each, then examines possible courses of action for SAC planners to overcome them.

[104] For the structure of Soviet air defenses see Robert P. Berman, Soviet Air Power in Transition, (Washington: The Brookings Institution, 1978), (hereafter cited as Berman, Transition), pp. 15-20); Thomas W. Wolfe, Soviet Power in Europe, 1945-1970, (Baltimore: Johns Hopkins, 1970), (hereafter cited as Wolfe, Soviet Power in Europe), pp. 40-48.

the National War College, LeMay summarized the situation while showing a slide of

SAC's medium bomber bases:

> You will notice that they form a ring around the USSR. This base system will permit us flexibility in attacking from many different directions...we can plan a variety of attacks which will be most difficult to stop and should cause the Russian to spread his defenses around his borders.[105]

Placing SAC bombers abroad allowed tremendous offensive capabilities, but this

also posed compelling defensive problems for the command. There are two types of

deterrent forces: denial--which defend the surrounding area, and retaliation--which

threaten a distant location. SAC forces were the latter, composed entirely of offensive

aircraft designed for use in the enemy homeland. As Brodie writes, "Among the

[strategy] changes we have to cope with today, perhaps the most significant militarily is

the loss of the defensive function as an inherent capability of our major offensive

forces."[106] SAC bombers operating from overseas bases remained a force at risk, one

incapable of defending itself. Indeed, this was the thesis of RAND R-266, which noted

"unfortunately when we are close, not only is our power to attack the enemy very great,

but also his power to attack us."[107]

Defensive considerations pointed the command towards sites on the edge of the

continent, where bases would be less exposed to military threats from every medium--

land, sea, and air. Initially, the primary threat to these sites was a large-scale ground

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[105] LeMay text of speech "Strategic Air Operations," presented to the National War College, 6 March 1952, pp. 32-33. LOC MRR, LeMay, box 80, file semi official correspondence.

[106] Emphasis in original. Brodie, Missile Age, p. 225.

[107] The report advocated using ground refueling bases as bomber staging sites, so as to minimize the risk of overseas operations, and further, recommended passive defenses, such as camouflage paint schemes and aircraft shelters, because bombers could not protect the sites. The authors of RAND R-266 point out that in the early 1950s, the Soviets had no ballistic missiles and few bombers that could even reach the SAC bases. The bomber bases, selected for optimum American reasons, were ideally in poor locations from a Soviet viewpoint. Wohlstetter, et al, RAND R-266, pp. xix, 58-60.

advance by the Red Army, a formidable prospect which could not have been stopped in the early years of NATO. The first JCS short-term plan for the defense of Europe, formulated in 1949 and early 1950, planned an evacuation of American troops from forward positions, a line of allied defenses established at the Pyrenees, and--notably-- retention of bomber bases in the United Kingdom.[108] Throughout the decade, a number of additional threats existed as well. Soviet paratroopers could be used to seize, damage, or destroy the bases.[109] A seaborne threat was least likely, but remained possible, for eighty percent of SAC's overseas bases were within one hundred miles of the sea.[110] The major air threat came from Soviet bombers at bases in East Germany, which if launched against bases in England, would allow SAC bombers only forty-five minutes warning time.[111] Considering all of these threats, SAC bases were sought beyond the expected advance of a Soviet ground invasion, inland (at least, not coastal), and beyond the reach of Soviet aircraft. These sites were constructed at the edge of American bomber radii of action, positioned as far as possible away from Soviet military threats, yet within range of assigned wartime targets.

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[108] Kaplan, US and NATO, pp. 142-143; the Nash Report states that the Spanish Army would be capable of assisting with defense of the Pyrenees passes, Nash Report, DDEL, Country Studies (Spain), p. 154.

[109] This force was limited by the range of Soviet transports though. The troop-carrying planes (the Ilyushin IL-12 and the Tupolev TU-70) had a radius of only six hundred miles, a third longer than Soviet fighters could fly to protect them. Wohlstetter, et al, RAND R-266, p. 324; letter Major General J.H. Atkinson (Commander, Second AF) to LeMay, 21 August 1950, LOC MRR, LeMay, box 196. Several modifications were made to these planes though: air refueling receptacles were first seen in 1949, TU-70s based in East Germany had paratroop doors installed in 1951, and a parasite fighter was seen mounted under the TU-70. Leonard Bridgman, ed., Jane's All the World's Aircraft, 1954-1955, (New York: McGraw-Hill Book Company, Inc., 1955), pp. 186-187.

[110] In 1954, sixty percent of SAC's stateside bases were also within one hundred miles of the sea. The Soviet SLBM threat, in combination with the emerging American polar strategy, eventually led to a concentration of SAC bases in the north-central region of the United States. Wohlstetter, et al, RAND R-266, pp. xix, 229; Nash Report, DDEL, p. xxv.

[111] This was initially the Tupolev TU-4 and the Ilyushin IL-28. The threat grew and the warning time diminished as the Soviet bomber force expanded and modernized. In 1954 the Tupolev TU-16 jet medium bomber entered service, followed in 1956 by the Myasischev MYA-4 and the Tupolev TU-20, which could all carry an expanding collection of bombs and air-to-surface missiles, both conventional and nuclear. Wohlstetter, et al, RAND R-266, pp. 58, 318-319; Berman, Transition, pp. 24-27.

Half of SAC's overseas bases were in the United Kingdom, and there was strong military justification for locating them there. The overriding reason was their prompt availability. Close relations between RAF and USAF leaders continued after World War II, leading to a string of military-to-military agreements to upgrade RAF bases to SAC bomber standards.[112] SAC bombers were already on British soil, and had been continuously since July 1948. Other bases in the United Kingdom could be occupied immediately, with any further modifications taking place after the bombers arrived.[113] As for other prepared locations, there were none. A SAC capabilities report from September 1950 lamented that other than the United Kingdom, "at the present time there is no other suitable forward area ready for use as an alternate launching base."[114] Other possible sites within striking distance of the Soviet Union did not have the necessary facilities for bomber operations, nor the communications network to link with the American command elements.[115]

Defensively, the United Kingdom far surpassed any other potential location. During the early 1950s the United States European Command (USEUCOM) conducted biannual military evaluations on each nation in NATO. Through arrangements with the alliance and the provisions of the military aid programs, American officials were given open access to allied military capabilities, and consistently, their reports confirmed the

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[112] These agreements are thoroughly recounted in Murray, "Initial," pp. 15-21. See also Moody, Building, pp. 141-142.

[113] The UK bases had been previously used, and this sped SAC deployments. SAC bombers deployed to RAF Upper Heyford and RAF Mildenhall in July 1948 and modifications took place after their arrival, and it took four months to prepare RAF Lakenheath. In contrast, new sites in Spain took considerably longer: Zaragoza AFB opened in September 1954 after sixteen months of construction, and Torrejon AFB opened in July 1956 after twenty-two months. 84th Congress, SOAP, pp. 391-394; Fletcher, Bases Outside, pp. 123, 128, 133, 189, 200.

[114] HQ SAC, 'Comments on the Initial Strike Capability of SAC,' 11 September 1950, p. 4, LOC MRR, LeMay, box 196.

[115] Letter Atkinson to LeMay, 21 August 1950, LOC MRR, LeMay, box 196; also see report from the Air Force Inspector General to HQ SAC, 'Report on SAC Capabilities to Initiate and Sustain Combat Operations,' 19 March 1951, p. 20, LOC MRR, LeMay, box 197.

bleak status of NATO forces. The report from June 1953 opens with the following assessment:

> The current overall effectiveness of European NATO forces is limited and is rated as poor to fair. Deficiencies generally common to these forces include: insufficient regular personnel...inadequate training...inadequate numbers of supporting units; and shortages of certain critical items, including heavy anti-aircraft fire-control equipment, vessels and aircraft.[116]

Throughout the early 1950s NATO forces were not expected to be able to defend their territory. These reports further subdivided the assessments, rating each nation's military service, and those of the air forces often proved woefully inadequate. A typical evaluation in the air section reads: "The overall combat effectiveness is poor...It will not be possible to sustain a military air effort for any period of time. In fact, it is doubtful if the majority of the country air forces will be able to meet an initial attack."[117]

But among these poor assessments there was one recurring exception--the United Kingdom. Repeatedly, British defense forces received praise. Reports as late as 1953 show that the Royal Navy, alone among NATO-member navies, met quality standards and quantitative force goals. The Royal Navy had been undergoing modernization since the end of World War II, received no ships via American aid, and had adequate vessels to meet all NATO commitments. The sea lanes to Britain were well-protected. That same year the British Army was only one of two in NATO deemed capable of defending against any immediate threat, and one of only three to meet readiness standards. And

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[116] The information in the following paragraphs comes from a series of reports filed with the Assistant Secretary of Defense (International Security Affairs), a job held by Frank Nash from August 1951 through February 1954. I examined the years 1950 to 1953, the start of the SAC base build up. The later reports were most helpful for they show the cumulative changes of funding and capability which occurred among these NATO forces. The quote is from HQ USEUCOM, "Effectiveness of Forces, European NATO Countries," as of 30 June 1953, p. 3, NA Suitland (College Park, Maryland), Record Group (RG) 330, box 18, file USEUCOM Effectiveness Report.

[117] This is a recurring theme found throughout reports of this period, this particular statement comes from ibid., p. 8.

the British Army could quell any local disturbances, a possibility which these reports found unlikely due to the strong British commitment to the West. As for NATO air forces: "With the exception of the Royal Air Force (United Kingdom) the capability for effective air defense action on the part of NATO air forces will be negligible."[118] Unlike any other NATO ally for the first half of the 1950s, military forces of the United Kingdom were expected to hold against any threat, internal or external.

The strong defensive position of the United Kingdom can also be shown through analysis of American military aid expenditures from fiscal years 1950 through 1953. Separating these funds by country and by service reveals several relevant points. The RAF received $659 million from the United States, exceeding the expenditures of the other two British services combined.[119] The priority for this money was air defense, purchasing long range radar, upgrading defensive fighter forces, and improving existing radar systems for aircraft identification, height-finding, and ground-controlled intercepts. With the help of these funds the British built a solid air defense system, headed by the RAF and integrated among all three services. And these reports went beyond equipment to note experience: despite incessant attacks in the previous war, Britain alone held against the onslaught of Germany.[120] Of all potential sites with access to the Soviet Union, the most secure location for American bomber bases was the United Kingdom.

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[118] ibid., p. 3.

[119] A breakdown of American military aid provided to NATO from FY 1950 to FY 1953 can be found in ibid., pp. 50-58. American military aid will be discussed in Chapter 5, "Permission Costs."

[120] Each nation also had a separate evaluation filed as a subsection of the overall USEUCOM report. This UK information comes from two such reports. HQ USEUCOM, "Report on the Effectiveness of Forces, European NATO Countries," section X, United Kingdom, as of 30 June 1953, and another report dated as of 31 December 1953, both in RG 330, box 18, file Greece-UK.

Chapter 4

Politics of Foreign Bases

> For while the base system was established and expanded primarily to assure the effectiveness of our strategic air-atomic capability...[now] in truth it has become a major--if at times a too conspicuous--element of United States foreign policy.[1]
> Townsend Hoopes, 1958

Political conditions constrained SAC's overseas bases and imposed a measurable effect on the potential capability of the command. Despite the multitude of countries and the complexity of the issues, the United States successfully gained rights to an array of bases around the Northern Hemisphere. Retaining these sites, however, became more difficult throughout the decade as an assortment of political threats developed, limiting access and undermining the very purpose these forward positions sought to fulfill.[2]

The outbreak of the Korean War prompted an intense American diplomatic effort towards obtaining overseas military bases of all kinds, and among them, sites for SAC bomber bases.[3] In October 1950, SAC Headquarters produced a report titled 'Deficiencies Affecting Combat Capability,' which listed nineteen bases outside the continental United State sought for the use of SAC bombers.[4] The over-riding deficiency was that most of these sites had not been formally secured through

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[1] Townsend Hoopes, "Overseas Bases in American Strategy," <u>Foreign Affairs</u> (October 1958), pp. 68-71, quote from p. 71.
[2] Throughout this chapter, the concept of "base" differs slightly from previous chapters. Here, the concern lies with access rights to a bomber base site, as opposed to the occupation of one by rotational bomb units.
[3] Nash Report, DDEL, p. 4.
[4] Medium bombers were to use sixteen forward operating bases: eight in the United Kingdom, four in French Morocco, and one each in Newfoundland, Labrador, the Azores, and Okinawa. Heavy bombers had three overseas staging sites (stopover points for temporary use), in the United Kingdom, Alaska, and Okinawa. HQ SAC, Report, 'Deficiencies Affecting Combat Capability,' 1 October 1950, LOC MRR, LeMay, box 196.

diplomatic agreements. The Air Force Chief of Staff, General Vandenberg, prodded the JCS to initiate procedures for obtaining such agreements. The location of these sites, and their intended purpose, is apparent from his initial memorandum to the Joint Chiefs:

> Rights for bases throughout the NAT[O] family of nations and for the period of the North Atlantic Treaty are an absolute necessity for the carrying out of NATO defense plans and the adequate participation by the United States therein, particularly in view of the fact that it is charged with the specific responsibility of conducting the strategic air offensive.

Vandenberg sought sites for SAC through NATO's extended family. But here was the political crux: these SAC bases would support NATO, but were not a part of NATO. To Vandenberg, a military limitation existed, due to diplomatic hesitancy among America's European allies: "the reticence of NATO nations to enter bilateral negotiations on matters that are not reflected in NATO plans is becoming increasingly apparent."[5] Even at this early date, the very outset of the program, political difficulties encumbered the command's global positioning.

The JCS acted on Vandenberg's memorandums and in late October 1950 the NATO Military and Defense Committees formally recognized the requirement for the American military to gain extensive rights to overseas bases and encouraged member nations to enter negotiations with the United States.[6] The internal American process for obtaining any overseas base began at the Pentagon, where each military service reviewed its missions and made a list of additional locations needed to fulfill its tasks.

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[5] Quote from JCS 570/136, memo by Chief of Staff, USAF, to JCS, "Base Requirements in North Atlantic Treaty Defense Plans," 9 October 1950, NA RG 218, CDF 1948-1950, box 148, file Post War Base Requirements.

[6] The development of this policy can be traced through a series of JCS documents from October and November 1950, all found in the JCS 570 collection, and numbered 130 to 141. See particularly JCS 570/139, memo by the Chief of Staff, USAF, for the JCS, "Requirements for Additional Military Rights in Foreign Territories," 28 October 1950, NA RG 218, CDF 1948-1950, box 148, file Post War Base Requirements.

The JCS reviewed the requests and consolidated the wish lists into an annual document titled 'Military Bases Requirements Overseas.' As funds became available each service could formally nominate a new overseas site, which then went to the Office of the Secretary of Defense for consideration. If approved, the potential base site was sent to the State Department with a request to commence diplomatic negotiations with the necessary foreign government. Requests, funds, and approval all came together in the fall of 1950.[7]

Base historians rightfully credit the Korean War as being the catalyst for the vigorous American diplomatic effort to gain overseas military bases, but these studies are of a broad nature and little research exists on the resulting international politics of SAC bomber bases. James Blaker's book, the secondary source most useful in several previous chapters, does not even address political issues. Other base histories tend to center on later eras or merely a single country.[8] Most works that do discuss SAC rotational bomber bases contain no reference to the Nash Report or RAND Report R-266; classification precluded this through the early 1960s, but later historians have not taken advantage of these rich sources.[9] These two basing documents form the

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[7] Nash Report, DDEL, p. 5.

[8] See Chapter 1, Historiography, for specific comments on these base histories. This is an intentional omission by Blaker, Dilemma, p. 2. Books that center on later eras are: Cottrell and Moorer, Problems on the 1970s; Duke, Europe, and Harkavy's, Presence, both center on the 1980s. Sources that assess a single country include: Adams, Morocco; Duke, UK; Bowyer, Freedom; Campbell, Unsinkable; and Murray, "Initial." Harkavy's Access is subtitled 'The Geopolitics of Access Diplomacy,' and his Chapter 4 concerns the early post war period and does have a section on SAC bases, but he analyzes the operational use of the bases, not the underlying politics. SAC histories touch on international politics, but only as a peripheral topic. Despite the overall limitations, some sections of other works were particularly useful in this chapter, notably: Moody, Building, pp. 426-445; Campbell, Unsinkable, pp. 41-56; and the historical background segments in various chapters of Duke, Europe. Two articles from the period were especially useful for assessing growing international difficulties with SAC bases in the late 1950s, Hoopes, "Strategy," and Packman, "Future."

[9] Rolf Tamnes, The United States and the Cold War in the High North, (Oslo: ad Notam, 1991), (hereafter cited as Tamnes, High North), does mention the Nash and Lang Reports on p. 98, and also has a brief discussion of RAND R-266. Although his political focus is more narrow than this chapter, he recounts the American interest, diplomacy, and potential uses of SAC facilities in Norway on pp. 44-49,

foundation of this chapter: the Nash Report provides the diplomatic context for overseas

bases and provides details of the procedures undertaken by American negotiators,

RAND R-266 offers specific political concerns for SAC bomber bases. Analysis of

these documents reveals the political complexities of gaining and retaining these sites,

and through this, the changing political conditions surrounding access to overseas bases.

Diplomatic Framework

American diplomats attempted to meld SAC bases into the overall collection of

facilities being discussed with foreign governments. Through an analysis of the

diplomatic framework which was used to obtain the bases, it is apparent--even before

bomber sites developed--that the bomber bases would hold a critical position in purely

American strategy, despite the international format thorough which they were attained.

America's diplomatic responsibility was split between two offices, one at the

State Department and another at the American Embassy in the host country.

Coordination within the United States was an ad hoc responsibility of the State

Department's Deputy Under Secretary for Political Affairs, with aid from the action

officer at the appropriate country desk in State's geographic bureau. Usually, the chief

of the American diplomatic mission conducted the negotiations, serving as an

intermediary between the host nation and the United States military. The negotiating

group varied slightly depending on the country, but the Ambassador typically had a

'country team' composed of senior representatives from the Central Intelligence Agency,

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and pp. 69-74. Duke also cites the Nash and Lang Reports. He does not discuss these sources though,
and his mention of the Nash Report is only a brief point on IRBMs. Duke, UK, p. 108.

the United States Information Agency, the Treasury Department, the Military Assistance

Group, and an officer from the military command seeking the new base.[10]

Alterations occurred with this standard country team configuration when

negotiating SAC bases. An Air Force officer from the regional command structure,

rather than a SAC officer, generally represented SAC interests. This did reduce the

visibility of the base's unique command arrangement, but the purpose was to appease

regional commanders, not deceive host nation governments. In England, officers from

USAFE's Third Air Force took part in negotiations for SAC bases, and in French

Morocco, officers from USAFE Headquarters. But even with these officers from within

the NATO chain of command, SAC interests were well cared for.[11]

Correspondence between Vandenberg and Norstad (then, the USAFE

Commander) reveals the emerging position of SAC through this process. In the spring

of 1951 Norstad posed a series of questions to Vandenberg to clarify responsibilities for

SAC bases developing in French Morocco, a region that fell under his jurisdiction.

Vandenberg made it clear that USAFE officers would represent the American military

in all negotiations, for "I do not intend to put SAC in the military-diplomatic or real

estate business in overseas theaters nor permit SAC to encroach on the generally

accepted responsibilities of overseas air commanders..." But he also emphasized that

USAFE's duties were purely preparatory: USAFE would help negotiate the sites and

oversee their construction, then turn over the completed bases to SAC. USAFE's role

ended there, the bases would no longer have formal ties to any chain of command

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[10] Nash, DDEL, p. 87; 'Minutes from the Air Force and Wing Commanders Conference, 6-8 December 1950,' LOC, LeMay, box 100, file CC Conference.

[11] Major General Leon Johnson was commander of USAF forces in the UK from 1948-1952 and negotiated many of the ensuing bases agreements. He was a veteran bomber commander, and previously commanded SAC's Fifteenth Air Force. As mentioned previously, Norstad (USAFE Commander from 1950 to 1952) was supportive of SAC's external position within the European command structure.

beyond SAC. Vandenberg stressed, "It has always been my intention to keep the command channels for strategic air operations from the JCS through me to LeMay and thence SAC units absolutely clean."[12] Regardless of their worldwide location, SAC forces would answer to SAC Headquarters.

SAC desired facilities in a multitude of locations and the easiest to obtain involved countries participating with the United States in multilateral defense treaties, agreements which already emphasized collective defense and common purpose; it was only a short step to stress an additional requirement for an American bomber base. By 1954 the United States had defense treaties with forty-two nations, and the Nash Report noted the significance of these to American bases:

> The tying together which follows from the establishment of mutual defense arrangements, particularly those which are multilateral in character, tends to stabilize and secure a relationship which would otherwise be more subject to the countervailing pressures and divisive forces to which every government is more or less exposed. A multilateral organization tends to create an atmosphere of common purpose and effort in which the granting to the United States of certain facilities may be publicly represented and justified as a contribution toward the attainment of common objective.[13]

These defense treaties paved the way for attaining American bases, by placing mutual security and common interests at the forefront. They also allowed the United States team to stress obligations expected of an ally, such American access to bases.

The most important of these alliances was NATO.[14] According to the Nash Report: "The NATO area is the major theater in the cold war, and represents our greatest investment in terms of political commitments, economic assistance, forces in being, and

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[12] Both quotes from message, Vandenberg to Norstad, 3 May 1951, LOC MRR, Vandenberg, redlines, box 86.
[13] Nash Report, DDEL, p. 44.
[14] See Kaplan, US and NATO; Leffler, Preponderance; this is discussed in numerous essays in Riste, Western Security.

military bases."[15] This was a reciprocal relationship: NATO depended on the American bases, and American access to the sites depended on the alliance. Member nations, and their colonial territories, formed the bedrock of host sites for SAC. The colonial position of NATO nations provided leverage for SAC access to locations beyond Western Europe: negotiations for bases in Greenland went through Denmark, bases in the Azores through Portugal, and those in French Morocco through France.[16] The Nash Report even recommended a Western Mediterranean defense arrangement be sought, to strengthen the status of SAC bases in Spain, Libya, newly-independent Morocco, and also to allow greater access to SAC wartime sites in Tunisia and Algeria.[17]

SAC planners also sought bases in countries without collective defense agreements, and this could complicate matters. The United States entered bilateral agreements with a number of host nations for SAC, but the tenets of these agreements were harder to justify in these "smaller and relatively backward countries." The Nash Report specifically mentions Japan, Spain, Morocco, Libya, and Saudi Arabia (each of which granted SAC access), noting "in none of them is there the identification of collective security interests and the commitments for common defense" as compared to nations with broader multilateral security treaties.[18]

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[15] Nash Report, DDEL, p. 15. This is clearly shown in Table 1, which lists the American military base sites by region.

[16] The Nash Report states that without the NATO alliance it is doubtful that the US could use these three sites at all. Nash Report, DDEL, pp. 43-44. See also, Duke, Europe, pp. 41-43, 236-238; Moody, Building, pp. 435-437. Morocco gained independence from France in 1956, and the ramifications for SAC bases will be discussed later in this chapter.

[17] See Nash Report, DDEL, pp. 21, 43-46 and throughout Duke, Europe. Instead of seeking this proposed Western Mediterranean defense agreement, the US used bilateral arrangements and economic aid to strengthen its base position in the region. The concept's demise apparently hinged on Spain's perceptions; the Nash Report acknowledges that this agreement might offend the Spanish government by offering only a "grouping of junior rank and importance as compared to NATO." Further, American bases in Spain were helping to bring the Spanish government out of its traditional neutrality, and eventually, the US should urge other member nations to offer an invitation for Spain to join NATO.

[18] Nash Report, DDEL, pp. 44, 47.

But political diversity among SAC host countries could also be seen as a strength. RAND R-266 recommends "the uncertainties of political alignment suggest that it is advisable to have a good many bases and to have them in a number of politically distinct areas."[19] Further, this report finds it futile to sort host nations as probable allies, potential neutrals, or possible enemies, and then to seek bases in only the most favorable political conditions. On the contrary, it advocated almost the exact opposite course. Shifting international environments and growing geopolitical uncertainties made it likely that political allegiance would remain fluid, and the SAC mission was far too critical to depend on the possible alignment of a foreign government. Bases should be spread around a spectrum of political entities, a process which would undoubtedly risk losing some sites, but ensure maintenance of others.[20] Due to the timing of RAND R-266, it is unclear whether it was citing a goal of political dispersal among SAC overseas bases or merely justifying an existing program. Wohlstetter began research on the report in May 1951, and at this point, negotiations were well underway for many of SAC's overseas bases. The final version of R-266 came in April 1954, when most negotiations were already complete.[21] Either way, though, my research has found that the primary consideration guiding site selection for SAC bomber bases was military rationale, not political issues.[22]

This political "multiplicity" of SAC hosts did materialize, but the final political array of SAC hosts was not, in my opinion, a conscious plan by American leaders, merely a fortuitous result. Eventually during the decade, eighteen countries and territories, to varying degrees and under differing circumstances, granted SAC bombers

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[19] Wohlstetter, et al, RAND R-266, pp. 39-40.
[20] Wohlstetter, et al, RAND R-266, p. 36.
[21] For the developmental timeline of RAND R-266, see Smith, "Expertise."
[22] See the Chapter 3 subsection, 'Site Selection: Military Considerations.'

access to their terrain. Rotational bomber bases were not built at all of these locations, but retaining operating rights ensured RAND R-266's goal of "political dispersal and consequent political insurance." The report listed host nations, and readily acknowledged the expectation of political problems, but this only pointed to the ultimate advantage of this arrangement: "If we consider the separate political catastrophes possible in almost any one of these places, we are impressed by the uncertainties. On the other hand, the likelihood of political disasters involving all or even the major part of this system is very much less."[23]

Political alignments were not certain during this era, nor were continuing alliances. On a somber but realistic note, RAND R-266 concludes this discussion of hosts by stating: "Even given the failure of the North Atlantic Treaty Alliance, it is clear that there is a strong likelihood of the survival of a substantial part of the base system."[24] The Nash Report had similar findings: "the future of NATO cannot be taken for granted, for it faces many serious problems," then makes a statement which well applied to the political situation surrounding SAC bomber bases, "not the least of these problems is the need for a fully agreed strategic concept, which all members feel is compatible with their national interests and to which each can give its support without serious reservation."[25] SAC overseas bomber bases developed through NATO relations, to support NATO's existence, but even should this alliance fail, the political dispersal of SAC's overseas bases ensured that American national security would not be jeopardized.

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[23] The list of countries and territories which granted SAC access can be found in Table 6. Quotes in this paragraph from Wohlstetter, et al, RAND R-266, p. 40-41.
[24] Wohlstetter, et al, RAND R-266, p. 41.
[25] Nash Report, DDEL, p. 15

Access Diplomacy

The procedures for negotiating American overseas bases were the same, and gaining operating rights for SAC were no different from any other American commands.[26] Negotiations for overseas bases covered a complex assortment of issues, and SAC bases differed from others only by degree, not by topic. Throughout negotiations American representatives used distinct tactics to gain access to the sites, and an analysis of these reveals that unique features of SAC bases began to emerge, posing particular challenges for American diplomats.

The American team started base negotiations by describing the threat facing the host nation. Usually this was Soviet-led communism, bolstered by its formidable ground force. The Nash Report notes that this was particularly effective among European nations, for the American mediators used the World War II experience to stress that these nations could not protect themselves, and that it was increasingly doubtful that an adversary would honor a neutral status.[27]

The second step was to cite the collective security provisions under Article 51 of the United Nations Charter and, with NATO members, Article 5 of the North Atlantic Treaty. The concept of collective defense was strongest in countries which shared close political, military, economic, and cultural ties with the United States; it was weakest in current or former colonial territories, which tended to distrust American motives for seeking bases in the area. Due to the limited bomber radii of action, SAC had particular interest in relatively isolated locations, such as northern Greenland and the Moroccan

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[26] Wohlstetter, et al, RAND R-266, p. 38. The term "access diplomacy" comes from Harkavy, and he uses it as a catch-all phrase for the process of negotiating base sites and operating rights in foreign countries.

[27] This is stressed repeatedly in the 'General Orientation' section listed for each nation in the Nash Report, Country Studies, DDEL.

interior. Areas which would otherwise have little military value and thus, scant

diplomatic interest, became prominent during SAC base negotiations. These areas were

more physically and politically removed from world affairs, geopolitical fringe areas

which the Nash Report found had not yet attained "a political maturity capable of

recognizing the gravity and universality of the threat of world communism." Some of

these potential hosts had little recognition of the communist threat, nor the need for the

provisions of collective security. The Soviet influence was usually distant, and thus the

political and military threats indistinct. Iceland, for example, actively traded with the

Soviet Union and even received financial assistance from the Soviet government.[28]

Communist political parties were active in many of these nations, and in Iceland even

held prominent positions within the government.[29]

Sensitive to possible charges of imperialism or coercion, the American team

sought to publicly underline the role of the host government in the negotiations. The

Nash Report recommended that public information campaigns "must continue to

emphasize the collective defense basis for US activities," and stress that the American

military presence "results from wholly voluntary invitation of the host government (thus

constituting a manifestation rather than a derogation of national sovereignty)." This was

especially critical in former colonial territories which had become newly-formed

nations.[30] But the peculiarities of SAC bases distinguished them from all other

American facilities; the report noted that public information should be carefully tailored

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[28] The ongoing dispute between the UK and Iceland over the boundaries of territorial waters, the "Cod War," led to a British boycott of Icelandic fish. Having lost one market, the Icelandic government began trading with the Soviet Union. Packman, "Future," p. 76; Nash Report, Country Studies--Iceland, DDEL, pp. 70-76.

[29] Nash Report, DDEL, p. 43, see also the Country Studies section which provides a political assessment of each host nation's government.

[30] Nash Report, DDEL, p. 66.

"to avoid calling particular attention to sensitive US operations in which foreign forces do not share."[31] This included most aspects of strategic air warfare, notably planning, targeting, and weapons.

But there was much more to these negotiations than political allegiance and common purpose. Simon Duke, in his thorough assessment of American bases in Europe, has found that neither side in the negotiating process was magnanimous, both were guided by self interests.[32] Expectedly, each nation sought to seek benefits which outweighed the risks, and the costs, of the facilities. The diplomatic goal, as always, was to find common ground, so that these national self-interests would overlap and become mutually beneficial.

The primary incentive American diplomats offered to the host nation was money. This issue will be treated more fully later, but should be noted here because it contained a strong political element and arose routinely during base negotiations. The United States presented money to foreign governments for a variety of purposes, including humanitarian reasons, stability of foreign trade, and vital political interests.[33] These factors were all independent of the utility of strategic air bases, but the diplomatic trick was to use this economic aid as leverage, intrinsically tying it to base access, *quid pro quo*.

A matter for further historical research would be to examine the American aid funds during the 1950s, specifically for individual countries which would later gain SAC bomber bases.[34] Changes to the funds might then be correlated to the base

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[31] Nash Report, DDEL, p. 68.
[32] Duke aptly describes the American presence in Europe as "a matter of mutual self interests subject, of course, to a bargaining process." Duke, Europe, p. 6, 373.
[33] This point is made in Wohlstetter, et al, RAND R-266, pp. 32-33.
[34] Two books that could serve as a starting point for this topic are: John W. McDonald, Jr., and Diane B. Bendahmane, eds., U.S. Base Negotiations Overseas: Negotiations with Spain, Greece, and the

negotiations, to put a precise figure on the cost of SAC access. Another matter would

be more difficult to trace, but would also be relevant to this future work; indirect

economic incentives, or disincentives, although not officially linked to base

negotiations, also had a bearing on American access diplomacy. For example, a 1956

article about the air base in Iceland notes that the American purchase of Icelandic fish

had declined the previous year, and "the $3 million we did not spend on fish...as

compared with the year before, was far more potent politically than the $15 million we

did spend on the air base."[35]

My concern here, though, is how American negotiators presented this money to

prospective hosts. Economic aid could be granted to a foreign government from two

sources, diplomatic and military. At the start of the base build up these funds were

controlled by two separate American organizations which could each offer a patchwork

of economic incentives to a host nation. Early in the decade, State Department officials

offered foreign aid and Department of Defense officials offered military aid, leading to

prolonged, piecemeal negotiations. Hosts rightfully sought to attain the best economic

offer, by requesting incremental changes among these separate and largely

uncoordinated American funds. But a new policy began in 1953, when State

Department officials consolidated these funds so as to strengthen the economic

persuasion wielded by its base negotiators. The State Department tallied all forms of

American assistance and presented this as an all-inclusive "single package" during the

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Philippines, (Boulder: Westview Press, 1990), and Harold A. Hovey, United States Military Assistance: A Study of Policies and Practices, (New York: Frederick A. Praeger, Publishers, 1965).
[35] Porter McKeever, "How to Throw Away an Air Base," Harper's Magazine, October 1956, p. 39.

early stages of negotiations. This tactic strengthened the American bargaining position and successfully reduced the diplomatic negotiating room for the hosts.[36]

American negotiators soon became aware of a "common denominator" pattern among host nations, as compromises with one country often brought increased demands from another. Concessions for a specific base in one country could reverberate half a world away, in a separate country with an entirely different geopolitical situation. If these costs remained hidden, lumped into a broad incentive package, there was less opportunity for other nations to demand alterations to their base agreements. Some of the initial access rights had come from service-to-service agreements or isolated negotiations by State officials, but further into the period State recognized and reacted to these global interrelationships. The Nash Report summarized the need for this: "The time has long since passed when one service can make its own arrangements with a particular country, or, indeed, where the United States, as a government, can make arrangements with one nation without regard for possible repercussion with another."[37]

The United States and the host nation used the potential economic impact to induce regional support for the facility.[38] This began with base construction, as diplomatic agreements generally required host nation firms to build part of the facility. Many of the host nations could not supply the necessary heavy construction, but did offer a variety of local agencies for completion of the smaller projects.[39] Air base

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[36] Nash Report, DDEL, p. 76. The next chapter will show that it remains difficult to directly correlate permission costs to the bases; this 1953 policy compounded the problem even further, for a diverse collection of funds were included in the negotiating package and many had little connection to the use of the bases.

[37] Nash Report, DDEL, p. 6.

[38] The Nash Report is critical of the early publicity often used to gain local support. In 1953, the Italian government was led to believe that the US would spend $125 million on base facilities, but program changes reduced this to only $10 million. Nash Report, DDEL, p. 76.

[39] In the United Kingdom, the Air Ministry hired local agencies for heavy construction, and they were then paid directly by the United States. Germany and France also supplied contractors for heavy construction. Nash Report, DDEL, pp. 78-79. During the 1950 construction of SAC bases, British

construction could be a boon for the local area: employment would climb, especially

among unskilled labor, funds would flow into the region for contracts, supplies, and a

large variety of businesses.[40] Downplayed, by both sides, was the long-term economic

cycle often generated as short-term construction contracts upset local wage structures.

The large, temporary presence of outside workers amounted to a tremendous collection

of new spending units, but could also cause produce transient inflation; for instance, the

arrival of ten thousand employees with Atlas Constructors doubled prices of consumer

goods around the Moroccan SAC bases.[41]

By agreement, American diplomats pledged to hire local workers to fill many

routine base jobs. This helped boost local support for the base and, at the same time,

actually reduced personnel expenditures for American facilities. But again, not stressed

was the dislocation of local wage structures. Paying indigenous workers on a local

wage scale would not upset the regional economy, but the presence of a large number of

American servicemen with comparably higher incomes might. An American soldier in

Europe could have nine times the annual salary of a native worker doing the same job.[42]

Diplomatic attention, and the publicity released about it, centered on the broader

economic impact of an American base, which was staggering.[43] The Nash Report

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contractors requested direct payment in American dollars. Letter Barton Leach (Special Consultant) to Secretary of the Air Force Thomas Finletter, 21 July 1950, LOC MRR, LeMay, box 195.

[40] Atlas Constructors, for instance, arrived in French Morocco in 1951 and company officials touted the monthly payroll of four million dollars, which would largely be spent around the bases. "Air Bases Create Casablanca Boom," New York Times, 23 October 1951, p. 9

[41] Wohlstetter et al, RAND R-266, pp. 36-37; Adams, Morocco, p. 9.

[42] Hiring locals was often an economic benefit for the United States. Estimates at one American base in England found a savings of $38 million over three years with the use of indigenous labor. The figure of "nine times" was for a truck driver in France during 1953. 83rd Congress, "Construction Overseas," p. 5.

[43] An illuminating economic case study has been made of American bases in West Germany in the 1950s. Although no SAC bases were built there, it illustrates the tremendous extent and impact that these American facilities could have on a host nation. In 1951, the American military was the sixth largest employer in the country, and through the decade US bases spent 95.76 million marks on direct purchases within the country--the equivalent of almost six percent of the Marshall Plan expenditures in West Germany. Dewey A. Browder, "The GI Dollar and the *Wirtschaftswunder*," Journal of European Economic History, Winter 1993, pp. 601-612.

estimated that in 1957 the entire collection of American overseas bases placed $2.2

billion into local economies, and employed 350,000 indigenous workers. To put these

figures in perspective with others from the same year: this slightly exceeded the

construction costs of all public utilities built for electric power and light across the

United States, and was just beyond the number of officers in the entire American

military.[44]

Personnel issues were often the most sensitive to the native population and

routinely host nations placed caps on the maximum number of American personnel

stationed within their country.[45] Even so, by late 1957 one million American

servicemen were assigned outside the continental United States, almost a quarter were

Air Force, and about a third of these were SAC.[46] Due to the isolated locales often

sought by SAC, the Air Force portion could be very high: seventy-three percent in

Iceland, eighty-two percent in Greenland, and eighty-nine percent in the Azores.[47] This

presence could be overwhelming if the host populations are taken into account.

Icelandic Foreign Minister Emil Jonsson protested in October 1956, saying that the

number of American servicemen in his country compared to stationing six million

Icelanders in the United States. The situation in Greenland was even more pronounced,

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[44] In 1957, $2.168 billion was spent on the construction of electric light and power, and the American military had 342,000 officers. US Bureau of the Census, Historical Statistics, pp. 619, 1141.

[45] Despite persistent US efforts, the French colonial government refused to raise the personnel ceiling for the collection of American bases in French Morocco. There was, apparently, fear that a large US presence would undermine the French position. The French did raise these numbers just before granting independence to Morocco, and this may explain, in part, the strong stance of the new Moroccan government against SAC's presence.

[46] So prevalent were American servicemen abroad, that the National Advisory Council on Education estimated that one out of every four US males would serve overseas before the end of the decade. The specific number of Air Force members overseas in 1957 was 232,000. Nash Report, DDEL, pp. 3, 80; 84th Congress, SOAP, p. 138.

[47] This was not just in isolated areas: in 1956 Air Force personnel comprised eighty-nine percent of the American military members in the UK, and eighty-eight percent in Spain. Nash Report, Country Studies --UK, DDEL, pp. 153, 180.

for in 1957 thirty-one percent of the people on the entire island were Americans on a

military base.[48]

The large influx of Americans which came with the American bases could be

problematic for the host nation in general and the local population in particular. In

contrast to the locals, American servicemen often had greater incomes, a separate

language, peculiar customs, different standards of behavior, and (especially in the

Middle East) other religions.[49] All of these social distinctions were accepted during

wartime, and could be tolerated during a period of heightened tension. But as the

Chairman of the House Appropriations Subcommittee, Representative George H.

Mahon, observed in 1956:

> It is somewhat of an abnormal situation for large numbers of nationals from one
> nation to be quartered in another nation. ... It is a difficult situation. It brings on
> misunderstandings and problems...[which] are inherent in the situation and they
> are inevitable. It seems to me that *when the danger of war recedes*, regardless of
> the attitude of the government, the attitude of the people must inevitably be
> "Americans, go home."[50]

The italicized phrase raises a pivotal issue: How did the views of the Cold War differ for

the United States and its hosts? This was a crucial point for many SAC bomber bases,

which due to their mission, were at the very forefront of Cold War strategy, but due to

their locations, were often far removed from its tensions.

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[48] Iceland, see Packman, "Future," p. 75; Nash Report, Country Studies--Greenland, DDEL, p. 69.

[49] RAND R-266 states these bring "a host of problems stemming from invidious comparisons of the standard of living of our troops, plus the usual problems of illegitimacy and racial and cultural conflict." Wohlstetter, et al, RAND R-266, p. 37. A British phrase from WW II neatly sums up the problems with American servicemen: they are "overpaid, oversexed, overfed and over here." An insightful, unabashed, and poignant account of the encounter between American servicemen and a host country population can be found in David Reynolds, <u>Rich Relations: The American Occupation of Britain, 1942-1945</u>, (New York: Random House, 1995).

[50] Italics added. This is from Hearings before the House Appropriations Subcommittee, 21 May 1956, cited in Packman, "Future," p. 71.

The American view was that the Cold War was a conflict with a continuous threat of war which required preparations and forward facilities. But this was not a consensus among all of SAC's host nations. Iceland is a telling example of this divergence of views. Under the 1951 base agreement, American forces were to leave the island when there was a "state of peace." But the precise meaning of this term differed to the two governments: Iceland defined it as absence of war, whereas to the United States it was the absence of a threat to NATO. This issue culminated in March 1956, when the Progressive and Social Democrats won a majority, formed a collective government, and introduced a resolution calling for the removal of all American servicemen. The debate persisted until the *Althing* rescinded the resolution, largely influenced by the brutal Soviet intervention in Hungary.[51]

Another contentious matter was land, the amount requested and its later use. "Practically everywhere in the world," announced the Nash Report, "demands for land are unpopular, economically disruptive, and politically damaging. Premature, fluctuating, and excessive US requirements have resulted in severe criticism and hard feelings."[52] The quantity of land sought for a bomber base varied tremendously, and depended more on local availability than military requirements. A typical SAC bomber base was about three thousand acres, seemingly not a problem in the vast desert expanses of Morocco, but an obvious one in the farmlands of East Anglia. The physical setting desired for an air base consisted of well-drained land on fairly level terrain, which, as RAND R-266 noted, would also be ideal characteristics for all other activities--farming, industry, housing--competing for the land use. Okinawa was an extreme

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[51] See Duke, Europe, pp. 182-183; Packman, "Future," p. 75. The pivotal role played by the Norwegian government as an intermediary in this base crisis is recounted in Mats R. Berdal, The United States, Norway, and the Cold War, 1954-1960, (Ipswich: Macmillan Press Ltd., 1997), pp. 144-147.

[52] Nash Report, DDEL, p. 74.

example of the local impact of American military sites: Kadena Air Base, used but not

controlled by SAC, was part of an American base complex that consumed one-seventh

of the island's area and one-fifth of the arable land.[53]

Development of an air base could infringe on the local inhabitants, which could

not only cause tensions, but also hamper flying operations. In populated areas within

developed countries, this could result in lawsuits. A typical legal claim against the Air

Force was for diminution in property value, usually due to jet noise, and filed by

residents living near the end of runways. For this reason Air Force criteria for a new

flying base directed it be at least fifteen miles from any large population center.

Refurbished bases, as were most in the United Kingdom, were often in populated areas,

and even if a base was built far from the nearest community, urban development

typically spread closer to the facility within several years of construction.[54] Sparsely

populated areas in developing countries also presented distinct problems. Bedouin

tribesmen around the SAC bases in French Morocco did not accept the loss of their

hereditary land. Trespassing was common, and it was not unusual to find sheep grazing

alongside the runways, tended by shepherds who had cut the perimeter fence. Thefts

occurred regularly and peaked in 1956, when Morocco gained independence and local

tribes sought to reclaim their domains.[55]

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[53] In 1957 Offutt AFB was the smallest SAC flying base with 1,571 acres, and Castle AFB the largest with 85,982 acres. Memorandum for Director Legislation Liaison, 'Total Acreage of all SAC Bases,' NA, RG 46, 85th Congress, box 533, file Real Estate Air Force, July 1957. For characteristics sought see Wohlstetter, et al, RAND R-266, p. 35, and Nash Report, DDEL, p. 78. Along with the land required for the base, the Air Force sought easements five-thousand feet past the end of all runways to ensure the area remained clear of hazards for incoming aircraft, such as tall trees, buildings, or towers.

[54] A DoD report mentions worldwide problems, but lists only lawsuits within the US. In 1958 there were forty such claims filed against the Air Force for diminution of property value due to jet noise. 'Report of Committee on Jet Aircraft Operations and Resultant Problems' to the Assistant Secretary of Defense (Property and Installations), 9 June 1958. NA, RG 46, 86th Congress, box 537, file Military Construction Defense Dept.-Gen.

[55] Theft patterns at Sidi Slimane AB corresponded to tribal areas. The thefts were largely organized, and accomplished with the use of extensive donkey trains. Two cases from 1956 show the extent: a copper

There were occasional misunderstandings between the two governments about the use of the land. Some were due to the American military's propensity to overstate requirements or claim immediate military necessity to gain use of the site. This practice was certainly not confined to SAC bases, but the command was guilty of it as well. The most telling incidents occurred in North Africa. The Moroccan government gave seven thousand acres of scarce farmland near Nouasseur for a SAC supply base, and lent it rent-free on a long-term basis, but after only five years the facility was abandoned.[56] Occasionally, poor coordination between American negotiators, the military, and Congress also allowed sites to be purchased by the host government but never used by the American military, due to redirection of funds or change in priorities. After the purchase of land for a SAC base near Macha Bel Ksiri, French Morocco, the command found the site unsuitable and declined it, prompting diplomatic protests from France. In response, the United States reimbursed the French colonial overseers $143,000 for real estate expenses.[57] Here, again, there were advantages to reusing old facilities. It was much easier to obtain base rights and conduct flying operations at a former air base, for the land use was within the recent memory of the local population and the host government.

But what would become the most divisive political issue of all was the one not mentioned during these negotiations: a SAC facility--by virtue of its weapons, mission,

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communications cable over 21,000 feet long was stolen, and active power lines were cut from electrical poles and transported forty miles for sale at a village market. The local chieftain, known as a *Caid*, was responsible for security outside the base. In the case of the power lines, the culprits were found, jailed, and reported as "killed in a riot" while being held. Thievery declined markedly after that. Adams, Morocco, pp. 73-74.

[56] The demise of the SAC bases, including sites in Morocco, will be discussed later in this work.

[57] Nash, DDEL, pp. 71-76. Hearings Before the Preparedness Subcommittee of the Committee on Armed Services, "Hiring Work at Overseas Bases," US Senate, 82nd Congress, second session, (Washington: USGPO, 1952), (hereafter cited as 82nd Congress, "Hiring Overseas"), p. 265. Macha Bel Ksiri is also referred to as El Djema Sahim in some sources.

and chain of command--was distinct from all other American overseas bases. The Atomic Energy Act of 1946 (commonly known as the McMahon Act) forbid any international exchange of technical information about nuclear weapons and placed the authorization for use of these weapons strictly under Presidential control.[58] Legally, allied nations could not receive details about the American stockpile, nor take part in any joint strategic planning, nor have any veto over the use of these weapons. This fully applied to the United Kingdom as well, despite its persistent efforts to gain access to this information in the early 1950s.[59] As for the strategic mission, Secretaries of State Acheson and Dulles championed the President's authority on constitutional grounds, opposing any provisions by which a foreign power could limit the President's duty to act as commander in chief and defend American interests worldwide.[60] Adding to this issue is the fact that SAC was a specified command, its command lines did not run through any alliance or regional military structure. Strategic nuclear weapons and strategic air forces were solely Presidential responsibilities, and when both were on foreign soil, the international complexity is readily apparent.[61]

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[58] Many of the declassified documents of this era which pertain to atomic weapons contains a stamp across the entire title page which reads, in large red letters, "Top Secret, Restricted Data as defined by the Atomic Energy Act of 1946, Not Releasable to Foreign Nationals."

[59] The Quebec Agreement signed by Churchill and Roosevelt on 19 August 1943 required British "consent" before the US used atomic weapons. This clause was fought by Secretary of State Acheson, and effectively nullified with a *modus vivendi* signed by the two countries in January 1948. See Gowing, Independence, vol. 1, pp. 266-272; Duke, Europe, pp. 296-297; Duke, UK, pp. 38-43, 70-71. Williamson and Rearden, Origins, pp. 32-34. For high-level discussions on the McMahon Act, see Minutes of the Second Formal Meeting of Truman and Churchill, and letter from Churchill to Eisenhower, FRUS, 1952-1954, 6: 763, 1018-1019.

[60] See T.H. Etzold, "The End of the Beginning...NATO's Adoption of Nuclear Strategy," in Riste, Western Security, p. 310-311.

[61] Both Truman and Eisenhower appear apologetic towards British leaders about the McMahon Act. Eisenhower, even as early as 1951 when he was SACEUR, sought to share atomic information with the British. As President he worked to change the law so as to allow allies access to this information, culminating in 1958 with the repeal of the McMahon Act.

Resulting Agreements

Despite the complexity of issues and the multitude of countries involved, the United States successfully obtained operating rights for SAC throughout the Northern Hemisphere. The political diversity among host nations and the many bilateral negotiations produced a multifarious assortment of access to overseas bases. SAC rights abroad were often amorphous, conditional, and tenuous, but the United Kingdom, again, clearly emerges as the preferred location for SAC bombers. In the summer of 1953 Eisenhower recognized this array of possible access and impediments, and requested information from the Department of Defense about the authority of the United States to undertake strategic air strikes from overseas bases. Secretary of Defense Charles Wilson wrote back that three groupings existed for American rights. The SAC bases in the United Kingdom held "formal and informal understandings," and allowed the greatest latitude for American use. Most bases obtained through NATO relations would permit use only in certain circumstances. The third, and largest, category involved bases subject to neither of the above provisions, and their use remained vague and unclear.[62] Even by the end of the decade, not much had changed in these arrangements.

The following table depicts the assortment of SAC rights valid during the 1950s, with the signatory nation listed under country, and the location of the base rights (if different) in parentheses:

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[62] 'Air Base Agreements Presently in Effect,' attachment 1 in letter Wilson to Eisenhower, 24 June 1953, DDEL, AWF, Admin, box 1, file Air Bases--outside US.

Table 6
United States Strategic Air Bases Agreements,
1949-1960

Year	Country
1949 and prior	United Kingdom (UK, Bermuda, Canada)
1950	France (French Morocco)
1951	United Kingdom
	Portugal (Azores)
	Denmark (Greenland)
	Japan (Okinawa)
	Iceland
	Libya
	Saudi Arabia
1952	United Kingdom
	Norway
	Japan
	Canada (Goose Bay)
1953	United Kingdom
	Greece
	Spain
	Turkey
1954	Italy
1956	United Kingdom (Ascension Island)
	Iceland
1958	Canada
1960	Japan

Specific details of these agreements can be found in Appendix A.4. Sources: compiled from information in Nash Report and its associated appendices, DDEL; Lang Report, DDEL; 'Air Base Agreements Presently in Effect,' attachment 1 in letter, Wilson to Eisenhower, 24 June 1953, DDEL, AWF, Admin., box 1, file Air Bases--outside US; Duke, Europe.

These strategic air bases agreements involved eighteen separate countries or territories, with NATO nations and their colonial territories comprising twelve. Negotiations over base rights generally took one to two years, so the effect of the Korean War is obvious. The temporary nature of these sites can also be seen, for base diplomacy waned by the middle of the decade. Multiple agreements with Canada, Japan, Iceland, and the United Kingdom generally involved additional locations or slight amendments to previous agreements.

Although the United States obtained most of the bomber bases within the framework of an existing multinational alliance, the specific agreements often contained bilateral terms which differed markedly from one another. The most prominent components hinged on the issue of time; specifically, the length of the agreement and the period in which SAC aircraft could move to the site in a crisis. Breaking down the terms of these agreements reveals a jumble of operational rights. Unless otherwise noted, each "x" in the following table represents a separate agreement with an single host nation:

Table 7
Terms of Access Secured Through Formal Agreements,
1950-1960

	1 year	5 years	10 years	20 years	99 years	NATO duration	mutual agreement
Rotational			x	x		x	x
Staging	xx			x	xx	x	
D-Day		x				xxxx	x
Consultation							x

See Appendix A.4 for specific terms. The term D-Day refers to the first day in which planned offensive combat is initiated. Japan is listed twice: for Okinawa (D-Day, mutual) and home islands (consultation, mutual). Portugal granted two time limits to the Azores, peacetime for 5 years, and wartime (D-Day, NATO), but only the latter is listed. Sources: see Table 6.

Across the top row are SAC rotational bomber bases in foreign territory; left to right, these were for five bases in Spain, one in Libya, three in French Morocco (before its independence from NATO-member France), and nine in the United Kingdom. In addition to these nine sites in foreign nations, SAC also had four rotational bomber bases on American territory: one in Puerto Rico, two in Alaska, and one on Guam. Staging bases were primarily for training and tanker deployments, among them were SAC bases in Greenland and Canada, and also at Military Air Transport Service (MATS) bases in the Azores and Iceland. D-Day use meant that the command could

only occupy the base during a "specified crisis," but the precise meaning of this phrase varied. Saudi Arabia allowed this, but it was the most common among NATO members (Norway, Italy, Greece, and Turkey) and required both nations to be at war against a mutual enemy under the terms of the NATO alliance.

The most compelling time limits are those on either end of Table 7. On the far left are the SAC staging bases in Greenland and Iceland, which had only twelve month terms, and either party could request termination of the agreement by notifying the North Atlantic Council. Greenland held a SAC tanker base in peacetime, but in wartime three additional bases (Nord, Narsarsuak, and Sondrestrom) would hold SAC bombers.[63] There was a major complication with this: according to Wilson's letter, the issue of wartime strikes was not raised by Denmark or the United States during base negotiations.[64] Recently the Danish government has published documents relating the base negotiations in Greenland, which reveal that the Danish negotiators requested not to be asked about the possibility of wartime base use.[65]

On the far right of the table are agreements signed with Japan and the United Kingdom. Japan had two agreements, one for Okinawa and another for the main islands. The 1951 Peace Treaty with Japan granted the United States unilateral authority over Okinawa and its inhabitants, rights which American military leaders and diplomats vigilantly guarded. Despite Japanese efforts throughout the decade to alter the terms, the United States retained military bases on Okinawa, and their status remains

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[63] Sondrestrom AB is located ninety miles north-east of Søndre Strømfjord. It previously used the names of Bluie West 8 (1941-1945) and Sondrestromfjord Air Base (1945-1952). Fletcher, Bases Outside, p. 163.
[64] 'Air Base Agreements Presently in Effect,' attachment 1 in letter Wilson to Eisenhower, 24 June 1953, DDEL, AWF, Admin, box 1, file Air Bases--outside US, p. 2.
[65] Many of these are published in English, see Grønland Index Den Kolde Krig, Appendix Volume (Bilag), (Dansk Udenrigspolitisk Grøtotat; Copenhagen, 1997).

intact, yet somewhat contentious, to this day.[66] The Japanese home islands held

potential SAC staging bases and under the Administrative Agreement of 1952,

consultations were required before the facilities could be used in wartime. The precise

nature of the consultations remained vague, as shown in a 1958 National Intelligence

Estimate, which stated the acquiescence of the Japanese government would depend on

the combatants, the territory, and the weapons: if Japan was threatened, all options

would be available to American forces, however, if the conflict was relatively isolated

or involved nuclear weapons, SAC might be prohibited from using these sites.[67] The

base agreement eventually signed in 1960 clarified the issue in more explicit terms:

"prior consultation" (which was understood to be tantamount to a Japanese veto) was

required before introducing nuclear weapons or launching combat operations of any

kind.[68]

The most permissive base agreements, by far, were with the United Kingdom,

yet even these remained indistinct.[69] There were numerous agreements signed with the

British government throughout the period, and many more "understandings," service-to-

service agreements, and informal discussions. As several historians have noted, though,

the only written record pertaining to wartime use of these sites was the Joint

Communiqué of 7 March 1953:

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[66] American forces remained on Okinawa after World War II, and the American hold strengthened in 1947, when the United Nations placed Japanese wartime islands under the sole administering authority of the United States. During ongoing base negotiations with Japan in 1958, General Twining expressed the views of the Joint Chiefs in a memo to Secretary of Defense McElroy: "The entire United States strategic position in the Pacific would be seriously jeopardized if the Ryukyus were to come under the control of Japan, whose political stability might lead to a denial of the use of these bases by US operations forces at a critical time." Memorandum from the JCS to Secretary of Defense, 1 May 1958, FRUS, 1958-1960, 18: 29.

[67] National Intelligence Estimate, 'Probable Developments in Japan's International Orientation,' 23 December 1958, FRUS, 1958-1960, 18: 114-116.

[68] Cottrell and Moorer, Problems, p. 50-52.

[69] Indeed, as Duke and Campbell point out, the exact terms for use of these bases was still not clarified by the late 1980s.

> Under arrangements made for the common defense, the United States has the use of certain bases in the United Kingdom. The prior understanding was confirmed that the use of these bases in an emergency would be a matter for joint decision by Her Majesty's government and the United States government in the light of the circumstances prevailing at the time.[70]

Significantly, this agreement was entirely between the two governments, no consultations were required with any multinational organization. Despite the vagueness, and perhaps because of it, this would remain the guiding agreement for over four decades.[71]

The United Kingdom was the favored host nation for SAC, and the special relationship is clearly evident in basing documents.[72] The 1953 Senate subcommittee report on overseas base construction pronounced: "England, while not always agreeing with the United States in diplomatic techniques, is clearly and irrevocably committed to our side if the cold war ever becomes hot."[73] As we have seen, the USEUCOM country studies repeatedly single out the British defense forces for praise, but there were also political reasons for seeking American bases in the United Kingdom. The USEUCOM report from June 1953 found the British population--alone among European allies-- resilient, steadfast in resistance to communism, dedicated to the Western objectives in

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[70] The wording of this communiqué is a reiteration of a draft presented by British Ambassador Oliver Franks to the US negotiating team in September 1951. Similar wordings also emerged from the Truman-Churchill talks held in Washington 7-8 January 1952, see FRUS, 1952-1954, 6: 763-808; Williamson and Rearden, Origins, pp. 172-174; Duke, Europe, pp. 299-300; Duke discusses this issue in depth throughout UK, which bears the subtitle 'A Matter of Joint Decision?'

[71] The interpretation of this communiqué prompted Parliamentary debate following the American raid on Libya in 1986. See Duke, Europe, p. 300-302; D.D. Newsome, "US-British Consultation: An Impossible Dream," International Affairs, vol. 63, no. 2, (Spring 1987), pp. 225-239.

[72] Williamson and Rearden stress this in Origins, even having a chapter titled "SAC and the Anglo-American Connection." On p. 170, they write, "Of all the bases available to SAC, those in the United Kingdom were paramount. Not only were they a principal launch point for attacks on the Soviet Union, they were also the main recycling enters under US war plans for planes and crews returning from missions originating outside Britain."

[73] 83rd Congress, "Construction Overseas," p. 4.

the Cold War, and not susceptible to subversion.[74] Another report six months later

states: "Withal, it should be borne in mind that the United Kingdom, being the most

reliable and resolute NATO power outside North America, is our most important ally."[75]

Three and a half years later, the Nash Report, after analyzing the host nations for

every American military facility around the globe, also placed the United Kingdom in

the most prominent position. The report went beyond earlier assessments to stress the

reciprocity of this special relationship and the resulting benefit to American strategic air

power:

> The United Kingdom remains our strongest and most important ally and our
> indispensable partner in marshaling and maintaining Free World strength to
> contain Soviet aggression. Britain needs the support of the United States in all
> major respects, political, economic, and military. The United States, in turn,
> needs the political and moral support of the United Kingdom and maintenance of
> a political climate which will insure the continued availability of United
> Kingdom bases and facilities for the projection of our military power in Europe
> and against the heartland of the Soviet Union.[76]

Fifteen SAC bases were built in the United Kingdom during the 1950s, nine of

these were built in England for the exclusive use of SAC rotational bombers--the

greatest concentration of strategic air bases anywhere in the world. Through

Commonwealth and British colonial territories SAC gained base rights in Canada,

Bermuda, Malta, Cyprus, and Ascension Island. The British presence in Libya and

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[74] As evidence of the strong British resolve, this report emphasized that the United Kingdom's defense budget had nearly doubled since the start of the Korean War, in spite of the nation's severe economic situation. HQ USEUCOM, "Report on the Effectiveness of Forces, European NATO Countries," section X, United Kingdom, as of 30 June 1953, NA Suitland (College Park, Maryland), RG 330, box 20, file Greece-UK, p. 10.

[75] Again using defense expenditures to illustrate the British commitment to the West, this report further noted that the British self-financed military production was greater than all other NATO allies combined The expected defense expenditure was 5.1 billion pounds, and was for the period of time corresponding to US FY 1951 to FY 1954. HQ USEUCOM, "Report on the Effectiveness of Forces, European NATO Countries," section X, United Kingdom, as of 31 December 1953, NA Suitland, RG 330, box 20, file '53-'54, pp. 3-5.

[76] Nash Report, Country Studies--UK, DDEL, p. 182.

Egypt also allowed base rights for SAC bombers. And unlike the formal arrangements with other countries, American operating rights in many of these British areas required minimal diplomacy, often attained merely through service-to-service agreements. "One of the most important aspects of the US-UK relations," reads the Nash Report, "is the remarkably close collaborations and sense of partnership already existing between the military of the two countries."[77] As opposed to the many other nations which allowed SAC access rights, those in the United Kingdom were intact before the Korean War. The foundation of this relationship was laid during the Second World War, and the precedent for base access occurred shortly after the conflict: the last American wartime bomber left England in February 1946, and only four months later air leaders of the two countries concluded the Spaatz-Tedder Agreement to prepare four airfields in East Anglia for their subsequent return.[78]

Retention Difficulties

By the middle of the decade SAC access to overseas bases faced mounting political difficulties. SAC access rights could no longer merely blend into the overall collection of American overseas sites, the distinctiveness of these bases began to emerge and became readily apparent to host nations. In 1953 John Foster Dulles told Eisenhower that, from the host nation's perspective, the SAC bases might eventually

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[77] Information in this paragraph comes from Nash Report, Country Studies--UK, DDEL, pp. 180-185.

[78] Duke writes that this agreement set the precedent for subsequent US-UK basing agreements, it was purely service-to-service without public or parliamentary debate. Duke, Europe, p. 293-294; Duke, UK, pp. 20-25; Moody, Building, pp. 141-142; Murray, "Initial," pp. 15-16 Williamson and Rearden, Origins, p. 43, footnote 60, note that this was apparently only a verbal agreement, for no open record of it exists in the Public Records Office, and only a single memo in the National Archives (summarizing the trip to London by Spaatz) contains information about it. This last memo mentions that "certain physical facilities" were to be prepared at two RAF fields for handling American bombers with "some very special purpose."

become "lightning rods rather than umbrellas."[79] Late in the decade, this prophecy was

fulfilled; the retention of many overseas SAC bases became a political handicap for the

State Department, and their use a military question mark for the Department of Defense.

There were two major political issues which threatened retention of these sites:

nationalism among the new nations, and military risk among the established ones.

Either way, the outcome was the same: SAC bases were no longer considered an

advantage for the host. Efforts to retain access rights abroad threatened to undermine a

major purpose of these sites, the consolidation of allies.

Complexities arose with the retraction of colonial territories and the rise of

independence movements, causing a perpetual diplomatic scramble to preserve access

rights to overseas bomber bases. Seeking to retain use of these facilities forced United

States diplomats into the awkward position of downplaying their traditional opposition

to colonial holdings, and even beyond this, to endorse the position of external powers in

Goa, the Bonin Islands, French Morocco, and Egypt.[80] The SAC presence could

actually exacerbate the tensions between the territory and its colonial overseer. The

Danish government would not allow foreign troops in Denmark, nor the presence of any

nuclear weapons; but, SAC access to Greenland had no such restrictions, and was seen

by the Danes as their main contribution to NATO.[81] Likewise, there were no American

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[79] Cited in Gaddis, Strategies, p. 148.

[80] An example of the Portuguese government's concern over retaining colonial territory, and the awkward American position of public opposition yet tacit approval, can be found in base rights negotiations between Dulles and Dr. Paul Cunha, Portuguese Minister of Foreign Affairs. 'Memorandum of a Conversation, Department of State, Washington, 30 November 1955, 3 p.m.,' no. 148, FRUS, 1955-1957, 27: 445-451.

[81] According to the Nash Report, due to the location of Greenland the Danish government tended to view these bases as more important to the defense of the US than of Europe. Nash Report, Country Studies-- Denmark (Greenland), DDEL, pp. 33-37. Later agreements between the US and Denmark did forbid the stationing of nuclear weapons on Greenland bases, but NATO planning assumed that this did not apply during periods of crisis or war. See Duke, Europe, pp. 42-43, especially footnote 28. A 1979 report prepared for the Senate Committee on Foreign Relations views the dichotomy between American rights in Denmark and Greenland as a strength: "Denmark has been able to make a substantial contribution to

bases in Portugal, but over two thousand Americans were assigned to bases in the

Azores.[82]

Independence or coups compounded the status of the bases in newly independent

countries, generally resulting in renegotiation or removal of SAC facilities. These

relations had always been difficult, primarily due to the tremendous power disparities

between the United States and the host, which in turn, led to diplomatic mistrust on both

sides. The Nash Report recounts that American officials had to be "constantly alert to

foreign sensibilities on issues of sovereignty, since there is among most of our allies a

hypersensitivity to inferred or imagined US slights to their national dignity and

sovereign prerogatives," particularly "in those areas...which have recently emerged from

a colonial status."[83] American access to air bases in the Cairo-Suez area was arduous,

racked with severe problems due to British occupation and Egyptian nationalism, and

has been analyzed by numerous historians.[84] Another telling example, one largely

unexamined yet far more significant for SAC, will illustrate similar difficulties.

NATO's nuclear shield without violating its own injunction against the stationing of foreign troops on the soil of Denmark proper." Congressional Research Service, 'United States Foreign Policy Objectives and Overseas Military Installations,' Report by the Foreign Affairs and National Defense Division, 96th Congress, first session, (Washington: USGPO, 1979), p. 25.

[82] Portugal did have two NATO maritime air facilities (Espinho and Montijo), and the Lisbon port was also available to the US and NATO. According to the Nash Report "the maintenance of Overseas Portugal has always been of overriding concern to Portuguese governments...[and they remain] extremely suspicious of our tradition of anti-colonialism." Nash Report, Country Studies--Portugal (Azores), DDEL, pp. 133-137.

[83] Nash report, DDEL, p. 68.

[84] SAC spent five million dollars upgrading an air base near Abu Sueir, Egypt, but then was denied any use of it when King Farouk was overthrown. Hoopes, "Overseas," p. 76-77; Nash Report, DDEL, pp. 22-26. Leffler fully traces the continuing diplomatic difficulties surrounding American access to the Cairo-Suez base area, mentioning it twelve separate times in Preponderance. Oddly though, he seldom addresses the political issues surrounding the many SAC operational bases elsewhere around the world. For further information surrounding American military access to Egypt, granted but then compounded by the British colonial position, see Tore Tingvold Petersen, "Transfer of Power in the Middle East," International History Review, vol. XIX, no. 4, (November 1997), pp. 852-865; Peter L. Hahn, "Containment and Egyptian Nationalism: The Unsuccessful Effort to Establish the Middle East Command, 1950-1953," Diplomatic History (Winter, 1987), pp. 23-40.

In the early 1950s the United States built three SAC rotational bomber bases, and a collection of smaller sites, in French Morocco. The original base negotiations of December 1950 went solely through the colonial overseers in Paris, without the involvement of the Moroccan leader, Sultan Sidi Mohammed Ben Youssef; and worse, the Sultan was not even officially notified of the agreement. As the bases developed, the French colonial government maintained a shaky hold in the region and, seeking to quell dissent, exiled the Sultan in August 1953. This brought widespread rioting and civil unrest, during which time American personnel were often confined to their bases. The French government decided to grant full independence, and the Sultan returned in November 1955, assuming the title King Mohammed V. After independence from France in March 1956 (and with added territory gained from the independence of Spanish Morocco the next month), the new Moroccan government honored all previous treaties negotiated by Paris on their behalf, except those concerning the SAC bases. The entire issue then had to be renegotiated in mid-1956, after the United States had already spent approximately $430 million on military facilities and had operational bomber bases at Sidi Slimane, Ben Geurir, and Nouasseur. A public disagreement ensued as the Moroccan Minister of State announced the bases had no legal foundation, while the State Department countered that these base agreements were fully valid. Attempting to resolve the base situation by formally initiating diplomatic ties with the new government, the American Ambassador to France, C. Douglas Dillon, went to Morocco in March 1956. Six months later, Secretary of the Air Force Donald Quarles did the same, and in October 1956 the new American Ambassador to Morocco, Cavendish W. Cannon, arrived in the country with the primary task of maintaining SAC's base

holdings.[85] Eventually the issue was resolved, and according to one author at the time, "far from wanting the Americans to go home, the new Moroccan government wants only to negotiate the most advantageous possible settlement."[86]

But the retention of the Moroccan sites brought difficulties on a number of levels and the United States, through the SAC bases, found itself embroiled in a political dispute in the waning days of a French colonial possession. The French government kept diplomats and military forces (which continued to have responsibility for the perimeter defense at SAC bases) in the country and constantly sought tripartite negations, a condition shunned by the Moroccan government. French and Moroccan officials scrutinized the dealings of American diplomats, then praised or vilified them for, supposedly, lending or denying legitimacy to the other side. This situation was one of several in colonial regions which produced concern among American leaders about the political vulnerability of overseas bases, and the rising political costs associated with them.[87]

In general, the reception of SAC bases in these smaller countries was beset by "a disturbing ambivalence," and there were continual problems.[88] There was often resentment towards the American presence, but also recognition that the host nation's security rested in large part on guarantees from the United States. The Nash Report put

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[85] Pieces of this situation emerge in 84th Congress, SOAP, pp. 1703-1705; Adams, Morocco, pp. 70-72, 187; Moody, Building, pp. 436-439; and throughout 82nd Congress, "Hiring Overseas."

[86] Packman, "Future," pp. 72-73.

[87] Interestingly, the tables turned in October 1959 when Moroccan Prime Minister Ibrahim visited Washington for the express purpose of retaining SAC bases in his country. SAC was closing the facilities over the next few years and Ibrahim sought to keep them. The NSC briefing provided to Eisenhower, states that the Prime Minister felt strong ties to the United States would boost his political position in his own country and within the region. Memorandum, 422nd NSC Meeting Minutes, 29 October 1959, p. 12, DDEL, AWF, NSC, box 11. But these Moroccan efforts were futile, by 1963 SAC had closed all of its sites in Morocco. For an account of the air base closures and American pullout, see Adams, Morocco, pp. 179-187.

[88] Hoopes discusses some of these difficulties inherent with American forces stationed in a foreign country in "Strategy," pp. 74, 80.

forth several recommendations to further interaction between host nations and each American base, in an attempt to further cooperation and acceptance. Many of these were simple matters, easily remedied, such as using two languages on all base signs and flying the host nation flag. But, here again, SAC bases posed particular problems. Bomber bases had many more base jobs classified as "sensitive," and these positions could not be filled by non-Americans. Additionally some aspects of joint planning were forbidden between SAC units and host nation forces, and in some cases so were military exercises.[89]

At the Senate Airpower Hearings of 1956, Senator Symington lamented that "the B-47 program was laid down...on the theory that our foreign base structure would remain considerably more permanent than it would appear today."[90] There were grounds for this dismay, for by this point SAC access had been lost or politically threatened in Egypt, Iceland, Morocco, Okinawa, Japan, and Libya. Three years later, even President Eisenhower reconsidered his long-standing support for these overseas bomber bases. During a conference with Secretary of Defense Neil McElroy in June 1959, Eisenhower stated that SAC bases in Morocco and Libya had become "a political drain--a constant burden and handicap on our foreign affairs."[91] At an NSC Meeting in October 1959, Eisenhower requested a follow-up to the Nash Report, to gauge changes which had since occurred, particularly political issues that had arisen in newly-independent countries. According to the meeting minutes, Eisenhower wanted this new report for:

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[89] Nash Report, DDEL, pp. 66-68, 79.
[90] General Twining concurred, adding "We have more trouble now than we did have two or three years ago." 84th Congress, SOAP, both quotes from p. 1812.
[91] Memo of Conference with the President, 22 June 1959, DDEL, WHO SS, DoD, box 1, file DoD III (6).

He felt that we had our heads in the sand on the bases--the foreign countries concerned were excited about national aspirations and sovereignty and we were in a position of being blackmailed. He noted that only this morning, in connection with the paper on Libya, it had been indicated that we were likely to have trouble at Wheelus [Air Base]. He thought that the base agreements which had been made ten years ago were beginning to be outmoded. We could not continue to depend on these facilities on the same basis as in the past.[92]

At the same time as this political concern, though, new strategic weapons began to enter the American inventory. This was opportune, for the Soviet strategic arsenal was also undergoing tremendous growth, expanding political threats to SAC overseas access, even among larger, established countries.

Early in the decade host nations welcomed the protection of the American strategic forces, epitomized by SAC overseas bomber bases. "One-sided" deterrence, when only America possessed a strategic capability, was easy for the United States to practice and for the hosts to accept. But the growth of the Soviet strategic threat, well-known among hosts and well-publicized by the Soviets, brought latent political tensions to the forefront. Host governments and local populations began to fully comprehend the risks associated with these sites. The unique features of SAC's overseas bomber bases could no longer be concealed, and could not remain imbedded within the broad collection of other American overseas bases.

The mere presence of nuclear weapons could bring hazards, even in peacetime. Routine air operations involve a certain degree of risk and aircraft accidents happen on a recurring basis. Add nuclear weapons and host nation concern intensified. Appendix A.6 shows nuclear weapons accidents from 1950 to 1960 which occurred in direct support of overseas bomber bases (bomber accidents abroad or enroute to overseas

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[92] Memorandum, 422nd NSC Meeting Minutes, 29 October 1959, p. 14. DDEL, AWF, NSC, box 11.

bases, as well as transport flights carrying nuclear weapons to overseas locations).

Fitting this criteria are nine known accidents: six outside the United States and three

within. There were extreme safeguards built into the nuclear weapons environment, but

even if inert, these weapons accidents could be catastrophic, militarily and politically.[93]

The SAC mission had always distinguished it from other bases, but later in the

decade the peril this brought became more apparent to the hosts. RAND R-266

summarized this budding perception: "There is some justification, then, for feeling that

a strategic base increases both the general security of the allied forces and the specific

hazards of the area in which it is based."[94] Foreign governments and local populations

tended to favorably accept military facilities which could add to regional defenses, such

as army posts, naval ports, even fighter bases. A SAC bomber base, however, could

only contribute defensively in a more indirect way. This issue arose in 1952 when the

Icelandic government criticized the United States for not fulfilling its commitment to

defend the island, noting that fighters were not based on their territory, only SAC

bombers.[95]

Should war occur, these sites actually increased the risks to the host nation and

the local area. In the late 1950s the main targets for the growing assortment of Soviet

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[93] An excellent analysis of nuclear weapons accidents, real and potential, can be found in Scott D. Sagan, The Limits of Safety: Organizations, Accidents, and Nuclear Weapons, (Princeton; Princeton University Press, 1993). Although Sagan's case studies are outside the time period of this report (they begin with the Cuban Missile Crisis), the overall discussion relates well to the issue of safety within the American arsenal. See especially Chapter One, 'The Origins of Accidents.' The most infamous accident involving a SAC bomber and nuclear weapons occurred on 17 January 1966 when a KC-135 collided with a B-52 near Palomares, Spain. See Christopher Morris, The Day They Lost the H-Bomb, (New York: Coward, 1966); Flora Lewis, One of Our H-Bombs is Missing, (New York: McGraw, 1967).

[94] Wohlstetter, et al, RAND R-266, p. 38.

[95] No. 689, memorandum by Asst. Sec. State for European Affairs to Deputy Under Sec. Of State, 12 June 1952, in FRUS, 1952-1954, 6: 1516-1517. USAF fighter-bomber squadrons began using Keflavik in September 1952, and starting in April 1953, an AF fighter-interceptor squadron was based there as well. Fletcher, Bases Outside, pp. 70.

strategic weapons were SAC bases in the United Kingdom, Spain, and Morocco.[96] If

one of these sites was attacked the surrounding area would receive considerable damage;

SAC planners most feared, and expected, a nuclear strike on their sites in wartime and

so too, did the local populations. There were protests against American bomber bases in

the Middle East, the Far East, and North Africa. After four SAC bases were built in

Spain, the Spanish government requested detailed information about the nuclear risks to

the surrounding area.[97] The most difficult problems--for obvious reasons--occurred in

Japan, where citizens and local political leaders exhibited considerable activism.

Routine air base expansions at Tachikawa, Niigata, Kisarazu, and Yokota (facilities not

even used by SAC, although the last was a potential wartime site) brought protests

against nuclear weapons, injuring hundreds. Resistance to many of these projects

continued for over a year, even after the Japanese government issued a public statement

in August 1955 that construction was unrelated to nuclear bombers. The leader of the

formal protests at Tachikawa (near Tokyo) was the mayor, who told The New York

Herald Tribune, "We don't want the same thing to happen here as happened in

Hiroshima and Nagasaki."[98] And in 1957, the Ryukyun Legislature unanimously passed

a resolution to halt American air base construction at Kadena, for fear of "the

annihilation of the entire Okinawa population."[99]

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[96] It is interesting to note that at the start of the decade AF generals, in the process of advocating the expansion of the jet bomber force, stressed that propeller bombers could not successfully penetrate modern air defenses, yet in the middle of the decade these same generals held the Soviet propeller bombers were a dire threat to American overseas facilities. Wolfe, Soviet Power in Europe, p. 40; Wohlstetter, et al, RAND R-266, pp. 318-319; Berman, Transition, pp. 24-25; Raymond Garthoff, Soviet Strategy in the Nuclear Age, (London: Atlantic Books, 1958), pp. 187-190.

[97] Nash Report, Country Studies--Spain, DDEL, pp. 156.

[98] A.T. Steele, New York Herald Tribune, 13 October 1956

[99] Packman, "Future," p. 73-74. See also National Intelligence Estimate, 'Probable Developments in Japan's International Orientation,' 23 December 1958, which discusses the political problems which might arise with the wartime use of Japanese bases. FRUS, 1958-1960, 18: 114-115.

A grave incident occurred on 26 July 1956, and through this can be seen both the risks of nuclear weapons and the solidity of the Anglo-American political ties. An unarmed B-47 was practicing touch and go landings at RAF Lakenheath in England, when it crashed into a nuclear weapon storage igloo containing Mk-6 ("Mark Six") aerial nuclear bombs.[100] The initial message from Lieutenant General James Walsh, the 7th Air Division Commander, to LeMay shows the seriousness of this event:

> Have just come from the wreckage of B-47 which ploughed into an igloo in Lakenheath ADS. The B-47 tore apart the igloo and knocked about 3 Mark Sixes. A/C [aircraft] then exploded showering burning fuel overall. Crew perished. Most of A/C wreckage pivoted on igloo and came to rest with A/C nose just beyond igloo bank which kept main fuel fire outside smashed igloo. Preliminary exam by bomb disposal officer says a miracle that one mark six with exposed detonators sheared didn't go. Fire fighters extinguished fire around Mark Sixes fast.[101]

The reference to "a miracle" can be misconstrued, but even so, this was a very alarming accident.[102] Surprisingly though, this incident was successfully kept a secret by both sides for over three decades, and remained hidden until 1979 when newspapers in Nebraska and East Anglia began piecing it together.[103] The apparent lack of diplomatic row is a reflection of the close political ties existing between the two nations; it is

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[100] Nuclear weapons will be described in greater detail in Chapter 8.

[101] The acronym ADS is unknown. It does not appear in the AF Dictionary of this period. It could be a transcription error or possibly a non-standard term for something such as Ammunition Depot Storage. Message COMAIRDIV 7 to CINCSAC, 27 July 1956, from the webpage "Nuclear History at the National Security Archive," (www.seas.gwu.edu/nsarchive/nsa), original document from LOC MRR, LeMay.

[102] The Mk-6 stored in the igloo had a yield of 40 kilotons, but the high explosive detonators were kept separately from the plutonium cores. A nuclear explosion could not have occurred, but had the high explosives detonated, the surrounding area could have been contaminated with plutonium. Campbell is especially virulent about this incident, accusing American commanders of "grotesquely cynical behaviour," claiming they ordered an evacuation of the facility without notifying the local villagers of the danger. Campbell, Unsinkable, pp. 49, 52-53. Alan Milward lived near the base in 1970 and discussed the matter with local villagers. According to their version of the story, the exodus from the base was not ordered, but rather an involuntary panic by some people on the facility.

[103] First disclosed in the Omaha, Nebraska World-Herald on 5 November 1979, and followed up by the Guardian the next day.

extremely doubtful this political accordance would have been similar had this incident

occurred in West Germany, Japan, or France.

The British government had always realized the hazards associated with SAC

facilities, yet unflinchingly accepted their role as host. British political and military

leaders fully accepted, and truly endorsed, dependence on SAC forces. Certainly, this

stance goes beyond mere international friendship, for until the production of the V-Class

bombers and British nuclear weapons--both of which began to arrive in 1957--the

United Kingdom had no strategic force capable of substituting for SAC.[104] British

reliance on the deterrent power of SAC bombers preceded, and perhaps exceeded, that

of the United States.[105] The British position regarding SAC bases was clear, even

before Korea. A Foreign Office memorandum in January 1950 noted: "We must face

the fact that this island is strategically well placed as an advanced air base and we must

accept that role."[106] And in March 1950, British Defence Minister Emmanuel Shinwell

told the Cabinet, "It is desirable to persuade the Americans to keep their air forces in the

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[104] For the development of the British bombers, see Andrew Brookes, V-Force: The History of Britain's Airborne Deterrent, (London: Jane's, 1982). For British nuclear weapons development, see Gowing, Independence; Pierre, Nuclear Politics.

[105] The best example of this can be found in the wording of the British Defense White Paper of 1952, which espouses many of the principles of Massive Retaliation, even before the strategy was adopted by the US. S.J. Ball, The Bomber in British Strategy: Doctrine, Strategy, and Britain's World Role, 1945-1960, (Oxford: Westview Press, 1995), particularly Chapter 3, which details the years 1950-1952; Sir John Slessor, The Great Deterrent, (London: Casseel & Company, Ltd., 1957), which provides articles and transcripts of lectures by Slessor, showing that his thinking on bombers and strategic aerial warfare perhaps predates his American counterparts. Williamson and Rearden make a similar assessment in Origins, pp. 172-173, 177-180. It should be noted that Slessor was far from a mere theorist, he was Chief of the Air Staff from 1950-1953.

[106] Memo by Minister of State to Defence Committee, 4 January 1950, cited in N.J. Wheeler, "British Nuclear Weapons and Anglo-American Relations, 1945-1954," p. 72, International Affairs (London) 62 (Winter 1985/1986), pp. 71-86, (hereafter cited as Wheeler, "Nuclear Relations").

United Kingdom."[107] The SAC access rights in the United Kingdom remained intact throughout the decade.[108]

But even British concern climbed with the progress of Soviet strategic weaponry. In 1952 Churchill praised the development of SAC bases in Spain, French Morocco, and Cyprus for these sites were "reducing the pressures on the United Kingdom"[109] Following the Soviet hydrogen bomb test in 1954, Churchill wrote to Eisenhower that, "by the Anglo-American base in East Anglia we have made ourselves for the next year or two the nearest and perhaps the only bull's eye of the target."[110] British public awareness of Soviet capabilities heightened in 1957, with the advent of SAC ground alert procedures and Soviet *Sputnik* launches. The Sunday Times editorial from 1 December 1957 stated: "If nuclear bombs were delivered from bases in the islands, it would presumably be we who would suffer the inevitable retaliation."[111] Duncan Campbell claims a combination of events during this period undermined British public confidence in the SAC bases: Secretary of State Dulles's refusal to allow any British participation concerning the use of nuclear weapons from SAC's British bases; the shoot-down of a British-based SAC RB-47 over the Barents Sea; the lack of procedures for notifying the British government about real or practice alerts on American bases; and the carriage of live weapons over the United Kingdom, which (according to Campbell) often culminated with simulated attack runs on British cities.[112]

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[107] Cited in Duke, UK, p. 56.

[108] The early acceptance of these sites can be partially explained by British intelligence estimates that the Soviet Union would not challenge the American strategic advantage until 1956, at the earliest. See Williamson and Rearden, Origins, pp. 170-171; Wheeler, "Nuclear Relations," p. 73.

[109] US Delegation Minutes of the Second Formal Meeting of President Truman and PM Churchill, 7 January 1952, FRUS, 1952-1954, 6: 765.

[110] Letter Churchill to Eisenhower, 21 June 1954, FRUS, 1952-1954, 6: 1069-1071.

[111] Sunday Times, 1 December 1957, cited in Campbell, Unsinkable, p. 55.

[112] Campbell stresses throughout his book that Britain was at continual risk, and despite several ominous signs, successive British governments refused to clarify the role British-based forces played in American strategy. See especially, Campbell, Unsinkable, pp. 56-58.

Soviet propaganda perpetuated this fear and it was felt by Britain as well as other nations which granted SAC operating rights. Moscow leaders increasingly emphasized the vulnerability of SAC's overseas bases, the surrounding areas, and the host nations. A significant change occurred among these threats in late 1957. Prior to this, pronouncements from Moscow stressed the aggressive American base position and its resulting threat to peace. But following Sputnik the tone became harsher and stressed the Soviet missile threat to the host nations.[113] On 21 December 1957 Khrushchev pronounced before the Supreme Soviet that "crushing retaliatory blows" would be dealt to any nation holding "aggressive military forces."[114] First among these, expectedly, would be SAC bomber bases. Statements such as this produced a growing political threat to the bases, well-described at the time by Hoopes:

> At present the inherent liabilities and cumulative frictions are in greatest evidence...With the progressive development of Soviet atomic striking power-- dramatically emphasized by the sputniks--and with the mounting drumfire of harsh Soviet warnings that countries containing American bases will be magnets for attack and destruction in the event of war, the anxiety has grown.[115]

Growing Soviet capabilities carried political repercussions among SAC host nations, and this developed in two distinct stages. The first has been recounted, the fear of devastation, as hosts perceived the growing threat to themselves by having SAC bases on their soil. Soviet missiles could threaten portions of Western Europe as early as 1955, but it was Sputnik which made this threat apparent. Strategic bomber bases would be a primary target in a superpower war, for they held a strategic capability which threatened the Soviet Union directly. This meant that a host nation's territory

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[113] This theme is fully traced by Alvin Cottrell, "Soviet Views of United States Overseas Bases," Orbis, vol. VII, no. 1 (Spring 1963), pp. 77-95, (hereafter cited as Cottrell, "Soviet Views").
[114] Cited in Cottrell, "Soviet Views," p. 82.
[115] Hoopes, "Strategy," p. 74. See also Nash Report, DDEL, p. 16.

could be attacked, regardless of the host nation's involvement in a war between the United States and the Soviet Union. Host territory would become a battlefield due to the presence of SAC facilities and this prompted a strategic dilemma for these countries: did the American security guarantees outweigh the risk generated by these sites? This was an imponderable.

By 1960 the Soviet Union proclaimed the deployment of an Intercontinental Ballistic Missile (ICBM) capable of reaching North America. This presented some perplexing considerations. NATO allies now had to grapple with the realization that Article 5--the very foundation on which America gained overseas base access--went two ways, as the agreement clearly reads: "An armed attack against one or more of them in Europe *or North America* shall be considered an armed attack against them all..." Again, this brought the prospect, or more properly the assurance, that European allies would become actively involved in a war which began only between the superpowers. This was troubling, but not new, and certainly not unexpected.[116]

But another facet emerged with this Soviet ICBM deployment: simply put, would the United States risk an attack on its own territory to defend Europe?[117] The Nash Report foresaw this situation, and the rising political difficulties it could cause, as host nations realized that "while the United States would certainly respond with nuclear retaliation if it were attacked, it might hesitate to fight against a limited onslaught in Europe, for fear of inviting nuclear devastation at home."[118] Nations holding American

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[116] Stanley Hoffman discusses this situation in a well-titled 1979 article, "New Variations on Old Themes," International Security, Summer 1979, pp. 88-107.

[117] The French were particularly concerned, as in Charles DeGaulle's claim that no American President would risk New York over the fate of Paris or London. For an early assessment of French concerns, see Nash report, Country Studies--France, DDEL, pp. 48-50; For a fuller account or the entire period, see Kohl, French Nuclear Politics.

[118] Nash Report, DDEL, p. 16.

bases now had to contend with another fear, abandonment. This concern spread far beyond nations holding SAC bases--as later actions would show, the French government was exceedingly skeptical of American security guarantees in a bipolar nuclear world-- but SAC facilities brought this issue to the surface. The United States commitment to the security of Western Europe came at a time when the Soviet Union lacked strategic capability, but when this arrived the American commitment became much more complicated. How could European security be maintained in the emerging era of bipolarity? Extended deterrence became the "the worm in the apple" of deterrent theory and remained the central, and very enigmatic, component of NATO strategy throughout the Cold War.[119] The presence of SAC bomber bases could not remedy these developing fears, merely compound them.

Thus, political problems with retaining overseas access for SAC bombers grew throughout the decade. The SAC sites were *sui generis* among America's overseas bases, and as this became exceedingly apparent, they faced an increasing number of political threats from host nations. These difficulties peaked late in the decade, and occurred simultaneously as new strategic weapons entered in the American arsenal. SAC overseas bomber bases were temporary measures, but political conditions expedited the conversion to other, less politically controversial, strategic platforms. The haunting political difficulties associated with these sites could now be circumvented. Technological innovations freed the United States from many of the binds of international politics, which had allowed, directed, and restricted, the projection of American strategic air power throughout the decade.

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[119] "Worm," Buzan, Strategic Studies, p. 152. Freedman says that the major theme underlying his book is Western attempts to develop a convincing strategy for extended deterrence in Europe. Freedman, Evolution, xvi.

Curtis E. LeMay

Hoyt S. Vandenberg
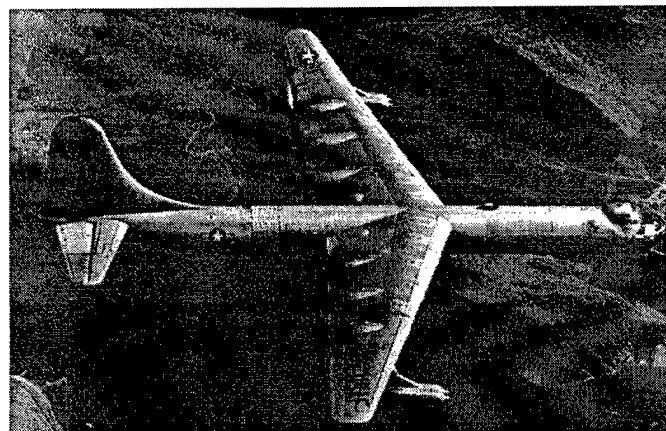
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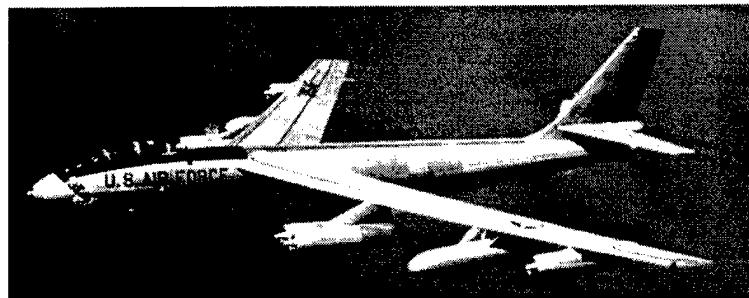
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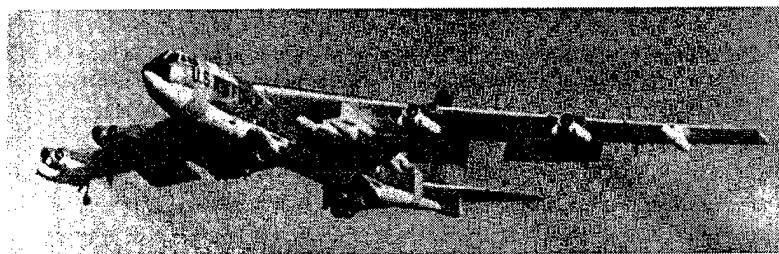
Emmett O'Donnell

Convair B-36 Peacemaker

Boeing B-47 Stratojet

Boeing B-52 Stratofortress

Chapter 5

Economics of Foreign Bases

> The essential justification for vast expenditures on overseas strategic bases must be that, without such bases, a strategic force capable of doing a given job would cost vastly more, if it were feasible at all.[1]
>
> General Hoyt S. Vandenberg, 1951

The story of SAC overseas bases cannot, and should not, be told in purely economic terms. Due to bureaucratic methods of the past and classification levels of the present, it remains extremely difficult to separate base costs from larger issues of foreign policy and military strategies. But doing so sheds light on an unexplored aspect of these sites, and presents two new assessments: the bases were much more expensive than generally assumed, yet even so, the tremendous costs did have an economic justification.

As we have seen, the outbreak of the Korean War brought massive defense budgets, and these increases funded expansive military construction projects.[2] The Military Public Works program of fiscal year 1951 was the largest since 1943, the pinnacle of America's World War II base construction. The Department of Defense labeled each fiscal year from 1951 to 1953 a "critical year" for military construction,

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[1] Testimony before the Senate Committee on Armed Services and Committee on Foreign Relations, 82nd Congress, cited in Wohlstetter, et al, RAND R-266, p. 47

[2] In the five years following World War II Air Force construction projects, worldwide, received $450 million and spent only $150 million; the first two supplemental military appropriations of mid-1950 added one billion dollars to this program for the next three years. These figures come from a presentation by Major General Timberlake (Air Force Director of Installations) in 'Minutes of Air Force and Wing Commander Conference, Washington, 6-8 December 1950, LOC, LeMay, box 100, file CC conference. For the impetus of Korea, see Nash Report, DDEL, p. 4; testimony by Secretary of the Air Force Donald A. Quarles, 84th Congress, SOAP, p. 1569-1570. For a detailed analysis of the FY 1951 Public Works Program, see Patch, "Overseas."

and projects proceeded at a frenzied pace, before leveling off for "the long pull"

guidance which began in 1954. At the transition between these two periods, the Senate

Subcommittee on Real Estate and Military Construction noted:

> The point, in so far as expenditure of construction funds goes, is that a position
> of formidable strength is being attained. We still have much yet to do, but no
> longer need to build every possible base that anyone could propose in every
> possible position under the sun.[3]

By the middle of the decade the United States military controlled almost thirty-three

million acres of land--over six million overseas--with an estimated value of twenty-two

billion dollars.[4]

Also known, is the Air Force portion of this build-up and its results. The service

received nearly two-thirds of the military construction budget throughout the decade.

For most of this time, Air Force construction expenditures averaged over one billion

dollars a year, which still amounted to less than one-third the amount of money the Air

Force spent on new aircraft.[5] At peak rates in the middle of the decade, the service's

construction contract awards averaged $115 million a month. Counting facilities of all

kinds, the Air Force nearly doubled its installations, from 1,600 to 3,100, while the

number of principal bases swelled to 360, with 156 overseas. The construction program

had grown so large and expensive that in 1956 the Assistant Chief of Staff, Installations,

told Congress, "Some people think that one billion dollars a year is a pretty good flow,

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[3] 83rd Congress, "Construction Overseas," p. 4.
[4] DoD construction guidelines, 84th Congress, SOAP, pp. 374-377. Acreage and value from letter, Senator John Stennis (Chairman, Senate Subcommittee on Military Construction) to Floyd S. Bryant (Assistant Secretary of Defense, Properties and Installations), 10 August 1956. NA, RG 46, 85th Congress, box 533, file Real Estate-General.
[5] From FY 1956 to FY 1958 the AF spent an average of $3.3 billion per year on the purchase of complete aircraft. Figures for this same period show that the AF construction outside the continental US averaged $390 million per year. HQ USAF, Air Force Budget, Fiscal Year 1958, on file at Government Documents Collection, USAFA.

but compared to the job to be done it is inadequate." Overseas strategic air bases were

only one element of the Air Force program, but through the middle of the decade

consumed almost one-fourth the service's construction budget.[6]

Beyond this, base histories include very little about economic issues, and fail to

fully address the topic.[7] Only two authors give the subject more than cursory mention.

James Blaker's pecuniary analysis begins in 1960 and covers a much broader topic, but

his separation of base costs is insightful. By his connotations "permission cost" is the

money the United States paid a foreign government for the right to operate a base, a

financial incentive offered to the host nation. Blaker finds this cost contentious, hidden,

and seldom quantifiable; operating rights for American bases were negotiated at

different times, for different purposes, and even diplomats directly involved in the

discussions could not determine the specific permission cost of an individual base.

Blaker's second component is "fixed cost," the money spent to build and maintain an

overseas base. This cost is discernible, and Blaker lists annual fixed costs for the entire

overseas base network from 1960 to 1988.[8] Simon Duke splits overseas base costs in a

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[6] Figures from testimony of Major General Lee Washbourne, Assistant Chief of Staff, Installations, 84th Congress, SOAP, p. 371-373, quote p. 383. Records from the Office of Assistant Secretary of Defense (Properties and Installations) show the emphasis on Air Force construction:

Annual Construction Expenditure by Service (millions $)

	FY1953	FY1954	FY1955	FY1956	FY1957	FY1958	Total
Army	513	361	345	383	413	224	2,239
Navy	470	352	220	246	354	230	1,872
Air Force	999	917	1,016	1,313	1,083	606	5,934
Total	1,982	1,630	1,581	1,942	1,850	1,060	10,045

This is the construction money actually spent, and differs markedly from authorizations and appropriations. For example, Air Force construction appropriations for FY 1953 came to $1.514 billion. 'Summary of Military Construction Program,' 12 March 1958. NA, RG 46, box 554, file Real Estate-Gen.

[7] The following works have a political focus, and exclude economic issues: Harkavy, Access and Presence; Cottrell and Moorer, Problems; Campbell, Unsinkable. Blaker's Dilemma analyzes military issues, but also includes a section on economic issues. Adams, Morocco, focuses mainly on the social history of the SAC bases. Duke's UK and Murray's "Initial" do present specific figures for American Air Force bases in the UK, but make no attempt to analyze the overall extent of these investments.

[8] Blaker, Dilemma, p. 98-114.

similar manner, although using different terms: "purchasing cost" is the diplomatic fee, and "actual cost" is money spent to build and maintain a facility. Duke discusses agreements, terms, and funds for individual NATO countries, but does not tabulate costs for any bases. He briefly discusses the impact and outcome of economic aid provided to Spain and Portugal, given in exchange for American base rights.[9]

Reluctance by other historians to discuss economic aspects of overseas bases might be due to the fragmentary historical record as well as the difficulty of separating the costs from other expenditures. This chapter will thus rely mainly on primary sources, the 84th Congress Study of Airpower, the Nash Report, and RAND R-266.[10] The latter is the major source for this chapter, for its main emphasis was economic. The report came from RAND's Economics Division, and three of the four authors were economists. Partial economic evidence is thus available, which will be used to search for an overall monetary assessment of the cost of these sites.

Permission Costs

Blaker's assessment of the permission costs of the later period also applies in the case of SAC bases of the 1950s. His conclusion, that permission costs paid by the United States government to acquire an overseas facility cannot be precisely determined, holds here as well. The most thorough base study of that era, the Nash Report, had direct access to classified information at the highest level of the American government, but still found that the money paid directly for overseas bases could not be separated from other funds: "There is no effective way to accurately appraise base price,

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[9] Duke, Europe, p. 6, 238, 254.
[10] Wohlstetter, Hoffman, and Rowan all worked within this division, while Lutz was an aeronautical engineer. See Smith, "Strategic," which analyzes the formation of the RAND team and the development of R-266.

for too many factors ... [concerning] foreign aid apportionment of base use cannot be split out."[11] The report found that permission costs had been rolled into America's grand strategy, bounded by diverse issues of international relations, economic aid, and military practices. The exact costs for obtaining an overseas base were intertwined, blended with the others, and could not be discerned. Repeatedly, to Congressional investigators as well as members of the Nash Report, officials within the State Department and the Department of Defense refused to specify (or perhaps, could not specify) the price of obtaining overseas operating rights. Permission costs for American overseas bases of the 1950s, even if known at the time, are still classified.[12]

Each country benefited by keeping these funds indeterminate, and further, the added secrecy protected both parties. For host nation leaders, any pecuniary motivation was concealed and permission costs could be accepted without scrutiny from other allied nations. This also held advantages for American negotiators. A host government could not directly seek to increase these costs, because the amount directly paid for the American facility was effectively hidden, lost in a broad package of economic and military aid. Additionally, separate host nations could not easily compare the amount of money given by the United States and then seek to renegotiate financial terms. Through this process, the notion of shared security interests was propagated, without direct evidence of other monetary incentives.[13]

American officers and politicians generally viewed permission costs as distasteful. Having a military presence abroad, to these officials, amounted to mutual

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[11] Nash Report, pp. 48-49, 74-76.

[12] Blaker, Dilemma, p. 99. A discussion with Dr William Burr, an archivist at the National Security Archive, confirms this. In his archive work he has yet to assemble a clear picture of these costs. Interview with author, 3 July 1997.

[13] Nash Report, DDEL, pp. 48-49. Blaker, Dilemma, pp. 98-99.

security and there should be no exchange of funds for the "privilege" of operating a base in another country. But permission costs were paid around the world throughout the decade and had become, in the words of one observer, "facts of international life."[14] President Truman discussed the relationship between aid and access in a 1951 public speech:

> The Air Force has to have bases overseas to be in the right place to give full protection to our own country as well as to our allies. This is a clear example of how joining with other free nations for mutual defense helps all of us. Our allies cannot maintain and defend the necessary bases unless we give them aid. Giving aid to our allies is just as necessary as building airplanes if we are to have world peace.[15]

American foreign aid of this era consisted of two parts, economic aid and military assistance. The first was under State Department ledgers, but in 1948, seeking economic leverage abroad, the Joint Chiefs sought to link American foreign aid to base rights. The suggestion of coupling foreign aid, as well as military aid, to bases rights can be traced to a report from the Joint Strategic Survey Committee in December 1948 titled "Base Rights for the United States in Return for Military Aid to Foreign Nations." The JCS concurred with this proposal, as did Secretary of Defense James Forrestal, who unsuccessfully sought support from Assistant Secretary of State Robert Lovett. The issue resurfaced internally within the Pentagon the next year, and the JCS formally proposed the concept again in October 1950.[16] Finally, in 1951, the proposal gained

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[14] Hoopes, "Strategy," p. 74.

[15] Statement before an audience in Tullahoma, Tennessee, 25 June 1951. Cited in Patch, "Overseas," p. 440.

[16] In order, the documents which trace this are: JCS 570/111, Report by the Joint Strategic Survey Committee to the JCS, "Base Rights for the United States in Return for Military Aid to Foreign Nations," 13 December 1948, NA RG 218, CDF '48-'50, box 146, Combined Chiefs of Staff (CCS) 360, section 33; letter Lovett to Forrestal, (turning down the proposal), 17 January 1949, same location, section 34; JSPC 684/52, "Military Requirements for Base Rights," 23 March 1949, NA RG 218, CDF 1948-1950, box 146, CCS 360, section 36; memo by the Chief of Staff USAF for the JCS, "Requirements for Additional

Administration support and it became American policy, just in time for the surge of

overseas bases negotiations.

Military aid granted the JCS extensive economic influence abroad. The Mutual

Defense Assistance Act of 1949 tied together several military aid programs, and placed

it all under Pentagon. The military stake broadened even further with passage of the

Mutual Security Act of 1951, which created the Mutual Security Agency to supervise

military assistance and, significantly, economic aid to allied nations. At this point the

JCS gained a portion of funds which used to be exclusively under State Department

control. The resulting expenditures were considerable; from fiscal years 1950 to 1953

the Mutual Defense Assistance Program (MDAP) alone spent over five billion dollars

overseas, almost eighty percent of it in Europe.[17] The Nash Report noted a "corollary

advantage" of this shift of funds from the ledgers of the State Department to the

Department of Defense, for military budgets tended to suffer less attrition at the hands

of Congress.[18]

Even though economic aid and military assistance both went towards gaining

overseas bases, neither was tabulated as part of the cost of these sites.[19] Some foreign

aid funds can be linked to American base rights, even if direct fees cannot be

established. Spain is the best example of this, for the first American aid funds went to

this country immediately after signing agreements for American bases. The three initial

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Military Rights in Foreign Territories," 28 October 1950, same RG, box 148, file Post War Base Requirements.

[17] See 'Congressional Presentation FY 1955 Mutual Defense Assistance Program,' Annex F, statement by Frank C. Nash, Assistant Secretary of Defense (International Security Affairs) before the Senate Appropriations Committee, 10 July 1953, NA RG 330, box 16.

[18] Nash Report, DDEL, p. 48.

[19] Allocations during this period were $14.29 billion ($11.29 billion for Europe), but expenditures lagged for allied nations simply could not absorb the funds quickly enough. See Watson, JCS, chapter 10, "Military Assistance." For a summation of the early years of the MDAP program, see testimony by Frank C. Nash, then Assistant Secretary of Defense (International Security Affairs), before the Senate Appropriations Committee, 10 July 1953. NA, RG 330, box 16, file MDAP '55.

agreements of 26 September 1953 formalized American aid to Spain in exchange for base rights.[20] Through these, and twenty-six attached schedules, the United States pledged an assortment of military, economic, and technical assistance totaling $465 million. But this money was continually partitioned, restructured, and distributed numerous ways over the next few years.[21] Simon Duke estimates that "roughly 60 percent went to construction costs for US projects in Spain and 10 percent went to administrative costs, which left some 30 percent of the 'aid' to Spain itself."[22] Certainly, some American aid money would have gone to Spain anyway, even if no bases had been built. Military and economic aid were given to foreign nations for other motives than merely gaining access to strategic air bases.[23] In the case of Spain, the Nash Report states: "One aim of the United States, inherent in the 1953 agreements, has been to draw Spain out of her isolation and to strengthen her sense of identification with the West."[24]

The Nash Report repeatedly stresses that the relationship between overseas bases and permission costs was *quid pro quo*: American money in exchange for operating rights. The report even goes beyond this, stating that access to bases determined the amount of economic and military aid extended to the host nation.[25] This cannot be disproved, but it also cannot be confirmed. Testifying before the Senate Foreign Relations Committee in June 1958, Secretary of State John Foster Dulles stated: "The system of collective defense that the free world nations have built is not one-sided. It is

[20] The Nash Report discussed the possibility of Spanish membership in NATO, but concludes that this would not be necessary at the time, for the reliability of the bases "will continue to be US economic and military aid on a substantial scale." Nash Report, DDEL, pp. 21, 45.
[21] Funds for Spanish bases, see Appendix, Country Studies--Spain, Nash Report, DDEL; Duke, Europe, pp. 252-254; Watson, JCS, pp. 294-296. For difficulty associating funds with bases, see Blaker, Dilemma, p. 99.
[22] Duke, Europe, p. 254.
[23] For a discussion of this, see Wohlstetter, et al, RAND R-266, pp. 32-34.
[24] Nash Report, DDEL, Appendix, Country Studies--Spain, p. 155.
[25] Nash Report, DDEL, pp. 48-50.

not just the United States gift to the world." Other nations contributed ground forces, a strong will to resist communism, and "bases, which greatly increases the efficiency of our deterrent force."[26] Further scholarship may reveal a more thorough picture, but today, we are little farther than the Nash Report recounted in 1957: "It has become increasingly difficult to distinguish those amounts paid directly for bases from payments designed to meet broader political objectives."[27]

Facility Costs

In contrast, facility costs can be measured and are relatively precise, although these values are notably absent from the secondary literature. Analysis of the primary documents shows that these costs were much higher than similar assessments of bases from later periods.[28] Facility cost should include much more than merely building a site, and requires several tabulations to arrive at a true figure. SAC's worldwide bases had many configurations and were built to different standards, at various times, by many groups. To provide a picture, I shall use figures from the component parts of a basic medium bomber base, one which was built in 1952, and trace how these prices compare for different sites around the world. The following table comes from the Directorate of Installations at Air Force Headquarters and is an itemized breakdown of the many separate facility costs for an entire SAC medium bomber rotational base, had it been built in the continental United States.

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[26] Statement before the Senate Foreign Relations Committee, Department of State press release no. 309, 6 June 1958, p. 8. See also an article by J.F. Dulles, "Policy for Security and Peace," Foreign Affairs, April 1954, pp. 353-364.
[27] Nash Report, DDEL, pp. 48-49.
[28] The reason is that other assessments merely list the facility costs, without considering the much more costly factors of systems cost involved with overseas operations. Duke's Europe and UK touch occasionally on the construction costs for various sites, but stop there. Blaker's Dilemma tallies the facility costs for overseas bases, without regard for associated systems costs.

Table 8
Itemized Costs, Medium Bomber Rotational Base
Stateside Prices, 1952

specific structure or purpose	individual cost (millions $)
airfield pavements	10.80
fuel storage and distribution	2.79
communications, navigation aids, airfield lighting	0.93
maintenance facilities	6.19
troop housing facilities	5.59
administrative and community facilities	4.33
storage facilities	1.75
operational facilities	1.34
training facilities	0.69
shops facilities	0.52
utilities	3.34
medical	1.92
total	40.20

Source: Directorate of Installations, Headquarters USAF, 'USAF Installations Facility Requirements,' 2nd rev., April 1952

Just over forty million dollars could build this site. By far, the largest individual cost was airfield pavements, representing over one-fourth of the base's construction cost. The cost of pavements consisted of several taxiways totaling about one-and-a-half million dollars, a runway costing twice that, and parking aprons worth over six million dollars. The three main building complexes (maintenance, housing, administrative and community structures) taken together, amounted to forty percent of the construction cost. But this facility was still quite Spartan, with only limited maintenance capability, troop housing (the airman went unaccompanied by family members), and only one runway. These itemized costs could also easily climb, depending on the facility design. Many SAC bases had two or more runways, which then required more taxiways, driving up the costs. The most significant point though, was that these prices were for a facility built in the continental United States.

To adjust this facility cost for an overseas location requires multiplication by a figure called the construction cost index--the additional money expended to build a facility abroad. This accounts for variances among different locations: weather (northern latitudes had a limited construction season), necessary construction standards (northern facilities required more insulation, enclosures, and heated buildings), as well as availability of a local work force, major transportation, and construction materials. The following table, also from 1952, separates the construction costs by location:

Table 9
DoD Overseas Construction Cost Indices, 1952
(baseline for continental United States = 1.0)

country or area	cost index
Northern Alaska	4.0
Greenland	2.5
Iceland	2.5
Guam	2.2
Newfoundland	2.0
Norway	2.0
Saudi Arabia	2.0
Central Alaska	2.0
Azores	1.5
French Morocco	1.5
Spain	1.5
Puerto Rico	1.4
United Kingdom	1.3
Japan	1.2

The specific locations for these indices, if mentioned, are: Grondal, Greenland; Fairbanks in Central Alaska; the north Alaska ranges; Newfoundland interior; Dhahran, Saudi Arabia. Source: cited in Wohlstetter, et al, RAND R-266, p. 200

Thus, by the numbers, construction of a medium bomber base in Saudi Arabia should cost twice as much as a similar facility built in the United States. In most cases, these indices were reasonable estimates for the actual construction costs: a SAC medium bomber base built in Central Alaska cost $90 million, one in French Morocco cost $68

million, and another in England cost $58 million.[29] At least minimal facilities for SAC

bombers were built in each of the countries and territories listed in Table 9.

The highest component of the construction indices was building standards, not

labor costs. In general, distant locations were more expensive not so much because of

the importation of outside workers, but from colder temperatures. Iceland was not more

remote than Japan, but the extreme climate required facility modifications which

doubled the comparable base construction costs. An entire industry sprang up to

support the construction of American overseas bases, and this kept a ready pool of

skilled workers, which further kept down the labor costs.[30]

Notably missing from these figures is the cost of land or rent. The standard

policy was for the host government to purchase land for the American airfield, with no

direct charge to the United States. The United States paid to relocate any existing

structures and reimbursed the host government for any facilities which remained on the

site. American military forces then used the base under a lease agreement, usually free

of direct charge.[31]

But the costs of operating bombers abroad went beyond merely building a base.

To become operational, an overseas base incurred a great deal of additional expenses. A

distant installation required more airlift, logistics support, and command structures.

This was no pittance either, for in 1954 SAC overseas bases employed 70,000 people

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[29] Wohlstetter, et al, RAND R-266, table 31, p. 196.

[30] In late 1951 there were 90,000 US overseas construction workers building American facilities of all kinds. Ten thousand of them were members of the Construction Men's Association, an organization with workers assigned to one hundred projects around the world. See "The Builders of the Bases" and "Mr. Dillon's 10,000 Construction Stiffs," both in Fortune, December 1951, pp. 93-98, 126-127.

[31] The one exception was Wheelus AFB in Libya, for which America agreed to pay a rental fee of forty million dollars over a twenty year period. Two other overseas sites technically held agreements for direct payments, but they had been overcome by precedence and were not actually paid: Guantanamo Bay Naval Station in Cuba was leased for "two thousand gold dollars per year" in 1898, and bases in Panama were loosely linked with revenues from the Panama Canal when agreements were first signed in the early part of the twentieth century. Nash Report, DDEL, pp. 48, 71-72, 78.

beyond those already assigned to rotational wings.[32] To best quantify the overall cost of an overseas base, financial analysts at Air Force Headquarters and RAND Corporation calculated a systems cost, the aggregate sum of all costs associated with building, maintaining, supporting, and operating abroad. The following figures list initial and annual systems costs for a SAC B-47 rotational base at various sites around the world:

Table 10
Systems Cost of B-47 Overseas Bases, 1954
(millions $)

location	initial	annual
Northern Greenland	410	42
Iceland	215	28
Central Alaska	193	32
Labrador-Newfoundland	176	21
Spain	158	25
French Morocco	154	25
United Kingdom	142	24
Japan	142	24

Figures are rounded to the nearest one million dollars. The costs for Spain
are estimated. Source: Wohlstetter, et al, RAND R-266, p. 194-196.

The largest factor in the initial cost was base construction (although, if airlift and theater support are combined they often exceed this cost). Remote locations raised construction costs, as the site became more distant from standard supply routes and skilled workers: in 1951 eleven thousand American workers went to Thule, Greenland, and the same year Atlas Constructors brought two thousand Americans and three thousand Europeans to French Morocco.[33] Overseas construction typically used a cost-plus fixed fee contract, which added fifteen to twenty percent to stateside construction costs. And, this initial systems cost did not include the transfer of routine equipment from other

[32] Wohlstetter, et al, RAND R-266, p. 198.
[33] The construction of Thule AFB in Greenland suffered a cost overrun even before construction began. The workers received full pay ($4.20 an hour for a guaranteed time each day) during travel to Northern Greenland; the journey was scheduled for fifteen days, but due to bad weather, took forty-two. 82nd Congress, "Hiring Overseas," p. 200-201.

locations. The Air Force financed these hidden costs with funds from research and development, operations and maintenance, or procurement--all outside the military construction program. A January 1961 report to Congress by the Comptroller General estimates that these collateral costs added about twenty-five percent beyond that appropriated for air base construction.[34]

As the annual figures show, remote locations also had larger recurring expenses, the largest of these were for airlift and theater support, which generally comprised about two-thirds of the yearly costs. The more isolated the facility, the higher these expenses; Greenland, for example, had theater support costs fifty percent higher than the other locations.[35]

A standard B-47 wing had forty-five aircraft, and dividing the systems cost in Table 10 produces a cost per bomber, which readily differentiates the fiscal effectiveness of building and operating a new medium bomber base overseas. The initial cost per bomber ranged from over three million dollars in Japan and the United Kingdom, to over nine million dollars in Northern Greenland. Annual costs per bomber were $533,000 in Japan, the United Kingdom, and Newfoundland; in Northern Greenland, $933,000.[36]

It was very expensive to build and operate a new SAC medium bomber rotational base overseas, but some comparisons will put these costs in perspective. According to the Senate Subcommittee on Real Estate and Military Construction, in 1953 it cost about seven thousand dollars per year to keep an American soldier in

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[34] Discussion of systems costs, Wohlstetter, et al, RAND R-266, pp. 194-197. Comptroller findings, 'Review of Programming and Financing of Selected Facilities Constructed at Army, Navy, and Air Force Installations,' Report to Congress from the Comptroller General of the United States, Department of Defense, January 1961. NA, RG 46, box 539, file Comptroller, p. 32.
[35] Wohlstetter, et al, RAND R-266, p. 194-197.
[36] Wohlstetter, et al, RAND R-266, p. 196.

France.[37] Each SAC rotational base was built for a B-47 wing of forty-five aircraft. Directly compared in annual costs, each SAC bomber on a new facility in French Morocco or the United Kingdom cost the same as stationing seventy-eight American soldiers in Europe. An Army division averaged about fifteen thousand men. In equivalent annual costs, basing four SAC bomb wings on four new rotational bases around the edge of Europe was less expensive than having one American Army division on the continent.

Costs of Alternatives

As presented thus far, the SAC system of overseas bomber bases involved a collection of new facilities around the Northern Hemisphere, where medium bomb wings from the United States could rotate abroad for a ninety day period. But alternatives existed to this practice, and each involved distinct costs. Considered here are alternatives within the framework of American national strategy and the SAC force structure. Broader alternatives, which would change strategy or reduce reliance on medium bombers before late in the decade, are not addressed. Within these constraints, there were two broad groups of economic alternatives. To fulfill their assigned missions, bombers needed fuel and operating locations; changing either carried cost implications.

If an American medium bomber was to leave from North America to attack sites within the Soviet Union, it required additional fuel. Under the base system which developed, aircraft were refueled in the course of routine operations at forward rotational bases. Other possibilities were to air refuel enroute to targets or to ground

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[37] 83rd Congress, "Construction Overseas," p. 5.

refuel at a forward location (which would have only minimal facilities, and was known as a "bare base"). Both of these options were highlighted in RAND R-266, and each came out on an extreme end of the overall systems costs.

It took five KC-97s to double the combat radius of a B-47.[38] To optimize combat radii, bomber missions require tankers at specific points in the mission profile, and these points move closer together at a greater radius.[39] A brief explanation will illustrate. If a generic graph is drawn for a turbojet bomber--with combat radius on the horizontal axis and systems cost on the vertical axis--it would be J-shaped. As tankers are used to extend the combat radius, the curve flattens, for bomber systems costs decline as the bomber radius extends. But with the addition of the tanker fleet which made this possible, the combined systems costs are considerably higher than that for the bomber alone. Granted, the radius extends, but there is a steep price. To be specific, RAND analysts calculated the systems cost for the primary bomber-tanker pair of the 1950s (the B-47E with the KC-97): to increase the Stratojet's radius to 3,600 miles tripled the total systems cost, 4,200 miles was a five-fold increase, and 5,200 was a ten-fold increase.[40]

Of all the possibilities examined in RAND R-266, air refueling was the most expensive. An overall systems cost was calculated by the RAND authors to compare the collection of forward bases with an intercontinental air refueling program, both with a goal of destroying eighty percent of the Soviet industry. After factoring in all

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[38] Air refueling will be discussed in greater detail in Chapter 7.

[39] The location of the first air refueling point is critical to a bomber's overall combat radius. A bomber needs to burn enough of its original fuel so that it can accept a greater amount fuel from the tanker: every one mile closer to home base, decreases the combat radius by a half mile. Optimum air refueling locations were not practical on a routine basis, for SAC directives required the first air refueling to take place within range of the home base, so the bomber could return if problems occurred.

[40] Wohlstetter, et al, RAND R-266, pp. xiv, 79. Individual aircraft costs also continue to climb as the Air Force modernized its tanker fleet. The flyaway cost for a KB-29 was $639,000, a KC-97 was $1.25 million, and a KC-135 was $4.23 million. HQ USAF, SD FY1958, p. 83.

elements (such as fuel and aircraft systems), the operating expenses necessary to conduct this campaign from forward bases was $27.3 million per bomber, while air refueling from the continental United States was $43.4 per bomber.[41] Within this scenario, the additional costs to air refuel just one wing of B-47s equaled the initial systems cost of five new medium bomber rotational bases built in French Morocco.[42]

The least expensive basing scheme discussed in RAND R-266 was a forward system of ground refueling bases. These sites would be built only to minimum standards, with merely a single runway, a small staff, limited equipment, and over six million gallons of fuel.[43] SAC bombers would reside in the United States, then deploy on their wartime missions, with a stop enroute to obtain more fuel so they could reach designated targets. This required comparably modest costs, as an entire ground refueling base could be built for forty percent of a rotational base. Annual costs were considerably lower as well, for it took much less to support this moderate site. In the scenario presented above, a campaign using ground refueling bases cost less than one-third that of a campaign using air refueling. But the United States did not adopt this procedure until late in the decade.[44]

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[41] RAND R-266 analyzed five basing schemes: forward rotational bases, stateside basing with movement to forward operational bases, stateside basing with movement through intermediate staging sites, stateside basing with air refueling, and stateside basing with movement to forward ground refueling bases. Wohlstetter, et al, RAND R-266, p. vi. Cost per bomber, ibid., p. 341.

[42] See Table 10

[43] Specifically, this conceived base would have a 10,900 foot runway, long taxiways (which could be used as emergency runways), a permanent staff of 149 people, 6.6 million gallons of fuel, and minimal equipment (runway repair, a B-47 station set for minor repairs, and pre-strike packages). Wohlstetter, et al, RAND R-266, pp. 77-78.

[44] As discussed elsewhere, there were two major concerns. Without bombers routinely overseas, there was a fear that foreign governments might deny use of the sites in a crisis. SAC generals resisted this policy as well, viewing it as defensive, a "bunker mindset" that was not in accord with the offensive principles espoused by air power theory. For the cool reception given to this proposal by Air Force leaders, see Smith, "Expertise," and the first portion of Bernard Brodie, "The Development of Nuclear Strategy," International Security, Spring 1978, pp. 65-83.

If forward rotational bases were to be used, seeking particular locations could reduce the two components of base costs. Permission costs were non-existent in certain areas due to previous treaties and arrangements. SAC had bomber bases in Puerto Rico, Alaska, and Guam, and all were United States territory. A 1944 agreement between the AAF and the RAF would later allow SAC free access to Wheelus Air Base in Libya.[45] Although not complete rotational bomber bases, SAC bases in Bermuda and Canada (three sites were in Newfoundland alone) were freely used under the auspices of the 1941 Leased Bases Agreement with the United Kingdom. Likewise, Article III of the Peace Treaty with Japan gave the United States free access to Okinawa, where Kadena Air Base was modified to accommodate medium bombers.[46]

Facility costs could also be reduced by building in more cost effective areas. Rotational medium bomber bases grouped in the United Kingdom, Spain, and French Morocco; all among the cheapest locations for initial and annual systems costs.[47] But seeking an assortment of sites around the Northern Hemisphere also brought SAC to very expensive areas. Thule AFB near Greenland's North Star Bay remains the northernmost American air base, and it was originally intended for SAC medium bombers. Air Force site surveys from late 1950 estimated a final construction cost of $75 million to $125 million. Shortly thereafter, the Army Corps of Engineers increased this estimate to $168 million. When eventually completed in July 1951, Thule cost a

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[45] The original agreement for AAF use of this former Italian airfield dates to July 1944, and was renegotiated in 1949. Shortly after the start of the Korean War, the British Occupational Authority requested retroactive rent for the facility, which was then undergoing modifications as a SAC medium bomber base. The American military authorities turned the request over to the State Department, which then consulted with the British Foreign Office. Air Force records show the matter still unresolved in 1952, and no final solution is apparent. HQ USAF, Real Estate Division, Bolling AFB, Libya records file.
[46] Appendix and Country Studies, Nash Report, DDEL. See also Appendix A.4 for formal base agreements.
[47] See Table 10.

quarter billion dollars, and it was not a true rotational bomber base; to bring it to medium bomber standards would have required an additional one hundred million dollars. The Air Force examined placing other facilities even further north, but costs were prohibitive; in 1952 the Air Force Directorate of Installations forecast that construction costs for a medium bomber base in the polar region would be half a billion dollars.[48]

Construction costs could be tremendously reduced if an existing base could be modified to medium bomber standards. Andersen AFB on Guam was a base for the Twentieth Air Force in 1945, and then a Far East Air Force base before SAC gained it for use by medium bombers. All five of the SAC bases originally agreed upon in French Morocco were formerly French Air Force Air Maroc facilities: Cazes, Rabat-Sale, Marrakech, Khouribga, and Nouasseur (although only the last actually became a SAC base). American forces in World War II used Keflavik in Iceland, Lazes in the Azores, and Sondrestrom in Greenland, and each underwent bomber modifications in the early 1950s.[49] Most of the SAC bases in the United Kingdom were wartime RAF fields, and some were even USAFE bases, before SAC gained them as medium bomber rotational bases.[50] Re-use brought significant savings: for the price of building one new medium bomber base in Alaska, SAC could modify ten existing bases in the United Kingdom.[51]

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[48] Fletcher Bases Outside, pp. 183-186; Wohlstetter, et al, RAND R-266, pp. 49, 188-193, 196 table 31, footnote b.; Nash Report, DDEL, xii; Directorate of Installations, HQ USAF, 'USAF Installations Facility Requirements,' 2nd revision, April 1952.

[49] French Morocco bases, 82nd Congress, "Hiring Overseas," p. 262; Adams, Morocco, p. 1. All other bases, Fletcher, Bases Outside.

[50] For example, Fairford was an RAF base in 1944, a USAFE base in 1950, and then a SAC base in 1952. Lakenheath was RAF in 1941, USAFE in 1948, then SAC in 1951. Mildenhall was RAF in 1934, USAFE in 1950, then SAC in 1951. Upper Heyford was first a Royal Flying Corps training field in 1916, then an RAF base, a USAFE base in 1950, then SAC in 1952. Fletcher, Bases Outside, pp. 112, 123, 129, 134.

[51] Wohlstetter, et al, RAND R-266, p. 195.

The alternatives presented thus far are all rather narrow, because from 1950 to about 1955, only two variables existed among overseas medium bomber bases: where to put them, and how to use them. This is confining, but representative of this early period which was devoid of other strategic options. By the middle of the decade, though, the situation changed, as tankers and B-52s were rapidly altering the SAC force structure.[52] RAND analysts working on R-266 sought to quantify the broad costs associated with the emerging assets, to compare against the rotational base concept then in use. Using a wide variety of Air Force sources, the authors of R-266 calculated the overall systems cost for several SAC wings based in the United States.

Table 11
Systems Cost of SAC Wings, Stateside Bases, 1954
(millions $)

aircraft wing	initial	annual
B-47	238	68
B-36	297	76
B-52	485	78
KC-97 on joint base	56	12
KC-97 on separate base	134	32

Source: Summation of data found in Table 29 in Wohlstetter, et al, RAND R-266, pp. 188-193.

The initial systems cost of four B-52 wings exceeded that of four B-47 wings by a billion dollars. And a B-52 wing was smaller, with only thirty aircraft. The cost per bomber readily differentiates the added costs of this new intercontinental bomber: the B-47 initial systems cost was $5.3 million, and annual cost was $1.5 million; the B-52 initial systems cost was $16 million, and annual cost was $2.6.[53] In relative terms, the

[52] The SAC bomber force structure will be discussed in greater detail in Chapter 8. For the composition of this force during the decade, see Table 17.
[53] Wohlstetter, et al, RAND R-266, p. 188.

initial systems cost of one B-52 wing equaled the combined systems cost of one B-47

wing, one KC-97 wing, and one new rotational bomber base in southern Alaska.

A true intercontinental bomber situated for operational use was thus very

expensive. As Eisenhower commented in one of his most well-received speeches:

> The cost of one modern heavy bomber is this: a modern brick school in more than thirty cities. It is two electric power plants, each serving a town of sixty thousand population. It is two, fine, fully equipped hospitals. It is some fifty miles of concrete highway.

This is an early pronouncement against what would later be called the military

industrial complex. He concluded this 1953 speech with an acknowledgment of, and

indictment against, the developing arms race: "This is not a way of life at all, in any true

sense. Under the cloud of threatening war, it is humanity hanging from a cross of

iron."[54]

Congressional Funding

Funding for all American military bases followed the same Congressional

procedures, and as far as these mechanisms, an overseas SAC base was the same as an

Army post within the United States. The funding process began when an Air Force

command forwarded a specific request for air base construction, which included detailed

plans for the location and a preliminary cost analysis. These requests went to the

Program Section at Air Force Headquarters, then to the Ad Hoc Committee of the

Installations, the Air Staff Installations Board, the Secretary of the Air Force, the

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[54] Speech to the American Society of Newspaper Editors, 16 April 1953, recounted in Eisenhower, Mandate, p. 145; see also Stephen Ambrose, Eisenhower: Soldier and President, (New York: Touchstone, 1990), pp. 326-327.

Secretary of Defense, and finally the Bureau of the Budget. This was just for approval

of a construction request, to show that funds for the prospective base were justified.[55]

Congress examined every dollar for air base construction. This entailed a

circuitous review process which cycled each request through the legislative branch three

times--for authorization, appropriation, and apportionment. The first and last of these

were routine procedures. Authorization simply consisted of subcommittee hearings in

the House and Senate to approve money for possible spending. Apportionment was the

distribution of funds, and requests went from the Air Force Comptroller to the Secretary

of Defense, who obtained the concurrence of his Comptroller and the Assistant

Secretary of Defense (Properties and Installations), ending with a release of funds from

the Treasury.[56]

Congressional appropriation, the middle step in the funding process that set aside

the money for a specific purpose, was detailed and complex. Expenditures of

appropriated funds were strictly bound by American laws and regulations, regardless of

whether the money was spent domestically or overseas. Congress, therefore, carefully

scrutinized each requested item, to the point of approving individual fire hydrants. The

rationale for this process grew from home-grown Congressional concern over the

amount of government money going to each politician's district or state, but this

exacting policy applied abroad as well.[57] Subcommittee hearings from 1953 show the

extent of these base appropriation reviews: "Hearings continued on an almost daily basis

for seven days. For the most part we went into the askings on an item-by-item basis--

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[55] 84th Congress, SOAP, p. 385.
[56] The Treasury released half of the construction money in less than four months, and ninety-percent within seven months during the boom days of military construction in the mid-1950s. 84th Congress, SOAP, pp. 383-385.
[57] Nash Report, DDEL, p. 78.

tens upon thousands of items ranging in cost from one thousand dollars to fifteen million dollars per item."[58] Curious appropriation rules complicated this process even further, as funds for air base construction met a different subcommittee than funds for aircraft or personnel. Congress and the Air Force had to address these items separately and could not coordinate key elements of the military force structure.[59]

This Congressional scrutiny concerned Air Force leaders at the highest levels. Vandenberg wrote LeMay in January 1953 expressing dismay at recent Air Force failures to justify to Congress "every item, both large and small" in the Military Public Works budget. The Chief of Staff called attention to the new Air Force Regulation 86-7 (Installations Planning and Development) which directed commanders to review every construction project under their jurisdiction. LeMay quickly passed on this concern, telling the Second Air Force commander the next week: "I shall expect you to personally defend your [construction] budget if it becomes necessary."[60]

In addition to the open Congressional appropriation process there was another for classified construction projects, which took place in closed committee hearings. The service's Chief of Legislative Liaison sent a letter, which justified the project and had an estimated cost, to the chairman of the Senate Committee on Armed Services. The military liaison would present any further information desired by the committee during

[58] Congressional Record, 16 Feb. 1953, p. 1150, cited in Wohlstetter, et al, RAND R-266, p. 43.
[59] RAND R-266 emphasizes this point throughout, see especially "Domestic Constraints," Wohlstetter, et al, RAND R-266, pp. 43-45. Throughout the 1956 Airpower hearings, Senator Stuart Symington stressed the difficulties of coordinating separate Congressional funding for Air Force programs. He used an analogy which compared the Air Force structure to a professional baseball team, one forced to separately obtain funds for a stadium, players, and equipment. See 84th Congress, SOAP, pp. 380.
[60] Letter Vandenberg to LeMay, 26 January 1953, and letter LeMay to Armstrong, 4 February 1953. Both LOC MRR, LeMay, box 61, file Vandenberg.

closed hearings. This could be significant; by one estimate, classified locations

comprised two-thirds of the fiscal year 1951 overseas construction budget.[61]

But from all of this Congressional funding one major question remains: why did

Congress, and ultimately the American taxpayer, allow all of this money to be spent on

overseas bomber bases?

An Economic Explanation

Within a purely economic context, there were strong incentives for the United

States to build and occupy overseas bomber bases during the 1950s. SAC was merely a

single command, within one of three military services, but it was very expensive. In

general figures, the Air Force consumed about half the American military budget

throughout the 1950s, and SAC about one-fifth. To be more precise, figures are

available for the peak period of SAC overseas bases. In 1958, General Thomas S.

Power (Commander in Chief of SAC) sent a report to General Thomas D. White (Air

Force Chief of Staff) titled 'SAC Assets Versus Capabilities' which contained

considerable data from previous years about the command as a portion of the

Department of Defense (DoD). SAC possessed less than eight percent of the DoD

aircraft, less than seven percent of the DoD personnel, less than five percent of the DoD

real estate, and less than two percent of the DoD bases. But the most telling figure was

for SAC expenditures. The operational cost of SAC for Fiscal Year 1956, including all

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[61] Patch lists the classified construction projects as $1.5 billion of the $2.2 billion authorized in FY 1951. Patch, "Overseas," pp. 435-437. This practice continued, classified construction accounted for up to thirty percent of the Department of Defense overseas construction budget in the 1980s. Blaker, Dilemma, p. 101. For an example of a classified construction request, see letter from Brig Gen. C.J. Hauck to Senator Richard B. Russell, 4 Jan 1956, requesting "the expenditure of $3,841,000 for construction at Location 23, a classified ASA overseas installation." NA, RG 46, 82nd-85th Congress, box 528, file Classified Index.

external support received by the command from other military sources, came to $6.21 billion, just over sixteen percent of the American military budget. For 1957, the SAC figure climbed to $7.06 billion, almost eighteen percent of the DoD budget for that fiscal year.[62]

To put these SAC figure in comparable terms for another time and another great power, I shall use the Royal Navy of 1900. There are several similarities between these two forces: each dominated its military category, each was used as a deterrent force, and each had a presence overseas. At this time, Britain possessed thirteen major naval bases abroad, plus fifteen minor facilities used as coaling stations.[63] All of these sites were designed to enable the Royal Navy to extend its presence around the globe, so it could fulfill its role in British national security. In 1900, the Royal Navy had gross expenditures of 33.2 billion pounds, which represented twenty-six percent of British military expenditures.[64] These percentages can then be compared, strictly as a portion of their respective defense budgets: at the height of its overseas base use SAC required about two-thirds of what the entire Royal Navy spent in 1900.

However, the overseas forces and bases of these two powers occupied entirely different places within the context of military structures of the periods. The primary combat vehicle for the Royal Navy was the battleship; for SAC, the strategic bomber. The British overseas naval bases were not built solely around the battleship; most SAC overseas bases were built entirely around the bomber. In 1901, the British had fifty

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[62] Report HQ SAC to AF Chief of Staff, "SAC Assets versus Capabilities," LOC MRR, White, box 16, file SAC.
[63] Aaron L. Friedberg, The Weary Titan: Britain and the Experience of Relative Decline, 1895-1905, (Princeton: Princeton University Press, 1988), (hereafter cited as Friedberg, Weary Titan), see map on p. 136.
[64] Figures from Bernard Mallett, British Budgets: 1887-1888 to 1912-1913, (London: Macmillan, 1913), cited in Friedberg, Weary Titan, p. 131.

battleships. Other nations which would become allies in the Great War (France, Russia, the United States) had a combined total of fifty as well.[65] In 1956, SAC had 1,024 strategic bombers, and at this time no other allied nation had any aircraft of this type.[66] SAC bombers and SAC bomber bases were exclusive, the only of their kind in the West.

I shall now calculate the initial cost of constructing overseas bomber bases. This requires a series of assumptions, as well as the use of figures described earlier in this chapter. I selected twenty-five bases around the Northern Hemisphere, and although other facilities were used by SAC aircraft, the additional sites had military functions beyond those of SAC bombers, and are not included. These twenty-five bases were originally constructed with the sole intent of stationing SAC rotational bombers.[67] About a third of these sites were new and thus credited with full initial systems cost, the remainder were sites gained from another country or command, which I estimated cost one-third as much as new sites. Permission costs were not included in this figure, for these funds had many other purposes beyond merely obtaining bomber bases, were not needed to gain access to many of these locations, and were not entirely taken from military budgets of the period. By this method the initial cost of the overseas bomber bases comes to three billion dollars.

The annual systems cost can also be estimated, by tabulating the costs of these twenty-five bases against their location. The total annual costs, if all of the sites were in full use, comes to approximately $700 million. For comparison, this figure is less than

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[65] Accounts and Papers, Parliamentary Records, 1901, cited in Friedberg, Weary Titan, p. 153.
[66] See Table 10.
[67] This tabulation includes the following locations, which are single new sites unless otherwise noted: Greenland, Iceland, Alaska (two, one being re-used), French Morocco (four), United Kingdom (ten, eight re-used), Guam (re-used), Japan (re-used), Puerto Rico, Spain (four). The figures come from the initial systems cost found in Table 13.

the initial systems cost of two B-52 wings.[68] To extend this figure over the decade requires making some assumptions, for none of these bases were in use for the entire period. I used half of this annual figure for the first three years of the decade, as the sites were not fully acquired. The full annual costs were applied to the middle four years, when the bulk of these sites were supporting rotational bombers. For the final three years, I charged only a third of this cost, as many of the sites reverted to caretaker status and the remainder had only limited use. The annual operating costs over the course of the decade thus comes to approximately five billion dollars.

By my calculations, the total cost of building and operating this collection of overseas bomber bases was a combination of three billion dollar for initial costs and five billion dollars for the annual operating costs throughout the decade: thus, eight billion dollars.

The United States built bombers anyway, even before the bases, and the resulting base costs were expected. The SAC overseas base structure was not firmly in place until the summer of 1951, yet in the five fiscal budgets approved prior to this point Congress had authorized the procurement of 1,645 medium and heavy bombers.[69] Of these aircraft, only three could operate against a distant enemy without overseas bases. The twenty-ninth, and last, SAC wing converted to the B-47 in February 1957, and all of these bombers were dependent on overseas sites. Each of these wings had an initial

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[68] See Tables 10 and 11.

[69] The breakdown of bomber procurement by aircraft type is:

bomber type	FY1948	FY1949	FY1950	FY1951	FY1952
B-50	82				
B-36		39	34	44	57
B-47		147	82	532	625
B-52					3
total	82	186	116	576	685

Source: HQ USAF, SD FY1948-1952

systems cost of $238 million, so the total start up costs of this force was $6.9 billion.

The annual operating cost of this force, at its height, was $1.9 billion--almost three

times the annual cost to operate the entire collection of overseas bomber bases. In 1956

alone, the Air Force spent $5.5 billion on the purchase of new aircraft and their

necessary spare components, almost twice what it cost to build the entire collection of

SAC overseas bomber bases.[70] The cost of overseas bases was a realization cost, which

allowed a much more expensive component of the military budget to serve its purpose.

During the 1950s the combined total of the United States military budgets was

over $426 billion.[71] For eight billion dollars the United States built overseas bomber

bases and SAC used these sites for a decade. Less than two percent of the decade's

military budget had allowed the projection of the nation's very expensive deterrent

force.

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[70] HQ USAF, Air Force Budget, Fiscal Year 1958, p. 23, on file at Government Documents Collection, USAFA.

[71] To be precise this figure was $426.563 billion. This is the combined total of the Total Obligational Authority (TOA) for FY 1950 to FY 1960. Office of the Assistant Secretary of Defense (Comptroller), National Defense Budget Estimates for FY 1985, March 1984.

Chapter 6

Wars and Crises

Our base system and military deployments must be carefully planned to avoid pressing the Sino-Soviet bloc to the point that may incline them to miscalculate our objectives and conclude that our intentions have become aggressive, thereby making them feel obliged to react violently.[1]

The Nash Report, 1957

The use of overseas strategic air bases during the wars and crises of the 1950s

has been approached from many angles. Memoirs of American leaders discuss the

intentions and considerations involved with sending aircraft abroad.[2] Cold War

histories examine the interactive processes among political and military leaders, allies

and adversaries, to explain and to judge the overall national security decisions.[3]

Numerous books on deterrence cite these incidents as case studies to test the validity of

the deterrent concept, and discuss the transmission and reception of underlying threats.[4]

Strategic studies describe the potential capabilities within these events and assess the

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[1] Nash Report, DDEL, p. 8

[2] Truman, Trial; Eisenhower, Mandate and Waging Peace: The White House Years, 1956-1961, (Garden City: Doubleday & Company, Inc., 1963), (hereafter cited as Eisenhower, Waging). See also Dean Acheson, Present at the Creation, (New York: Norton, 1969); Sherman Adams, Firsthand Report: The Story of the Eisenhower Administration, (New York: Harper & Brothers, 1961); John Foster Dulles, "A Policy of Boldness," Life, 19 May 1954, pp. 146-160; Thomas Finletter, Power and Policy, (New York: Harcourt Brace, 1954).

[3] See Ambrose, Globalism, pp. 116-181; Gaddis, Strategies, pp. 89-197; Leffler, Preponderance, pp. 361-495, fixates on the Middle East and Japan, overlooking the majority of SAC bases which were around the European area. The use of overseas bases arises briefly as part of larger strategic issues in sections of Williamson and Rearden, Origins, and Peter J. Roman, Eisenhower and the Missile Gap, (Ithaca: Cornell University Press, 1995), (hereafter cited as Roman, Missile Gap).

[4] See especially Alexander L. George and Richard Smoke, Deterrence in American Foreign Policy: Theory and Practice, (New York: Columbia University Press, 1974), Part Two, which contains case studies from 1948-1962, eight of which are from the 1950s. The earlier works on deterrence, from the late 1950s and 1960s, concentrate almost exclusively on the events from the 1950s. See Paul Nitze, "Brinkmanship and the Averting of War," in Military Policy Papers, The Washington Center of Foreign Policy Research, December 1958; Thomas Schelling, Arms and Influence, (New Haven: Yale University Press, 1966); William W. Kaufmann, "The Requirements of Deterrence," in Kaufmann, ed., Military Policy and National Security, (Princeton: Princeton University Press, 1959).

proximity of nuclear warfare.[5] SAC histories follow an action-reaction model, where a

perceived provocation generated a purposeful SAC response.[6] Base histories,

surprisingly, contain little on the episodes of this era, focusing instead on later decades;

in brief descriptions though, the strategic air bases blend with other regional bases as

heightened activities occurred in response to an incident.[7] The use of these bases is

thus embedded within broader topics, yet even so, specific details abound within these

sources. Elements such as the underlying geopolitics, when and where bombers

deployed, what weapons they carried, the intended purpose of missions, prospective

target lists, and resolution of each conflict, can all be found among these works.[8] This

chapter seeks not to cover issues well-trodden by other historians. My goal is more

specific and my topic more limited. I shall use the wars and crises of this period to

analyze whether these bases fulfilled their intended purpose and assigned roles.

Base Use During International Incidents

The long view of the various wars and crises of the 1950s reveals the changing

nature of overseas bomber bases. To do this requires a broad level of analysis, beyond

the Air Force command structure, to the larger realm of American national strategy.

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[5] The SAC response is imbedded within the framework of nuclear weapons in Freedman, Evolution; Bundy, Danger; Gowing, Independence; and Hewlett and Duncan, Atomic Shield.
[6] See especially Anderton, Two-Thirds, pp. 39-58; Kohn and Harahan, SAW, pp. 86-119; HQ SAC, Fortieth, is basically a report categorizing SAC developments. It specifically links world events and SAC responses, and will be used later in this chapter.
[7] The crises arise only briefly as part of base discussions in Adams, Morocco; Campbell, Unsinkable; Cottrell and Moorer, Problems; Harkavy, Access; Duke, Europe and UK.
[8] A recent book which details the many crises of this period, Timothy J. Botti, Ace in the Hole: Why the United States did not use Nuclear Weapons in the Cold War, 1945-1965, (Westport; Greenwood Press, 1996), (hereafter cited as Botti, Ace in the Hole) which analyzes the American bureaucratic structures and the many levels of decisions surrounding these international incidents. Botti's thesis is that nuclear weapons could indeed prevent a conflict, but that American leaders failed to choose which incidents were vital to American interests, thus diluting the value of these weapons and immersing the US in numerous periphery conflicts of little importance. Botti is very insightful and offers a wealth of new details, but I do find his writing style to be somewhat trite and full of clichés, which often obscure his themes.

Certain specific incidents will be examined, but only as turning points for larger issues. The goal here is to appraise general themes and variations with these sites, a collective analysis over the course of the decade.

Not all of the incidents of the 1950s warranted a strategic response, American leaders had to be selective when projecting the SAC bomber force abroad. The essence of the bomber base strategy was asymmetry and, according to Gaddis, "asymmetry recognizes the reality of limited resources, and stresses the need to pick and choose the manner of one's response...emphasizing the need to act in circumstances, at times, and in ways calculated to apply one's one strengths against adversary weaknesses."[9] The following table lists SAC base use, stateside and overseas, during several international incidents. This list is not all-inclusive, but will enable some collective observations. This information comes primarily from a report prepared by the Office of the Historian, Headquarters SAC, titled The Development of Strategic Air Command, 1946-1986: The Fortieth Anniversary History. The listed responses are tied directly to the incidents. It should be noted though that this table only shows changes which occurred. Overseas, SAC bases and bombers were constants. Responses to these events should not obscure the fact that SAC bombers remained on SAC bases overseas throughout the entire period.

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[9] Gaddis, Strategies, p. 353.

Table 12
Changes to SAC Bases During International Incidents, 1950s

year	incident	overseas response	overseas bases involved	stateside base response
1950	Korean War begins	bomber deployments	Guam, Okinawa, UK	
1953	Stalin's death & E Berlin uprising	first B-47 rotational tour	UK	
	Korean War truce	announced deployment of nuclear weapon	Guam	
	Korean War ends	8 B-36s tour Far East	Guam, Okinawa, Japan	
1954	Quemoy and Matsu I	first B-36 rotational tour	Guam	
1956	Suez War	tankers deploy	Greenland, Labrador, Newfoundland	1,000 aircraft exercise throughout North America and Arctic
1957	Sputnik	ground alert*	Morocco	ground alert*
1958	Lebanon			1,100 aircraft on alert
	Quemoy and Matsu II	increased alert	Guam	bomb wings prepared to deploy

*SAC ground alert procedures began the same month as Sputnik, but preceded the Soviet satellite. Guam and Okinawa were used by SAC, but not controlled by the command. Andersen AFB on Guam did eventually become a SAC base in 1955. Sources: HQ SAC, Fortieth; Anderton, Two-Thirds.

The information is this table is best presented as three phases, which are chronological and correspond to the time periods previously discussed.

The first period, the Korean War years (June 1950 to September 1953), was an era of preeminence for SAC bombers and SAC bases. Despite the frustrations air leaders felt with the limited war in Korea, SAC bombers remained the only means of threatening the homeland of the Soviet Union and its alleged junior partner, Red China. At this time the command had only a limited number of overseas bases, but the deployment of SAC bombers to these sites served exclusively as America's strategic--in the narrow sense of offensive air power, the capability to attack the enemy homeland--

response to major international incidents. A phrase used by one author of a SAC history well describes this period, "Whatever the Russians were able to conjure up was going to be countered, time after time, by the appearance of a portion of SAC's deterrent force."[10] When the Korean War began, SAC bombers went east to Guam and Okinawa, and west to the United Kingdom. The first deployment went to fight the Korean War, the second, to prevent World War III. To strengthen SAC's presence abroad, and thus its deterrent capability towards the Soviet Union, additional bomber bases were constructed in French Morocco, Alaska, Greenland, Iceland, and Libya, all of which would see major deployments by the command during these early years of the decade.

The first half of 1953 was a period of uneasy Cold War tensions. Stalin died in March, precipitating a power struggle among Soviet leaders and open strategy discussions among Soviet generals. A troika formed to rule the Soviet Union, and in May, Soviet leaders imposed new work quotas within their zone of occupation in Germany. In early June SAC's first operational B-47 wing, the 306th Bombardment Wing (Medium), had arrived in the United Kingdom.[11] Ninety days later, the second SAC B-47 wing replaced it, and a B-47 rotation cycle began, one that would remain unbroken for the next five years. Table 12 shows that the initial SAC deployment of 1953 was the last change that occurred among European bomber bases as a direct response to an international crisis.

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[10] Anderton, Two-Thirds, p. 48. This description well-fits the Korean War period, but not the later years of the decade.
[11] Anderton credits the rise of work quotas as the cause of the B-47 deployment, whereas the SAC historians call the this first B-47 deployment merely a "graduation exercise." Anderton, Two-Thirds, p. 43; HQ SAC, Fortieth, p. 45.

Bomber bases in the Far East played a direct role in the Korean War truce.[12]

When Eisenhower became exacerbated with the peace talks, he authorized John Foster

Dulles to tell Indian Prime Minister Jawaharlal Nehru, "If the armistice negotiations

collapsed, the United States would probably make a stronger rather than a lesser military

exertion and this might well extend the area of conflict."[13] Diplomatic leaks told the

Chinese and the Soviets that nuclear weapons had been deployed for SAC bombers on

Guam.[14] The reception, transmittal, and reaction to this threat remains contentious, but

according to Eisenhower, this threat was the key to ending the war.[15]

This was a threat towards a second nation to compel a first to do something, and

in the process, these SAC bases became part of a complex American strategy, one which

shifted away from its original constructs. As Gaddis points out, this threat was even

more difficult, and could have been unenforceable, for South Korea was just as likely to

break the armistice.[16] Historian Edward Keefer argues that this was more than a mere

threat, Eisenhower was fully prepared to extend the war.[17] If SAC bombers attacked

China, American leaders were well aware there would be serious ramifications among

political allies, even if the attacks were quick and successful. When discussed at an

NSC meeting in May 1953, Undersecretary of State Walter Bedell Smith told

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[12] The most thorough assessment of these events remains Edward C. Keefer, "President Dwight D. Eisenhower and the End of the Korean War," Diplomatic History, vol. 10, no. 3, Summer 1986, pp. 276-289, (hereafter cited as Keefer, "End"), which discusses the high-level American options and decisions.

[13] Memorandum of Conversation by Dulles, 21 May 1953, FRUS, 1952-1954, 15:1068-1069.

[14] This was the first public utterance, but SAC bombers on Guam had possessed complete nuclear bombs since April 1951.

[15] Eisenhower, Mandate, pp. 178-187. The many contending views on this threat are recounted in Keefer, "End," pp. 280-281.

[16] South Korean President Syngman Rhee opposed the armistice and proved this when he released 25,000 North Korean prisoners of war at a crucial moment, almost destroying the armistice talks. FRUS, 1952-1954, 15:1196-1197.

[17] He concludes, "it was not an idle bluff or a means of appeasing the Republican right but a possible strategy for a military victory if the Chinese refused to agree to a satisfactory truce...Ultimately, Eisenhower ended the war by accepting the possibility of atomic warfare and even global conflict." Keefer, "End," pp. 288-289.

Eisenhower that attacking China was "fraught with danger for us from the point of view of our allies" and that NATO Alliance would "fall to pieces temporarily."[18] But the war ended on 26 July 1953, and to underline the ongoing strategic threat, eight SAC B-36s left soon thereafter on Operation BIG STICK, a thirty day tour of American bases on Okinawa, Japan, and Guam.

The New Look period (from October 1953 to October 1957) contained two major international incidents, and each was a significant transition point with the use of overseas bomber bases. The first Quemoy and Matsu crisis would, according to Eisenhower, "extend through nine months, threaten a split between the United States and nearly all its allies, and seemingly carry the country to the edge of war."[19] The 1954 incident has received great attention among works already cited and they are quite critical of the American leaders for elevated a minor event in an area of little consequence into a major international crisis. They do acknowledge that the crisis was resolved in favor of the United States, but question the appropriateness of threatening to ignite a possible world war over the fate of some disputed rocky outcrops.[20] In regards to SAC bases, strategic forces were, again, directed towards China, without a noticeable change in posture towards the Soviet Union. In the Far East SAC forces were only a small part of the American deployment though, for the most prominent American presence was the Seventh Fleet in the Formosa Straits. The prospective targets of coastal China were all easily accessible by means other than SAC bombers--long-range artillery from the islands, naval artillery, and naval air strikes. Although deeper inland

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[18] Discussion at 144th NSC Meeting, 13 May 1953, FRUS, 1952-1954, 15:1012-1017.

[19] Eisenhower, Mandate, pp. 459-460.

[20] See Gaddis, Strategies, pp. 169-172, 194-195; Ambrose, Globalism, pp. 147-149; Watson, JCS, pp. 261-266; Bundy, Danger, pp. 273-286; Botti, Ace in the Hole, pp. 67-77; Eisenhower, Mandate, pp. 459-483; Brodie, Missile Age, pp. 273-286. Watson's account is the only one not critical, but it is largely a summation of the American actions.

regions of China could still only be reached by SAC bombers, other weapons systems were considered sufficient to resolve the situation should the crisis escalate. Nuclear weapons were, according to a number of scholars, under active consideration during this crisis.[21] According to public pronouncements by Secretary Dulles, these nuclear weapons were "new and powerful weapons of precision, which can utterly destroy military targets without endangering unrelated civilian centers."[22] In other words, they were tactical nuclear weapons, much smaller, for use near the zone of conflict.[23]

Nuclear weapons were no longer merely the realm of SAC bombers. Although at this time SAC bombers still remained the only means of delivering the larger and heavier strategic weapons, there were several methods of delivering lighter, less destructive nuclear weapons on tactical targets. In 1952 the Army had deployed an atomic artillery projectile for its 280 mm cannon. By 1953 the Army had atomic warheads for the CORPORAL tactical missile system, and the following year the HONEST JOHN tactical missile system also had them. (By 1955, the American Army would even deploy a nuclear land mine, the Atomic Demolition Munition). The Navy began mounting atomic warheads on its REGULUS I cruise missiles in 1952.[24] These

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[21] Gaddis finds that during the two incidents over these islands "the administration appears to have come closest to using nuclear weapons," over situations which "least called for them." Strategies, p. 169. Of the 1954 crisis Ambrose writes, "At no other time in the Cold War did the United States come so close to launching a preventive war." Globalism, p. 148.

[22] Cited in Bundy, Danger, p. 277. Eisenhower and Dulles discuss the possible use of nuclear weapons, agreeing that atomic weapons would have to be used to defend the islands, but these would not be the new hydrogen bombs then being carried by SAC bombers. Memorandum of Conference, Eisenhower and Dulles, 6 March 1955, FRUS, 1955-1957, 2:336-338.

[23] According to Botti, the thirty SAC B-36s on Guam already had Chinese targets selected and assigned to crews, but this was only a backup, in case the tactical atomic attacks carried out by other forces failed to resolve the conflict. See discussion in Ace in the Hole, p. 73.

[24] Nuclear warheads will be discussed in greater detail in Chapter 8, as will alternative delivery vehicles. The information on American tactical nuclear weapons can be found in Cochran, et al, Databook, pp. 7-11; Chuck Hansen, US Nuclear Weapons: The Secret History, (Arlington: Aerofax, Inc., 1988), (Hereafter cited as Hansen, Secret History), pp. 189-203. See also Kenneth Gerald Comfort, "National Security and the Development of Tactical Nuclear Weapons: 1948-1958," Ph.D. diss., Columbia University, 1970.

shorter-range systems could strengthen tactical units and offset any manpower inferiority--roles which were previously filled by SAC bombers.

On 12 September 1954 Eisenhower rejected the JCS suggestion that American forces should help the Chinese nationalists bomb the mainland and hold the islands. Eisenhower realized the gravity of the situation, stating "we are not talking now about a limited, brush-fire war. We're talking about going to the threshold of World War III."[25] During this crisis Eisenhower used many of the means at his disposal, and SAC forces in the Far East were merely part of the package. On 15 October 1954 a SAC B-36 wing left for a ninety day deployment on Guam. This was the first time an entire B-36 wing deployed outside the continental United States.[26]

Eisenhower sought to avoid another limited war and he recognized the primary focus of American strategy, telling the Joint Chiefs: "If we attack China we are not going to impose limits on our military actions, as in Korea. Moreover, if we get into a general war, the logical enemy will be Russia, not China, and we'll have to strike there."[27] In February 1955, as the crisis lingered, Eisenhower wrote a letter to Churchill, revealing his thoughts on the Soviet Union's support of China, and also the role of SAC:

> I do not believe that Russia wants war at his time--in fact, I do not believe that even if we became engaged in a serious fight along the coast of China, Russia would want to intervene with her own forces. ... But I am convinced that Russia does not want, at this moment, to experiment with means of defense against the bombing that we could conduct against her mainland.[28]

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[25] Eisenhower, <u>Mandate</u>, p. 464
[26] HQ SAC, <u>Fortieth</u>, p. 51.
[27] Eisenhower, <u>Mandate</u>, p. 464.
[28] Cited in Eisenhower, <u>Mandate</u>, pp. 470-471. Churchill remained unconvinced though, telling Eisenhower that "a war to keep the coastal islands for Chiang would not be defensible" in Britain.

Throughout this crisis the bulk of SAC's overseas forces were on bases around Europe, to maintain a credible threat towards the Soviet Union.

The Suez War of 1956 was the pivot point in regards to SAC base use, a transition from an active response overseas to a show of force from bases within the continental United States. According to the aforementioned SAC report: "In reacting to the Suez Crisis from mid-November to mid-December, SAC took several actions to place its force in readiness and to demonstrate to the world the high degree of readiness maintained by its bomber force." But this response caused no changes among SAC's overseas bomber bases. The United States did not send any more bombers abroad during the conflict. The three rotational wings abroad stayed in place: a B-47 wing in England, another in Morocco, and a B-36 wing on Guam. Overseas bases were used, but not for bombers: SAC tankers massed in the northern United States and deployed to Greenland, Newfoundland, and Labrador. To show the high state of readiness, SAC conducted its largest and most complex exercise to date, but this did not involve overseas bomber bases. For two weeks, one thousand SAC aircraft flew simulated combat missions throughout North America and the Arctic.[29] This was a watershed in the use of overseas bases, and through it can be seen that SAC was moving away from the perimeter strategy which had relied on forward bomber bases, towards a polar strategy with bombers based in the United States.

The last period, Sputnik (from late 1957 to late 1960), was a continuation of the movement to polar operations. The period began two weeks before the launch of the Soviet satellite, when SAC instituted ground alert procedures at Sidi Slimane, Morocco,

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[29] This was actually two, closely-related exercises (POWER HOUSE and ROAD BLOCK) which began in late November 1956 and lasted two weeks. HQ SAC, Fortieth, p. 59.

and selected stateside bases. This practice was known as REFLEX ACTION (often shortened merely to REFLEX) and it would be the norm for SAC overseas bomber operations for the remainder of the decade.[30] The SAC responses during this period can best be seen by the lower right of Table 12, for few changes occurred at SAC overseas bases during this final period. The Lebanon crisis prompted Eisenhower to place the entire SAC force on alert, and within hours over one thousand aircraft were ready for takeoff. But these SAC forces were merely in the background of this crisis, not the major forces involved, and their posture was gradually reduced.[31] The second Quemoy and Matsu crisis, as compared to the first, was even more of a diminution of SAC's role. At the start of the crisis SAC had bombers on routine alert on Guam, this force was increased and additional stateside bomb wings prepared to deploy. But SAC was only a minor player, and the command's status quickly returned to normal.

Crisis Assessment

Several observations can be made concerning the use of overseas bomber bases during the wars and crises of the 1950s. The first involves the United Kingdom, which in regards to SAC bases, represented America's most important ally. In spite of Anglo-American disagreements over the Quemoy and Matsu crises, and the fractious relations which sprang from the Suez War, the question of SAC access to bases in the United Kingdom remained unaffected. The SAC wing rotations in England continued through April 1958, and ground alert procedures began early that year. The number of occupied

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[30] The last SAC REFLEX bombers left from an overseas base in the spring of 1965. For a detailed account of REFLEX operations, see Lindsay Peacock, Boeing B-47 Stratojet, (London: Osprey Publishing Limited, 1987), pp. 137-156, (hereafter cited as Peacock, B-47). Units, procedures, and bases are all thoroughly discussed by Peacock.

[31] HQ SAC, Fortieth, p. 73.

SAC REFLEX bases in England peaked in early 1959, and would continue on a reduced basis into the next decade.[32] Despite continual Anglo-American political differences over issues in the Far East and Middle East, the role of SAC bases in the United Kingdom remained on a solid foundation throughout the decade.

The second observation concerns the growing capability of the American military. The use of bombers during these international incidents declined throughout the decade, as other weapons, other forces, other means, could be used to resolve a crisis. SAC forces were a strategic backstop, but excepting the end of the Korean War, never the primary means of influencing any of these events. American and allied forces continued to grow and the military buildup initiated with the outbreak of the Korean War would be felt for the remainder of the decade. SAC held operational control over all strategic nuclear weapons until the end of the decade, but other forces and other countries acquired smaller nuclear weapons. Tactical nuclear weapons, or the threat thereof, began to offset any inferiority of ground forces. For actual crises which did occur, the strategic umbrella offered by SAC bombers through the use of SAC bases carried less importance as the decade progressed.

The next observation is the most basic, fundamental, and far-reaching: World War III did not occur. This is the most obvious point of the wars and crises of the 1950s, the decade was filled with "nonevents."[33] As McGeorge Bundy has pointed out, "What has actually happened should not blind us to the significance of what has not."[34] SAC overseas bases were designed for deterrence, especially in regards to Western Europe, and no territory changed hands across the Iron Curtain, nor did any conflicts

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[32] Peacock, B-47, pp. 140-144.
[33] See Robert Jervis, "The Military History of the Cold War," Diplomatic History, vol. 15, Winter 1991, pp. 91-113.
[34] Bundy, Danger, p. 594.

spread across the area. Certainly, SAC bases should gain only partial credit for this, but their contribution should not be overlooked. The last time an American unit engaged in combat during this decade was 26 July 1953.[35]

Alvin Cottrell has assessed Soviet pronouncements regarding American strategic air bases over the course of the decade, and I fully agree with his statement: "So long as American military power is physically present at the frontiers...Soviet crisis strategy runs the constant risk of detonating general nuclear war."[36] The stakes of escalation were too high, and all the players knew that. SAC bases overseas allowed the United States to become a credible strategic threat throughout the decade, and that must have remained a major consideration for enemy leaders.

SAC bomber bases thus become embedded within much larger themes. Critics of American national security strategy of this decade claim that reliance on strategic air power (generally lumped together with nuclear weapons and Massive Retaliation) encouraged other, lesser forms of conflicts. This remains difficult to measure. But whether or not the capability of SAC bombers, the presence of SAC bases, or the reliance upon nuclear weapons encouraged small-scale combat misses a larger point: these smaller conflicts, whatever their cause, never grew. And in large measure this was due to the projection of American strategic air power allowed by overseas bomber bases.

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[35] Eisenhower, Mandate, pp. 189-190.
[36] Cottrell, "Soviet Views," p. 94.

Chapter 7

Aircraft Issues and Implications

Within the limits of the money given to us we should endeavor to free the Air Force as much as possible from the requirements for overseas bases in the hands of other powers.[1]

General Hoyt S. Vandenberg, 1951

Previous base historiography is weak on aircraft technical issues, yet these factors are pivotal to a thorough understanding of the development of overseas bomber bases. Bomber bases did not merely arise and disappear, there was a continuum of thought, choices, and policies which brought them into existence and then decline. Throughout, aircraft technical issues were central. The American bomber force was constantly changing and maturing, and an analysis of the period before, and after, the development of overseas bases is required.

Quest for an Intercontinental Bomber

Before the Korean War, even before Pearl Harbor, the United States had sought to acquire an aircraft capable of launching from North America, attacking targets in Eurasia, and then returning to North America. The B-52 force which finally emerged was the product of a long, difficult, expensive, technological journey, one which lasted almost two decades.[2] To grasp the interim position occupied by overseas bomber

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[1] Senate Testimony, 'Department of Defense Appropriations for 1952,' cited in Futrell, Ideas, p. 322.
[2] The most thorough account of American bombers during this period can be found in Knaack, Bombers. It provided a wealth of empirical data for this chapter.

bases, it is necessary to return to an earlier period, and examine the technical issues involved in the many attempts at extending bomber radius of action.

In the summer of 1940, with Axis forces controlling most of Western Europe and Germany mounting aerial attacks on the United Kingdom, American leaders realized access could be lost to potential bases in Europe and directed the Air Corps to began studies of a long range bomber.[3] In April 1941 the Air Corps opened design competition for a new bomber with an unprecedented overall range of twelve thousand miles, capable of flying halfway around the world. Four months later, responding to protests from aircraft manufacturers, the Air Corps reduced this overall range to ten thousand miles, but added the stipulation of a combat radius (carrying a specified bomb load on a round-trip mission profile) of four thousand miles, five times that of the B-17 --the most capable bomber then in existence--and would allow American bombers to attack targets directly from the continental United States. In November 1941, the month before American entry in to the war, the newly-named Army Air Forces (AAF) placed initial contracts with Consolidated Corporation for what would become the B-36 Peacemaker. The following month, the service also signed a contract with Northrop for the B-35 Flying Wing, with a specified combat radius of eight thousand miles. But wartime requirements gave priority to bombers already in production, and the when

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[3] Hearings before the US House Committee on Armed Services, "Investigation of the B-36 Bomber Program," 81st Congress, 1st session, 5 October 1949, (Washington: USGPO, 1949), p. 46. See also testimony of LeMay and Symington, 84th Congress, SOAP, p. 130 and 1707. The RAF victory in the Battle of Britain ensured retention of possible American bases in the UK, and the US moved quickly to formalize arrangements. The ABC-1 Conferences, a series of joint strategy meetings between American and British officers held in Washington from January to March 1941, planned to base thirty-two American bomb squadrons in the United Kingdom upon American entry into the war. Craven and Cate, AAF in WW II, vol. I, pp. 136-138; Hansell, Germany and Japan, pp. 29-31.

prototypes of these long range bombers prototypes were delivered after the war, they failed to achieve intercontinental distances.[4]

Before the end of the war, AAF Headquarters anticipated losing many overseas bases in the post-war period and directed Air Materiel Command (the major command responsible for development of new aircraft) to formalize military characteristics for yet another long range bomber. An AAF directive written in June 1945 stressed "the need for this country to be capable of carrying out the strategic mission without dependence upon advanced and intermediate bases controlled by other countries."[5]

Extending bomber range proved immensely frustrating in the decade after World War II. For bomber designs, turboprop engines had reached the point of diminishing returns: increasing the radius meant increasing the size--so more fuel could be carried--causing a circular problem, more fuel meant greater weight and a thus a higher fuel consumption.[6] An increase in weight reduced the service ceiling (altitude) and maximum airspeed, which would force the plane to operate in the more lethal lower altitude regime. Also, fewer runways could accommodate very heavy aircraft (the B-52 weighed six times the B-17 and could only operate from specially stressed runways).[7]

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[4]The early models of the B-36, finally delivered in 1948, had a combat radius less than three thousand miles. Although not the hoped-for intercontinental bomber, the B-36 was the longest range bomber then available and entered full-scale production. The B-35 prototype, once tested, had a combat radius of only 1,300 miles--considerably less that B-29s then in the inventory--and was canceled in 1949. Knaack, Bombers, pp. 3-5, 497-508, 553-558.

[5] This was for the program that eventually grew into the B-52. Cited in Knaack, Bombers, pp. 206-207.

[6] The original Boeing proposal for the B-52 (straight wings and propeller engines) estimated that to reach intercontinental range the bomber would have to weigh 600,000 pounds--six times the weight of the B-29. Moody, Building, pp. 102-103; Wohlstetter, et al, RAND R-266, pp. xiii, 23-24; R.B. Murrow, R.S. Schairer, and C.V. Sturdevant, "Bomber Capabilities--1954 Turboprop versus Turbojet Powerplants," RAND Report R-171, 1 February 1950 (hereafter cited as Murrow, et al, RAND R-171).

[7] SAC even had trouble at their own bases: the initial deployment of B-36s to French Morocco in December 1951 left considerable damage, because the taxiways and parking ramps were not stressed for the Air Force's heaviest bomber, which had a combat weight of over a quarter million pounds. This issue is discussed throughout Congressional hearings called to examine problems at SAC bases in North Africa, 82nd Congress, 2nd Session, 1, 21, 22 February 1952 (Washington: USGPO, 1952), (hereafter cited as 82nd Congress, "Hiring Overseas"). For aircraft weight and runway use, see 84th Congress, SOAP, pp. 394-399, 1483.

Another prominent consideration, especially in the stringent post-war budget climate of the late 1940s, was that larger aircraft cost more. The B-29 and B-36 had comparable airspeeds and altitudes, and were produced concurrently, but (with all other capabilities aside) to gain a thousand miles of range drove the cost per aircraft from $639,000 for the B-29, to $4.15 million for the B-36.[8]

By 1945 jet engines were available, but considered impractical for strategic bombers due to high fuel consumption and unreliability. The four bombers under AAF contract in 1946 (the B-29, B-35, B-36, and B-52) all used turboprop engines. But jet engines gained favor over the next few years, and modifications were made to bombers caught in this transitional period.[9] Jet engines allowed greater speed, but range problems persisted, fuel tended to boil off at high altitudes and fuel consumption soared; the B-47B had a radius of action equal to that of the B-29, but required four times the fuel load.[10]

If the delivery platforms could not be changed at this time, perhaps tactics could be, thus reducing reliance on overseas bomber bases. Simple arithmetic shows that a one-way combat mission would double the effective distance these bombers could operate. This, obviously, was not a popular topic with aircrews, but it was a feasible alternative.[11] The matter ultimately rested on relative value: did the benefit of a

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[8] These costs continued with the next generation of strategic bombers. The B-47 and B-52 were both built concurrently by Boeing, and had similar speed and altitude capabilities; the B-47E cost $1.87 million, while the much larger B-52G cost $7.32 million. HQ USAF, SD FY1958. See also, Wohlstetter, et al, RAND R-266, pp. 61-63.

[9] The AAF placed an initial procurement order for a jet version of the B-35 (the B-49, jet Flying Wing), but it could only fly one hundred miles farther than its predecessor, and was canceled in 1950. In May 1948 the AAF requested Boeing to incorporate jet engines into modifications of the developing B-52. In 1949, jet engines were mounted on the B-36D, making it a true hybrid, with six rearward-facing propellers and four forward-facing jets.

[10] Knaack, Bombers, p. 156, 393. For specific comparisons between the two forms of propulsion, see Murrow, et al, RAND R-171.

[11] The first post-war emergency war plan listed one-way missions for bombers of the 509th Bomb Group, flying from bases in England. "Air Plan for MAKEFAST," 1 October 1946, Tab C, cited in Larry

strategic attack outweigh the loss of an aircraft and possibly its crew? Lieutenant

General Earle E. Partridge, head of the Research and Development Command, summed

up the situation at an Aircraft and Weapons Board meeting in 1947: "Expend the crew,

expend the bomb, expend the airplane all at once. Kiss them goodbye and let them go.

That is a pretty cold-blooded point of view," then considering that no other options

existed, he added, "but I believe that it is economically best for the country."[12] This was

before NATO, before the accumulation of forward bases for SAC. American bombers

had no firm overseas locations available. But the tactic was never tested, for by the

early 1950s, with the development of alliances and bases around the world, one way

missions were no longer a consideration.

A derivative of this one way mission was to just send the bomber, without the

crew. Similar attempts had been unsuccessful before, but a new push for the concept

emerged in 1950, when Air Force engineers worried that a bomber might not be able to

escape from the blast of the ever-increasing power of nuclear weapons.[13] That same

year the Air Force requested Boeing to begin an aircraft modification program, labeled

BRASS RING, which produced a DB-47A director aircraft and a QB-47B remote-

controlled drone. These two aircraft successfully conducted several test flights, but

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Dean O'Brien, "National Security and the New Warfare: Defense Policy, War Planning, and Nuclear
Weapons, 1945-1950," Ph.D. diss., The Ohio State University, 1981, pp. 125-126. One SAC bomb group
commander advocated one-way missions in a 1947 article, see Colonel Dale O. Smith, "One Way
Combat," Air University Quarterly Review, Fall 1947, pp. 3-8.

[12] From a board meeting held 21 August 1947, cited in Moody, Building, p. 109.

[13] The short-lived AAF APHRODITE Program of 1944 involved a B-17 proceeding on remote control
after the crew bailed out, the Navy had disappointing results using a remote control B-24 during World
War II, and the Air Force BANSHEE Program was canceled in April 1949 after attempting the same
procedure with a B-29. Kenneth P. Werrell, Evolution of the Cruise Missile, (Maxwell Air Force Base:
Air University Press, 1985), (hereafter cited as Werrell, Cruise Missile), pp. 32-35, 81-82.

development of new nuclear bomb delivery procedures and overseas bases led the Air

Staff to cancel the program in April 1953.[14]

Another possible solution to the problem of limited bomber range was new fuel

sources. The Atomic Energy Commission (AEC) began feasibility studies in 1946 with

the Nuclear Energy Propulsion for Aircraft (NEPA) program. This revolutionary energy

source was intrinsically appealing to military leaders and politicians. Theoretically, one

pound of uranium fuel could propel a bomber around the Earth eighty times, freeing the

United States from the need for overseas bases and allowing tremendous strategic access

to enemy nations. Endorsing the program before the AEC the next year, the AAF

Deputy Chief of Staff for Research and Development, Major General Curtis LeMay,

stressed that future wars might be fought without the benefit of overseas air bases,

therefore the United States needed a nuclear-powered intercontinental bomber within

the next five years. But putting a nuclear reactor within an aircraft posed tremendous

challenges: the reactor would have to be small and lightweight, the airframe would have

to withstand extreme heat, and the crew would need protection from the radiation. Early

difficulties kept the program only in research stages.[15]

In 1951 the Joint Chiefs of Staff announced a military requirement for a nuclear-

powered bomber, and the now-titled Aircraft Nuclear Propulsion (ANP) program moved

from research to engineering development. In September 1951, the Air Force awarded a

contract to Consolidated Vultee to build the world's first atomic-powered plane.

General Electric, one of two main contractors selected to build the reactor engine,

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[14] Knaack, Bombers, p. 125-128. The Air Force actually formed a "pilotless bomber squadron" in September 1951 at the Missile Test Center, Cocoa Beach, Florida.

[15] Hewlett and Duncan, Atomic Shield, pp. 106-107; Michael Brown, Flying Blind: The Politics of the US Strategic Bomber Program, (Ithaca: Cornell University Press, 1992), (hereafter cited as Brown, Blind), pp. 194-210. Wohlstetter, et al, RAND R-266, pp. 64, 66.

estimated the revolutionary device could be delivered within five years, but this soon

slipped to seven as difficulties mounted and costs climbed. The AEC cut back funding

in 1952, deciding to concentrate efforts on more promising projects. In early 1953,

President Eisenhower opposed the program, the National Security Council

recommended cancellation, and the program was eliminated from the fiscal year 1954

budget. Despite continued political opposition and growing scientific skepticism, the

Air Force spent previously committed funds for the remainder of the decade.[16] In early

1961, President John F. Kennedy finally terminated the program. Altogether, this

propulsion chimera took fifteen years and one billion dollars, and did not produce even

a single prototype.[17]

In an exhaustive study of American strategic bomber acquisition, political

scientist Michael Brown finds that, repeatedly, "The Air Force placed a higher premium

on systems performance that it did on availability or cost...Given a choice on the mix of

program outcomes, the Air Force was not willing to trade away performance for time or

money."[18] Continually throughout this post-war period the Air Force "ratcheted up"

requirements, pushing aircraft manufacturers to deliver a product far different, and more

capable, than originally conceived. Air leaders sought to heighten requirements of

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[16] In 1954, when budget cuts stripped funds from the ANP program, the Air Force launched two concurrent research programs for new fuel sources, chemical propulsion and a combination of chemical and nuclear propulsion. Air Force specifications demanded a combat radius of 4,600 miles, but both programs were far beyond the current state of the art and despite Air Force hopes that that technology would catch up, it never did. Hewlett and Duncan, Atomic Shield, pp. 419-420, 489-490; Brown, Blind, pp. 200-205. The Air Force budget for 1959 included $39.6 million for the nuclear-powered bomber, and another $96 million for the chemical-powered bomber, but neither of these futuristic proposals ever moved beyond the conceptual stage. Budget figures, see LOC MRR, White, box 5, file Budget, folder 'Aircraft and Related Procurement Appropriations, FY 1958 and FY 1959, Aircraft Summary.'

[17] Hewlett and Duncan, Atomic Shield, pp. 71-74, 106-107, 189, 490-493; see also Vincent Cartright, "Dream of Atomic Powered Flight," Aviation History, March 1995; and W. Henry Lambright, Shooting Down the Nuclear Plane, (Indianapolis: Bobbs-Merrill, 1967).

[18] Brown returns to this theme repeatedly for bombers sought from 1941 through the 1970s. Brown, Blind, pp. 106, 146, 157.

speed, armaments, altitude, and range; this forced trade-offs, and of the variables range proved the most difficult to manipulate, for it brought substantial reductions to the others.[19]

More than a decade after World War II, the Air Force still did not have an adequate intercontinental bomber force. In 1954, as the SAC overseas base network rapidly developed, RAND Report R-266 stated:

> It is a most significant fact that, for the present and for some time to come, the Air Force has selected an overseas base system and has developed a force of bomber systems for operation at considerably less than intercontinental range. So far as an unrefueled, single-stage, two-way operation is concerned, we do not now have any bomber system capable of starting from the United States and hitting a significant number of Russian targets, and returning home.[20]

In the summer of 1955, during an ongoing correspondence with the Second Air Force Commander, LeMay wrote, "We must develop a true intercontinental bombing capability as quickly as possible." And, assessing the B-52 force, concluded "it will be several years before we can possibly realize even the minimum level in the SAC inventory that I consider necessary."[21] In late 1957, the Nash Report also stated, "We have not yet developed a truly intercontinental bomber."[22] Production, training, and conversion of the B-52 force would not be complete until the end of the decade.

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[19] Wohlstetter, et al, RAND R-266, pp. 61-63.
[20] Wohlstetter, et al, RAND R-266, pp. 29-30.
[21] Letter LeMay to Major General Frank A. Armstrong, 26 July 1955, LOC MRR, LeMay, box 207.
[22] Nash Report, DDEL, p. 9.

SAC Bomber Force Composition

Still, the United States possessed a huge strategic bomber force in the 1950s.

The following table lists combat ready SAC bombers, those fully equipped with the

systems, weapons, instruments, and crews necessary for inclusion in strategic warplans.

Table 13
SAC Combat Ready Bombers, 1950-1960

	B-29	B-50	B-36	B-47	B-52	total
1950	206	78	4			288
1951	179	105	33			317
1952	250	126	41			417
1953	177	137	51	62		427
1954	88	55	101	319		563
1955		5	143	649		797
1956			128	879	17	1,024
1957			95	906	97	1,098
1958			29	1,059	251	1,339
1959				1,225	315	1,540
1960				1,002	413	1,415

SAC held many more bombers (the official SAC history for 1958 lists 1,367 B-47s and 380 B-52s), but the additional aircraft were not fully combat ready. The B-58 was in the inventory, but not combat ready until after 1960. Source: data from HQ USAF, SD FY1950-1960.

The massive expansion of the SAC bomber force is evident, a five-fold increase in ten

years. A comparison will put this force in perspective. In 1959 the total number of

aircraft owned by all thirty-nine airlines in the United States was 1,596. SAC bombers

alone could match the entire American commercial aviation industry, almost plane for

plane.[23] As for aircraft category, medium bombers formed the bulk of America's

strategic arsenal throughout the 1950s, for only the B-36 and the B-52 were heavy

bombers.[24]

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[23] US Bureau of the Census, Historical Statistics, p. 769.
[24] By 1950 bombers were classified only by weight, when fully loaded with fuel, crew, and weapons. A medium bomber weighed between 100,00 and 250,000 pounds, while a heavy bomber was over a quarter million pounds. See 'Prominent Terms.' For aircraft specifications and capabilities, see Knaack, Bombers.

The B-47 was the primary vehicle for strategic warfare in the mid to late 1950s. Altogether, counting all versions of the plane, the Air Force accepted over two thousand B-47s, which, if laid wingtip-to-wingtip, would stretch almost forty-five miles.[25] But this aircraft, like the bases to which it flew, was nevertheless only a gap-filler, designed to bridge the period until development of longer range strategic platforms. The last B-47 was delivered in 1957, the very year SAC overseas bases reached their peak. That same year the Stratojet began retiring from the operational inventory, and in 1966, the last SAC B-47 went into storage.[26]

The Stratojet, like its predecessors, needed forward bases. The B-47 was the most-purchased aircraft in SAC history, yet it had a combat radius only slightly greater than bombers of late World War II.[27] During Congressional hearings in 1956, the Secretary of Defense, the Secretary of the Air Force, the Air Force Chief of Staff, and the SAC Commander all testified that the B-47 required forward operating bases in order to conduct operations within the interior of the Soviet Union. The resulting report from the Senate Subcommittee of the Air Force emphasized the limitations of this aircraft:

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[25] The Air Force accepted a total of 2,041 B-47s. The bomber versions comprised the majority (397 B-47Bs, and 1,341 B-47Es), while other production versions were used for testing and reconnaissance. Post-production modifications retrofitted some aircraft to become aerial tankers, combat crew trainers, drones, and weather reconnaissance platforms. Knaack, Bombers, p. 155.

[26] Interim position of B-47, see Moody, Building, pp. 103-104; Borgiasz, SAC, pp. 94-96. Production and delivery, see HQ USAF, SD FY1957; retirement, see Knaack, Bombers, p. 144.

[27] The B-47A had a combat radius of 1,350 miles, the B-47B 1,704 miles, both less than later models of the B-29. The B-47E had more powerful engines installed, to carry more fuel and extend its combat radius. The B-47E-II had stronger landing gear installed for the same reason. These "heavyweight standards" allowed the radius to reach over two-thousand miles, and in March 1955 the Air Force directed that all previous B-47 models be modified to the new standards. Knaack, Bombers, p. 137.

At the present time [1957] most of the strength of our Strategic Air Command lies in the medium range B-47 bomber, the effectiveness of which is reduced substantially unless the planned overseas base structure becomes a reality. In fact, the entire B-47 program was activated, and the bombers were produced in heavy quantities, with the premise of the availability of these foreign bases.[28]

The B-47 was not alone with this range deficiency, the same problem plagued

the entire collection of post-war bombers until the end of the 1950s:

Table 14
Combat Radius of Action
SAC Bombers, 1950-1960

Bomber	Combat Radius of Action (nautical miles)
B-29	1,717
B-50D	2,082
B-36H	2,705
B-47E	2,050
B-52G	3,550

The aircraft selected is the most purchased model in the SAC inventory during the decade.
Sources: models from HQ USAF, SD FY 1960, combat radii from Knaack, Bombers, pp. 54-55, 156, 200-201, 292-293, 494. See also, Wohlstetter, et al, RAND R-266, p. 63.

At the beginning of the base build up, the B-36 had the greatest radius of action of any

American bomber, so the question arises: why didn't the Air Force simply increase its

B-36 force? The B-36 could reach eighty percent of the designated targets in the Soviet

Union from bases in North America; B-47s, if departing from bases in Alaska, could

reach but a few targets in the Soviet Union, and these were only the marginal ones in the

eastern part of the country. Although the B-36 could not replace overseas bomber

bases, it would reduce reliance on them. Yet the Air Force purchase ratio shows over

five B-47s for every one B-36.[29]

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[28] 84th Congress, SOAP, Majority Report IIB, p. 124.
[29] This is over the entire production life of the aircraft. The Air Force purchased 385 B-36s. Knaack, Bombers, pp. 53, 155.

The decision to favor the B-47 over the B-36 goes beyond mere air mileage. The latter was not an intercontinental aircraft, it merely possessed the greater of two inadequate combat radii. The main reason for favoring the B-47 was survivability. The Stratojet's newer features, smaller size, and greater speed heightened the chances of penetrating the advancing Soviet air defense network.[30] Air Force leaders publicly supported the B-36 during Congressional hearings of 1949 (called specifically to examine the capabilities of this aircraft) for it was the most capable bomber then in the inventory.[31] But the B-47 became combat ready in 1953, as did the B-52 in 1956, and Air Force enthusiasm for the older B-36 noticeably waned. LeMay was a staunch supporter of the B-36 while testifying before Congress in 1949, but in 1956, with newer bombers and heightened Soviet air defenses, LeMay again went before Congress and bluntly announced, "If I had my wish all B-36s would be on the junk pile."[32] In 1957 Air Force Chief of Staff General Nathan Twining testified to Congress that "We have no use for the B-36s...We just can't use them for anything. It is a very expensive airplane to maintain. We feel it is best to just retire them."[33] Both the B-36 and B-47 were built to complicate the enemy air defense problems and allow greater offensive planning

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[30] Radar systems rely on returns from the body of the aircraft, and large, bulky targets are easier to detect and track. The B-36 was a mammoth aircraft (RB-36 reconnaissance versions could even carry an RF-84 mounted underneath the fuselage),with a wing surface area approaching five thousand square feet; the B-47 had a wing surface area merely one-third of that value. Soviet interceptors were ground-controlled, vectored to the bomber's stern until the pilot could visually acquire the aircraft, and a B-36 could be seen sixty miles away with normal eyesight. The swept-wing, streamlined B-47 was much harder to discern, with only half the wingspan and two-thirds the length of the B-36. The maximum speed at optimum altitude for these two airplanes would also effect their ultimate survival: the B-36 attained only 361 knots, while the B-47 dashed at 528 knots. Knaack, Bombers, pp. 54-57, 156-158; Andrew Waters, All the US Air Force Airplanes, 1907-1983, (New York: Hippocrene Books, 1983), pp. 104-105.
[31] See Hearings before the House Committee on Armed Services, "Investigation of the B-36 Bomber Program," 81st Congress, first session, (Washington: USGPO, 1949).
[32] Cited in Thomas M. Coffey, Iron Eagle: The Turbulent Life of General Curtis E. LeMay, (New York: Crown Publishers, 1986), p. 334.
[33] Stenographic transcript of hearings before the US House Committee on Armed Services, "Briefing on Military Posture," 1 February 1957, p. 300. USAFA, Twining, Box 2-6, file 2. The last B-36 retired in February 1959.

flexibility, but the B-47 was the heart of SAC during the 1950s, the so-called

"workhorse" of the American strategic arsenal.

Air Refueling Aircraft

Regardless of its composition, the combat radius of the SAC bomber force could

be greatly increased with air refueling. The first inflight air refueling occurred as early

as 1923, but little serious notice was made until 1948 when the Air Force activated its

first air refueling squadrons.[34] The main function of this augmentation force was

evident, for air refueling aircraft (known as tankers) were under the operational control

of SAC. The command embraced this practice and the tanker fleet rapidly expanded: in

1950 SAC had nine air refueling squadrons, five years later thirty-nine, and by 1960

fifty-nine.[35] The following table shows the massive expansion and composition of the

Air Force's air refueling aircraft during the decade:

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[34] On 27 June 1923 an Army Air Service DH-4 flew almost two thousand miles after receiving over three hundred gallons of gas via a hose assembly from another aircraft. Hap Arnold, The History of Rockwell Field, (1923). Several refueling techniques evolved over the next three decades until Cliff Leisy of Boeing Corporation and two Air Force generals, Clarence Irvine of SAC and Mark Bradley of the Air Material Command, devised what became the Air Force standard, the flying boom. A telescoping metal tube is fitted with aerodynamic flight controls, attached to a providing aircraft, and then guided into a receptacle built onto the airframe of the receiver. Colored lights and decals then allow the receiving pilot to fly a proper formation position behind and slightly below the tanker aircraft. An excellent oral history of several prominent SAC generals has been published in book form and provides valuable personal insights into this period, see Kohn and Harahan, SAW, p. 105-108; Bill Gunston, Bombers of the West, (London: Ian Allen Ltd., 1973), pp. 146-148.

[35] HQ USAF, SD FY 1950, 1955, 1960. The specific numbers show this tremendous expansion of air refueling: in 1950, SAC conducted 747 airborne hook ups and transferred 358,000 gallons of gas in flight, in 1955 the command conducted 35,000 hook ups, and transferred 145 million gallons. 84th Congress, SOAP, p. 136.

Table 15
Combat Ready Air Refueling Aircraft, 1950-1960

	KB-29	KB-50	KC-97	KC-135	total
1950	53				53
1951	99				99
1952	124		33		157
1953	107		120		227
1954	62		341		403
1955	62		485		547
1956	78		561		639
1957	34	34	577		645
1958	34	61	628	82	805
1959	6		569	208	777
1960			573	286	859

The early air refueling aircraft were simply converted bombers. The B-29 underwent the Superman modification, which added fuel bladders and trailing hoses on a detachable pod, to become the KB-29. Additional B-29s underwent the Ruralist modification to add receptor devices so they could receive fuel inflight. Other SAC bombers modified as tankers included the B-50 which became the KB-50, and the B-47 which became the experimental KB-47. The KC-97 was a converted cargo aircraft. Sources: data from HQ USAF, SD FY1950-1960; tanker modifications, Moody, Building, p. 246.

Initially though, air refueling was seen as a supplement to overseas bases, not a replacement. Through most of the 1950s the propeller KC-97 was the primary aerial tanker, and there were challenging problems due to incompatibility with the jet bombers it refueled.[36] But even more importantly, the number of tankers required to extend a B-47's radius of action climbed exponentially: to reach 3,200 miles required two tankers, 3,800 miles required four tankers, and 4,200 miles required six tankers.[37] And extensive air refueling of the B-47 posed problems far beyond the routine discomforts of bad weather and airborne rendezvous. The B-47 had a crew of only three (an aircraft commander and co-pilot under the bubble canopy, and an observer in the nose

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[36] The KC-97 used high octane aviation gasoline for its propellers, but carried JP-4 fuel for the jet bombers. To conduct a rendezvous, the KC-97 would climb from its cruise altitude of thirteen thousand feet while the jet bomber would descend from its cruise altitude of thirty-five thousand feet. Once joined, the KC-97 would begin a shallow dive to increase airspeed so the bomber could avoid a stall. The refueling system pumped six hundred gallons a minute through a six-inch diameter telescoping boom, but the B-47 could not accept a full fuel load, for the propeller tanker simply could not fly fast enough to keep the jet bomber from stalling with the added weight of the fuel. Kohn and Harahan, SAW, p. 104-105, 116; 84th Congress, SOAP, p. 136-137, 1812.

[37] Wohlstetter, et al, RAND R-266, pp. 70-72.

compartment who served as both navigator and bombardier), there was no room for an augmented crew (unlike the B-29, B-50, B-36, and B-52). In 1954 the average mission length from North America to the Soviet Union was twenty hours, just to reach the target. Only one-fourth of the proposed missions were less than sixteen hours. B-47 pilots would be flying and refueling the entire time. The limit to this aircraft was not merely range, but human endurance.[38]

The KC-135 was the first dedicated tanker, specifically designed and built as an air refueling platform. It was a jet and much more modern than its predecessor, capable of passing 120,000 pounds of jet fuel on a single mission--the equivalent of three KC-97s. Unlike the KC-97, the KC-135 did not require forward positioning across the ocean, and tanker units began to group in the northern United States and Canada.[39] These tanker base assignments reveal the changing role of overseas bomber bases. In the early 1950s, tankers were a separate squadron assigned to a bomb wing, and both aircraft types shared a base. In 1955, with a heavy schedule of bomber rotations overseas (the previous year SAC conducted 3,400 ocean crossings), the command restructured the tanker force, and two units received designation as an air refueling wing (ARW), totally independent of any bomber units: the 4060th ARW went to Dow AFB in Maine, and the 4050th ARW went to Westover AFB in Massachusetts. Both of these bases allowed tankers to readily support the constant flow of bombers enroute to the expanding SAC bases in the United Kingdom, Morocco, and Spain. In 1958, as part of the SAC dispersal program, many KC-97 squadrons separated from their parent bomb

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[38] Wohlstetter, et al, RAND R-266, p. 208.
[39] LeMay discusses the capabilities of the emerging KC-135 force and the expected reduction of overseas bases in a letter to the Chief, 'Impact of Forward Base Vulnerability on SAC Strike Capability,' letter LeMay to Twining, 1 November 1955, LOC MRR, LeMay, box 207. For additional KC-135 information, see 84th Congress, SOAP, pp. 106-107, 156, 450-451.

wing and went to the northeast United States as independent squadrons. This time the purpose was more defensive, as these squadrons would spread the command's force among many stateside bases and aiding the movement of other SAC aircraft moving from their home field, expected ground zero for a Soviet attack. By late 1960, ten SAC bases existed in Canada, and all were for air refueling units. These sites were increasingly for the use of KC-135s, which in turn would support bomber operations, not B-47s deploying to overseas bases, but B-52s operating across the Arctic.[40]

The first of the long-desired intercontinental bomber finally did arrive when seventeen B-52s became combat ready in 1956. Without refueling, B-52s operating from bases in the northern portion of the continental United States could attack all portions of the Soviet Bloc, except a triangular section in south-central Russia. With one air refueling, the B-52 could reach every possible target in the Soviet Bloc.[41] But in 1957 there was only one fully equipped B-52 wing, by 1958 there were eight, by 1959 ten, and by 1960 eleven. And all of these B-52s were assigned to bases in North America.[42] At this point, finally, the Air Force realized its goal of an adequate force of operational intercontinental bombers. But during the wait, other platforms acquired tremendous range and capabilities, eroding the position of the manned bomber and the requirement for bomber bases overseas.

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[40] Tankers were positioned to refuel bombers coming from bases farther back. For example, tankers in the northeast United States would refuel bombers coming from bases in more southern sites, while tankers in Greenland would refuel bombers coming from North America. Units from HQ SAC, Fortieth, pp. 13, 49, 54, 72-73. Canadian bases, Lang Report, DDEL, pp. 2, 12, map facing p. 14. I am grateful to Air Force historian Richard K. Smith for explaining the ramifications of tanker and bomber operations, and for providing a considerable information from his presentation on air refueling, "Invisible Men, Invisible Airplanes," held at America's Shield Symposium, Offutt Air Force Base, Nebraska, 15 May 1996.

[41] Twining, text of JCS Chairman's presentation before the Senate Armed Services Committee, 20 January 1959, p. 18. DDEL, White House Office of the Staff Secretary (hereafter cited as WHO SS), file DoD, box 4, folder JCS.

[42] Units from HQ USAF, SD FY1957-1960. All of these B-52 bases were in the continental United States except Ramey Air Force Base, Puerto Rico. Lang Report, DDEL, map facing p. 14.

Chapter 8

Alternatives and Withdrawal, 1957-1960

This [overseas bomber base] system has proven an effective deterrent to general war, and viewed in true perspective, that has been the primary tasks assigned to these instruments of US policy. Now, however, we have crossed over another threshold into a new strategic situation, pushed relentlessly by technological and political changes...

Townsend Hoopes, 1958

Near the close of the decade the United States returned many overseas bomber bases to host nations and SAC operations and any use of the remaining sites was significantly altered. Previous base histories though fail to agree on the exact time period or the specific reasons for this change. Most hold that the intercontinental ballistic missile (ICBM) largely supplanted the bomber and the overseas bases they used. James Blaker states that by the 1960s newer platforms (the ICBM and the B-52) assumed the strategic offensive role, and the need for forward bomber bases "evaporated." Robert Harkavy's two books record that late in the year 1960 ICBM deployment rendered overseas bomber bases "superfluous." Simon Duke contends the need for the bases lasted until the mid-1960s, when the "the heyday of the bomber was over" and ballistic missiles replaced the forward bases. Alvin Cottrell and Thomas Moorer find that in the early 1960s the emergence of intercontinental weapons (the ICBM and B-52) "eclipsed" the need for overseas bomber bases.[1] These disagreements over dates, and vagueness of the broad causal statements result from lack of precision.

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[1] Blaker, <u>Dilemma</u>, p. 36; Harkavy, <u>Access</u>, p. 128; Harkavy, <u>Presence</u>, p. 82; Duke, <u>Europe</u>, p. 43; Duke, <u>UK</u>, p. 7; Cottrell and Moorer, <u>Problems</u>, p. 8.

Previous base histories give little attention to operational factors, but it is only through

these factors that the declining period of overseas bomber bases is most clearly revealed.

The previous historiography is weak on the strategy and technical aspects which

directly affected the overseas bomber bases. Bomber bases did not merely arise and

disappear, there was a continuum of thought, choices, and policies which brought them

into existence and then decline. And throughout, technical issues are central.

Military history often falls prey to a kind of technological determinism, where

attention rests with the impact of a new weapon, not the causes for seeking it.

Competing alternatives, the origins of these systems, and the momentum of the

developmental processes, can easily be obscured.[2] Technological determinism is a

common feature within military history, as rudimentary before-and-after models of such

diverse items as the stirrup, the suit of armor, the longbow, even the nuclear weapon,

reveal a tendency to examine not the cause of the innovation, but to fixate solely upon

its effect. Technological determinism seemingly fits the spirit of the era for, in the

words of one historian, it was "an article of faith in the United States from 1940 to

1960."[3] But weapons do not have their own inertia, they are merely products of a

complex interaction among societal forces. This base changeover was not a seamless

transition, but rather a continual pursuit of competing systems, all with the same goal: to

obviate the need for overseas bomber bases. The desired outcome was reached, but not

with the expected weapons. The solution was foregone, but not the means of achieving

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[2] An excellent source of information concerning technological determinism is Merritt Roe Smith and Leo Marx, ed., Does Technology Drive History? The Dilemma of Technological Determinism, (Cambridge: The MIT Press, 1994), (hereafter cited as Smith and Marx, Technology?) For a critique of technological determinism, see Bruno Latour, Science in Action: How to Follow Scientists and Engineers Through Society, (Cambridge: Harvard University Press, 1987).

[3] Philip Scranton, "Determinism and Indeterminacy in the History of Technology," in Smith and Marx, Technology? pp. 143-168, quote p. 146.

it. I will not go so far as to dismiss the concept of technological determinism, but rather question its application to this issue.[4]

Prior works did not search for explanations among technical elements of operational factors, yet the empirical data are available, largely through Air Force primary sources untouched by other scholars. Another possibly its that this specific facet was deemed unimportant to the base topic, perhaps for their wider assessments it was, but for an analysis of SAC bomber bases, technical issues are crucial. Previous histories of American overseas bases miss an opportunity, failing to fully explain how and why a transition occurred, moving away from the use and possession of overseas bomber bases. Lacking is an analysis of the progressive development of emerging American strategic platforms, of which the ICBM was only one. The ballistic missile was not the planned replacement for overseas bomber bases. A paradigm shift would occur among American leaders in the mid-1950s, one which embraced missile technology, but until then, American attempts at intercontinental capability centered on extending the reach of strategic bombers.

Sputnik Period

From late 1957 to early 1961, American leaders responded purposefully to a changing situation as United States strategic forces became increasingly vulnerable. America's declared national security policy did not change, but among overseas SAC bases, significant alterations took place. In the late 1950s the underlying status of the

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[4] Some aspects of technological determinism may apply to this case, for recent scholarship presents a much more flexible and interactive model. But, on the whole, the concept does readily fit the study of bombers and bases in the 1950s. See Smith and Marx, Technology?, especially the following areas: soft determinism in Robert L. Heilbroner, "Technological Determinism Revisited," pp. 67-78; emerging systems in Thomas P. Hughes, "Technological Momentum," pp. 101-114; and mesosystems in Thomas J. Misa, "Retrieving Sociotechnical Change from Technological Determinism," pp. 115-142

Cold War shifted, as the Soviet Union began to deploy increasingly capable strategic forces and a truly bipolar conflict resulted. The Soviets tested the world's first ICBM in 1957, and over the next few years a broad assortment of strategic weapons entered the Soviet arsenal.[5]

The defining event of this period was the launch of Sputnik I on 4 October 1957. The Soviet satellite shook previous American assumptions about its technological superiority, for the Soviets had used a ballistic missile as a launch vehicle, something the United States could not do at the time. Professed "gaps" were seen between the technology, bombers, shelters, and missiles of the two superpowers, and there was tremendous political pressure on Eisenhower to increase defense spending. Adding to this was another national security jolt in November 1957, the publication of the Gaither Report, which formally declared a "missile gap" now existed and proclaimed that SAC forces were increasingly vulnerable.[6] Many scholars praise Eisenhower for resisting this call to arms,[7] and find his position bolstered by the wealth of highly-classified intelligence gleaned from the U-2 and satellites, which revealed the limited status of Soviet strategic forces.[8] But in response to these events Eisenhower directed several significant modifications to America's strategic policy and arsenal.[9]

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[5] For specific information on the American assessment of the Soviet threat, see Lawrence Freedman, US Intelligence and the Soviet Strategic Threat, 2nd ed., (Princeton: Princeton University Press, 1986); John Prados, The Soviet Estimate: US Intelligence Analysis and Russian Military Strength, (New York: Dial Press, 1982), (hereafter cited as Prados, Estimate).

[6] The Gaither Report , formally titled "Deterrence and Survival in the Nuclear Age: Report to the President by the Security Resources Panel of the Science Advisory Committee," 7 November 1957, DDEL, WHO SANSA, NSC series, box 22.

[7] Ambrose writes, "Eisenhower refused to bend to the pressure, refused to initiate a fallout shelter program, refused to expand conventional and nuclear forces, refused to panic. It was one of his finest hours." And, holds, that only Eisenhower, due to his esteemed military background, could have done this in the face of such fierce criticism. Stephen Ambrose, Eisenhower: Soldier and President, (New York: Simon & Schuster, 1990), p. 435. See also Bundy, Danger, p. 344; Rosenberg, "Origins," p. 69.

[8] Between July 1956 and May 1960 the Lockheed U-2 Dragon Lady flew twenty-four "deep penetration" missions over the Soviet Union. For details concerning the U-2 program, see Michael R. Beschloss, Mayday: Eisenhower, Khrushchev and the U-2 Affair, (New York: Harper and Row, 1986); Eisenhower, Waging, pp. 483-485, 544-549. By December 1960, the United States had sixteen satellites in Earth

The emphasis of this period was the protection of American strategic forces, reducing their vulnerability to a potential first strike by the enemy. Deterrence, up to this point, depended upon the ability of SAC bombers to reach their targets; but, now, the Soviet Union could threaten these bombers before they even left the ground. The deterrent equation shifted to a higher level of complexity, one which relied upon the survivability of the strategic forces. American strategic weapons would have to be invulnerable or possess the ability to absorb a first strike, then be able to retaliate (by the connotation of strategic studies, retain a second strike capability). SAC bombers based overseas became extremely vulnerable with the deployment of Soviet surface-to-surface missile systems. In a recent assessment of the strategic policies of the late Eisenhower years, political scientist Peter J. Roman emphasizes changes in the composition of American strategic forces with the arrival of the Intercontinental Ballistic Missile (ICBM) and the Sea-Launched Ballistic Missile (SLBM):

> Eisenhower's most concrete legacy from the missile gap period is the transformation of US strategic nuclear forces. A strategic nuclear triad began to emerge when the Eisenhower Administration developed and began to deploy ICBMs and SLBMs. Adding these two missile "legs" to SAC bombers would strengthen deterrence, the administration reasoned, by complicating Soviet plans for launching a first strike...the triad--and the intellectual justification for it-- remained a central element in US strategic nuclear program for decades.[10]

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orbit, providing a wealth of details about Soviet capabilities. See Kevin C. Ruffler, ed., CORONA: America's First Satellite Program,(Washington; Center for Study of Intelligence: CIA, 1995); William E. Burrows, Deep Black: Space Espionage and National Security, (New York: Berkley Books, 1986).

[9] Bundy discusses changes instituted by Eisenhower and the rationale behind them in Danger, pp. 334-351. Peter Roman uses newly declassified sources and argues that these changes came because Eisenhower received only partial and inconsistent information from U-2 flights. Roman, Missile Gap, p. 199-200.

[10] Roman, Missile Gap, p. 195.

The United States now sought to position its strategic forces away from a perimeter strategy, favoring instead, the security and sanctity of a polar strategy.[11] The long range bomber would be one element of this new American strategic triad, but ballistic missiles would become the primary components, composing two-thirds of the arsenal.

Changes among America's strategic forces had begun before Sputnik. Through a series of exercises in 1957, SAC tested the concept of fifteen minute ground alert (aircraft could launch on retaliatory raids within fifteen minutes of receiving warning of an inbound attack) and instituted these procedures at selected bases around the world, including Sidi Slimane in Morocco, on 1 October 1957.[12] As for American missile systems, Eisenhower endorsed the findings of the Killian Committee Report of 1955, and at that time assigned ballistic missiles "the highest national priority." The following table from November 1957 lists American expenditures on ballistic missiles, showing the limited early budgets, but then several significant funding increases which occurred, even before the impact of Sputnik:

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[11] Tamnes presents these as two offensive nuclear strategies. By his account, the US used a perimeter strategy before technology and range permitted intercontinental operations, and thereafter, shifted to a polar strategy in which the Arctic region "gradually became the juncture of the new Air-Age Globalism." Tamnes, High North, pp. 29-31.

[12] For the many procedural changes instituted by SAC in the mid- to late-1950s see, HQ SAC, Fortieth; Roman, Missile Gap, Chapter 2.

Table 16
US Ballistic Missile Expenditures, 1947-1958

Year	Expenditures (millions $)
1947 and prior	1.95
1948	0.27
1949	0.1
1950	--
1951	0.5
1952	0.8
1953	3
1954	14
1955	161
1956	513
1957	1,380
1958 (estimate)	1,349

Figures for 1958 are estimated, for this report was submitted before the end of the fiscal year. Eisenhower writes in Mandate, p. 456, that the specific portion of the FY 1953 expenditures dedicated to ICBMs amounted to one million dollars--less than the US government spent stabilizing the price of peanuts. Source: "Chronology of Significant Events in the US Intermediate and Intercontinental Ballistic Missile Programs," 8 November 1957, DDEL, WHO SANSA, OCB files, Subject, box 4, file Missile Program (3).

But Sputnik was the clarion call which accelerated procedural changes and shortened deployment timelines. This event, more than any other, heightened awareness of Soviet scientific and military progress, bringing concern about the vulnerability of American strategic forces, which in 1957, solely consisted of SAC bombers.

The vulnerability of SAC forces, particularly those on overseas bases, became acute as Soviet ballistic missiles were deployed which could increasingly threaten these sites.[13] The last SAC bomb wing on a ninety day overseas rotation returned to the

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[13] Exposing the risks with overseas bomber bases was the main purpose of Wohlstetter, et al, RAND R-266. HQ SAC's awareness of the impending IRBM threat can be shown in a 1955 message that LeMay wrote the Chief of Staff: "One Soviet advancement intensifies my concern about the tenability of our overseas bases. National intelligence estimates indicate that by 1960 the Soviets will have 1,000 ballistic medium range missiles which will give them adequate weapons coverage of all our UK, Spain, and Mediterranean bases, as well as Thule, Keflavik, and the Alaskan complex...Little, if any, warning will be available, thus tankers and bombers within missile range will probably be lost and the bases rendered untenable." Message LeMay to Twining, "Impact of Forward Base Vulnerability on SAC Strike Capability," LOC MRR, LeMay, box 207.

United States in April 1958.[14] By the middle of that year, SAC held six bombers on fifteen minute ground alert, twenty-four hours a day, at each of its bases in England, Morocco, and Spain. Guam, the lone SAC base in the Far East, kept twelve bombers on alert.[15] The command's forward position had largely become defensive, with emphasis on quick reaction should the Soviet Union launch a pre-emptive attack on the sites.[16] But this defensive posture at overseas bases was merely an interim situation, the United States was in the process of fielding a new collection of strategic forces composed of new weapons systems which did not require the use of overseas bases.

Nuclear Weapons Breakthroughs

The various ballistic missile systems under development in the 1950s had tremendous range (up to nine thousand miles), but the early systems were severely limited by warhead weight: the Atlas ICBM launch weight was comparable to the combat weight of the B-52, but the Stratofortress could carry twenty-five times as many pounds of weapons. The ballistic missiles of the 1950s had a maximum warhead weight of two thousand pounds, which could, at best, be delivered within five miles of its intended target. With conventional weapons this would be an ineffective and inaccurate means of delivery, hardly a challenge to the strategic position of manned bomber.[17]

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[14] This departure of the 100th MBW from Brize Norton in the UK signaled the end of five years of uninterrupted B-47 wing rotations to England. HQ SAC, Fortieth, p. 74.

[15] Bases and alert procedures listed in Lang Report, DDEL, pp. 11-13, and map facing p. 13.

[16] SAC bases in the United States also changed to an alert posture during this period. This required altering the facilities, training, and organization of SAC bomber bases. The goal proclaimed by General Thomas Power (LeMay's replacement as the commander of SAC) was to have one-third of the SAC force on continuous alert, and this was achieved in May 1960. HQ SAC, Fortieth, pp. 63-92.

[17] The German V-2 rocket carried 1,600 pounds of TNT, and although a revolutionary design, this weapon did not have a marked impact on the war. Over 4,000 V-2s struck Allied targets (a thousand on London alone), with an average casualty rate of only five persons per launch. The goal of this weapon was terror, not strategic effectiveness, as illustrated by its name, *Vergeltungswaffen* (vengeance weapon).

Nuclear weapons improvements were the key factor in the development of ballistic missiles, specifically, the miniaturization of warheads which occurred in the mid-1950s. Prior to this, strategic nuclear weapons could only be carried by Air Force bombers. The Mark IV atomic bomb, which became operational in March 1949, weighed 10,800 pounds and was so large and complex that it took thirty-nine men two full days to get it ready for use. The follow-on strategic weapon, the Mark VI, entered the American stockpile in July 1951 and weighed 8,500 pounds. Advances between 1948 and 1952 multiplied the destructive power of atomic bombs twenty-five fold, but breakthroughs from 1952 to 1954 were even more significant: fusion weapons would arrive, yields would increase exponentially and--most importantly for missiles--size would decrease significantly.[18]

A brief description is in order, to explain how this breakthrough occurred. Nuclear weapons utilize the power contained within the nucleus of an atom. Atomic weapons use the principle of fission, in which nuclei among the isotopes of heavy elements (Uranium-233, Uranium-235, or Plutonium-239) break apart. As fuel sources are brought rapidly together (using implosion or a gun assembly) "supercritical" neutrons begin a chain reaction: fission within one nucleus spreads to another, causing it to do the same. This reaction continues until the fuel source is consumed, producing neutrons faster than they can escape from the assembly, and an atomic explosion results. The yield of fission weapons is described in terms of kilotons of TNT (the Hiroshima explosion measured fifteen kilotons). Thermonuclear (hydrogen) weapons, on the other hand, use fusion, the same principle which powers the sun. Fusion requires extremely

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[18] J. E. Scholz and Maurice A. Mallin, "The Air Force and the Future of Nuclear Weapons," report prepared for Center for National Security Studies, Los Alamos National Laboratory, Orion Research Inc., Vienna, Virginia, July 1988, p. 8; Cochran, et al, Databook, pp. 6-11.

high temperatures (usually produced by a fission triggering device) to combine nuclei within isotopes of hydrogen (deuteride or lithium deuteride). A thermonuclear blast is so powerful that a new term entered the lexicon, megatons. Through the process of fusion, nuclear explosions became more powerful, more efficient, and used less fuel, all allowing a substantial reduction in the weight and size of a nuclear warhead.[19]

The world's first thermonuclear detonation obliterated Elugelab Island in the Marshall Islands on 1 May 1952, proving the validity of fusion weapons. This was the first of two phases in the "thermonuclear breakthrough," an expansion of destructive power. The blast measured 10.4 megatons (five hundred times more powerful than the Nagasaki bomb), but the test device was, in the words of historian David Rosenberg, a "twenty-one ton, cryogenically-cooled, liquid-fueled monster," far beyond the carriage allowance of a ballistic missile.[20] In October 1953 John von Neuman, chairman of the Strategic Missiles Evaluation Committee and a member of the General Advisory Committee to the AEC, predicted that small, lightweight thermonuclear warheads could be produced in the near future, thereby making ICBMs feasible strategic weapons. This would be the second phase of the thermonuclear breakthrough, a reduction in size.

American thermonuclear tests on Eniwetok Atoll during the spring of 1954 fulfilled von Neuman's prediction. One test shot used lithium deutereum fuel, eliminating the need for the heavy cryogenic facilities, and another (appropriately name the SHRIMP shot) involved a warhead small enough to be carried by a ballistic missile.

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[19] For more detailed explanations of fission and fusion principles, see Hansen, Secret History, pp. 11-27. This is a detailed account of the American nuclear weapons program, which covers weapons physics, weapons development, delivery systems, arming and fuzing. Due to the many insights, numbers, and even diagrams, Hansen's book caused quite a stir when first published; Rhodes, Dark Sun, pp. 36-37, 246-247; Freedman, Evolution, pp. 14-15, 64.

[20] Rosenberg, "Overkill," p. 24. For overall references on these thermonuclear nuclear tests in the Pacific, known as Operations Castle and Ivy, see Rhodes, Dark Sun, pp. 482-512, 541-543; Hansen, Secret History, pp. 54-60, 61-69.

These developments reduced the weight of a nuclear warhead from 10,000 to 1,500 pounds, yet still allowed tremendous explosive power. Warheads eventually mounted on ICBMs and Polaris missiles could produce a yield up to one megaton. [21] Though far less than the twenty-four megaton bomb which could be carried by the B-36, the yield of each ballistic missile exceeded the destructive power of all the bombs dropped during the Second World War.[22]

Intercontinental Ballistic Missiles

Intercontinental ballistic missiles challenged the entire strategic role of the manned bomber. The development of the American ICBM force has been well-told elsewhere, and need not be recounted here.[23] A few points do bear on the issue of overseas bomber bases though, and these entail operational control of the weapons.

Not addressed here are cruise missiles and land-based Intermediate Range Ballistic Missiles (IRBMs), because they did not replace overseas bases, merely substituted delivery vehicles. Cruise missiles would later become viable strategic weapons, but those of the early period suffered from problems of range, reliability, and

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[21] The Atlas and Titan ICBMs carried the W-35, W-38, and W-49 thermonuclear warheads, which had yields of 500 kilotons to one megaton. The Minuteman carried the W-59 with a one megaton yield. The Polaris A-1 and A-2 carried the W-47 with a 800 kiloton yield, and the A-3 carried the one megaton W-58. Cochran, et al, Databook, table 1.4, pp. 7-9: Hansen, Secret History, p. 143.

[22] Cochran, et al, Databook, p. 10. For primary documents seen by the President, see 'Chronology of Significant Events in the US Intermediate and Intercontinental Ballistic Missile Programs,' report to the President by the AEC, 8 November 1957, DDEL, SANSA, COB Subject files, box 4, file Missile Programs (3); 'Importance of Previous Tests to the Nuclear Weapons Development Program,' memo to the President but the AEC, 13 December 1955, DDEL, WHO SS, Alphabetical Files, box 4, file AEC (Acct), folder 6.

[23] For assessments of the American ICBM program during this period, see Jacob Neufeld, Ballistic Missiles in the US Air Force, 1945-1960, (Office of Air Force History: Washington, 1990), (hereafter cited as Neufeld, Missiles); Nels A. Parson, Jr., Ballistic Missiles and the Revolution in Warfare, (Cambridge: Harvard University Press, 1962); Ernest G. Schwiebert, A History of the U.S. Air Force Ballistic Missiles, (New York: Frederick A. Praeger, Publishers, 1964).

accuracy.[24] IRBMs, such as the Thor and Jupiter, did successfully develop in and were deployed overseas (in Italy, Greece, and the United Kingdom) from 1958 to 1963, but with ranges of approximately 1,500 miles, they required bases even closer to potential targets than did medium bombers.[25]

There was resistance to missiles within the Air Force, for the service's mindset rested with the pilot-generals, who questioned the pursuit of an unmanned, unproved strategic platform. To them, the bomber was the primary vehicle of strategic warfare, and would remain so for the foreseeable future.[26] LeMay, who would later become a strong supporter of ballistic missiles, exhibited this attitude in letter to the Air Force Chief of Staff in October 1955, shortly after receiving a high-level briefing about the Atlas program:

> The air power battle cannot be won with 1,500 pound warheads and a five-mile CEP [Circular Error of Probability]. The ICBM may prove to be the "ultimate weapon," but until the zenith of its development is reached, which will be much later than 1960, it can only support and cannot replace some slower weapons systems which have greater destructive power, more reliability, and better CEPs.[27]

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[24] The longest range cruise missiles were the later versions of the N-69 Snark, which could conceivably fly over 5,000 miles. But the Snark was plagued by problems. Reliability was so bad that the missile test area off of Cape Canaveral, Florida was known as "Snark-infested waters." One infamous 1956 launch went off course downrange and was found by a Brazilian farmer in 1982. Accuracy using inertial navigation is inversely proportion to flight time--the shorter the flight, the greater the accuracy. A ballistic missile could fly from North America to Eurasia in approximately thirty minutes, while a cruise missile would take approximately ten hours. For more information, see Werrell, Cruise Missile, pp. 79-113, Appendix A; Air Chief Marshall Sir Michael Armitage, Unmanned Aircraft, (London: Brassey's Defence Publishers, 1988), pp. 37-49.

[25] Deployment dates, see Cochran, et all, Databook, pp. 10-11. For issues surrounding overseas IRBM bases, see Brodie, Missile Age, pp. 342-348; Alvin J. Cottrell and James E. Dougherty, "Nuclear Weapons, Policy and Strategy," Orbis, Summer 1957, pp. 138-160.

[26] For initial resistance by Air Force general officers, see Neufeld, Missiles, pp. 137-143; 84th Congress, SOAP, p. 107; see also an article submitted by LeMay to Ordnance Magazine, "The Future of the Manned Bomber," 7 May 1958, LOC MRR, LeMay, box 171, file speeches cleared 10/57 to 9/58.

[27] Letter LeMay to Twining, "Future Weapons," 17 October 1955, LOC MRR, LeMay, box 207. CEP is a targeting term, defined as the radius in which half the weapons will hit. For comparison, in 1955 a SAC B-47 could drop an 8,500 pound Mark VI nuclear bomb with a CEP of 1,720 feet. HQ SAC, 1955 Strategic Evaluations, p. 19, LOC MRR, LeMay, box 96.

Integration was the key to winning acceptance for the ballistic missile among Air Force

commanders and SAC officers.

Even so, with a flow of funds and high-level political interest, all three services

began to develop their own ballistic missile systems. To avoid overlap, Secretary of

Defense Charles E. Wilson clarified service responsibilities on 26 November 1956: the

Army gained responsibility for land-based surface-to-air missiles and tactical missiles

(those with a range below two hundred miles), the Navy for sea-based IRBMs, and the

Air Force for land-based IRBMs and ICBMs. As SAC had the most experience with

strategic systems, in November 1957 Air Force Chief of Staff Thomas D. White placed

all soon-to-arrive ballistic missiles under the operational control of the Strategic Air

Command.[28]

Air Force leaders, especially those within SAC, had long maintained that targets

defined the strategic mission, not weapons. With operational control of the manned

bomber force and the ICBM force, SAC retained its hold on American strategic forces.

Overseas bases would soon become a remnant of an early age, and SAC did not resist

the decline of these sites, for the command retained its primacy in strategic matters.

The harnessing of economic and scientific resources delivered. In just a few

years the ballistic missile dramatically changed the makeup of the United States

strategic forces. The first operational Atlas missile wing opened at F.E. Warren AFB,

Wyoming, in February 1958, followed six months later by the first Titan wing at Lowry

AFB, Colorado. The number of missiles which comprised this intercontinental

strategic force grew quickly, by 1960 over 650 ICBMs had been authorized. This was

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[28] Kenneth W. Condit, The Joint Chiefs of Staff and National Policy, 1955-1956, History of the Joint Chiefs of Staff, vol. VI, (Washington: Historical Office, Joint Staff, 1992), (hereafter cited as Condit, JCS), pp. 68-72.

an intercontinental strategic force, entirely based within the confines of the United

States.

Fleet Ballistic Missiles

While the Air Force struggled to field long range bombers and ICBMs during the

1950s, a revolution took place in naval weaponry. By 1960, the United States Navy

would also deploy a strategic force, and the combination of nuclear-powered submarines

and ballistic missiles directly challenged the need for overseas bomber bases.[29] Yet this

challenge has been almost entirely overlooked in previous base histories.[30]

The *Nautilus*, the world's first nuclear-powered submarine, became operational

in January 1955. This fuel source, unsuccessfully sought by the Air Force to propel

strategic bombers, allowed extensive submerged cruising with range measured "not in

miles, but in years."[31] Over the next five years the Navy gained twelve more, but all

were attack submarines fulfilling traditional naval roles. In November 1955, reacting to

the Killian Committee Report, the Department of Defense directed the Army and Navy

to oversee production of an IRBM system. Army engineers led the project and directed

work on the Jupiter missile system, but in December 1956 the Navy Office of Special

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[29] The Navy also deployed cruise missiles aboard ships and submarines during this period, but the Regulus I of 1951 had a range of only six hundred miles, and its 1957 follow-on, the Regulus II, only eight hundred miles; neither was considered a strategic weapon. See Werrell, Cruise Missile, Appendix A. The information in the remainder of this section comes primarily from Norman Polmar, Atomic Submarines, (Princeton: D. Van Norstrand Co., Inc., 1963), (hereafter cited as Polmar, Submarines).

[30] Of the base histories cited previously, only two even mention SLBMs: Harkavy, Presence, p. 118, and Duke, UK, p. 140.

[31] Nuclear propulsion relies on heat from nuclear fission: uranium control rods inserted into the reactor core produce intense heat, which is then carried away by a coolant (water) to a steam generator, to drive turbines for the screws. A nuclear reactor does not really refuel, but, in principle, replacement of the uranium core accomplishes the same thing. For an idea of the distance possible with this fuel source, the *Nautilus* received its third uranium core in 1959 and it lasted for the next five years, propelling the boat over 150,000 miles. Nuclear prolusion, inertial navigation, and internal production of oxygen allows extensive underwater cruises, such as shown from February to May 1960 when the *Triton* followed the route of Magellan and circumnavigated the globe, covering 36,014 miles entirely submerged.

Weapons separated from the Army program and sought funding for their own IRBM, one which would be smaller than the Jupiter, capable of being carried aboard nuclear submarines. On 1 January 1957 Secretary Wilson approved the Navy's Polaris IRBM program. The first Polaris, the A-1, was about half the size of the Jupiter, twenty eight feet long and fifty-four inches in diameter, and had a prospective range of 1,500 miles. Although not intercontinental, when combined with the mobility of a nuclear submarine, this was a very significant increase, for every portion of the Earth is within 1,700 miles of the sea.[32]

While the Polaris progressed through the developmental process, the Navy ordered a new series of submarine to carry these ballistic missiles (designated SSBN, Fleet Ballistic Missile Submarine) with the first delivery scheduled for 1963. But Sputnik changed this timeline. In October 1957 engineers with the Special Weapons Project reassessed the designs for the missiles and the submarines, with a goal of moving the operational date up to the end of 1960. The date was not random, but the adjusted estimate of when the Soviet Union would possess an operational ICBM.[33] The range requirement for the Polaris A-1 dropped to 1,200 miles to speed its initial deployment date, but a larger problems remained: submarines then under construction could not carry the missiles. Naval officers met with the major submarine manufacturer, General Dynamics Electric Boat Division, and decided to modify a nuclear attack submarine just entering construction in Groton, Connecticut. On 1 January 1958, a

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[32] Many problems were solved to produce this missile. Small inertial navigation devices were adapted from the Navaho cruise missiles program, so each Polaris could carry its own internal navigation device. The Regulus cruise missile had to be surface-launched, but subsurface launch was sought for the Polaris. Naval engineers adapted ideas from a torpedo, so the Polaris would climb to the sea surface with compressed gas, then ignite its rocket engine above the water.

[33] For assessments of the emerging Soviet missile threat of the late 1950s see, Roman, Missile Gap, especially chapter 2; Prados, Estimate; Lawrence Freedman, US Intelligence and the Soviet Strategic Threat, 2nd ed., (Princeton: Princeton University Press, 1986); Raymond Gartoff, Assessing the Adversary, (Washington: The Brookings Institution, 1991).

submarine was cut in half just behind the sail, and 130 feet added to its length to

accommodate all the necessary equipment for sixteen Polaris missiles.[34]

By January 1959 six Polaris submarines were under construction.[35] Five months

later at the launching ceremony for the *George Washington*, the first Polaris submarine

and the tenth with nuclear-power, Assistant Secretary of Defense (Comptroller) Wilfred

J. McNeil announced:

> It is, like all nuclear powered submarines, a true submarine in the sense that it is
> not dependent on the Earth's atmosphere for its operation. It, with the Polaris
> missiles, is the first naval weapon system specifically designed for strategic
> employment against land targets and adds an entirely new dimension to our
> naval power.[36]

On 15 November 1960, following sea trials and missile tests, the *George Washington*

left for its first war patrol. Six weeks later the *Patrick Henry* did the same. Both of

these submarines had a public launching then slipped under the waves for two months,

bound for regions of the Norwegian and Barents Seas, each armed with the newest

strategic weapon. The advantages were most apparent in Europe, for at the time several

allied nations displayed reservations about hosting land-based IRBMs. Neutral waters

were accessible, and these submarines could operate free from the soil of another

nation.[37]

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[34] The Electric Boat Division began running three shifts, twenty-four hours a day, six to seven days a week to meet the target date of 1960. For the effect of Sputnik on the Polaris program, see Polmar, Submarines, pp. 211-213.

[35] This emerging Polaris force was not fully supported by the Eisenhower Administration. Congress had funded nine submarines, but the White House withheld funds for the last five. Secretary of Defense Neil McElroy justified this position to Congress, stating the weapon and the vehicle were both unproved. Further, he said the Administration sought a "mix" of strategic weapons systems--bombers, ICBMs, IRBMs, and SLBMs.

[36] Cited in Polmar, Submarines, p. 220.

[37] Initially, though, there was discussion about integrating the Polaris submarines into the NATO force structure. See 'Memorandum of Conference with President Eisenhower,' 12 September 1960, FRUS, 1958-1960, 7: 628-632; 'Memorandum of Conversation,' 3 October 1960, ibid., pp. 633-638; 'Memorandum of Conversation ,' 4 October 1960, ibid., pp. 643-644.

The Kennedy Administration fully funded the entire proposed fleet of ballistic missile submarines, as well as variants of the Polaris missile with ranges up to 2,500 miles, and by 1966 there would be forty-one fleet ballistic missile submarines in the American inventory. Upon leaving North America the SSBNs could reach launch positions in five to six days. Once there, they patrolled international waters, seemingly free from the potential problems of overseas bases. But a bit of irony occurred: with the use of forward bases, launch points could be reached in merely one to two days. With overseas bases the submarines could also be serviced abroad, reducing transit time. Three overseas *submarine* bases were built to accommodate this fleet ballistic missile force, and all went to countries or territories which once held medium bombers: Guam, Spain (Rota), and the United Kingdom (Holy Loch, Scotland).[38]

This submarine force used overseas bases, but not in the same sense as did bombers; submarines merely staged through them, they did not operate upon the facilities. Overseas submarine bases were a convenience, not a necessity. If needed, the ballistic missile submarines could operate without forward sites, an option unavailable to SAC bombers prior to the B-52. More fundamentally, the SSBN force offered something of far greater importance, an item that bombers and bomber bases, regardless of their location, could not--survivability. As the Soviet Union began to deploy strategic forces, the emphasis of deterrence shifted, from capability to security. As the United States would not launch a first strike, the key element necessary for stabilizing deterrence was to ensure that its strategic force remained viable following an enemy pre-emptive attack. Bomber bases can be found on any aerial map and bomber deployments

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[38] Herbert Scoville, Jr., "Missile Submarines and National Security," in Arms Control and the Arms Race: Readings from Scientific American, (New York: W.H. Freeman and Company, 1985), p. 31.

cannot an item of great secrecy; information on the facilities, forces, and personnel are far too difficult to keep from a perspective enemy. And the farther forward these items, the more difficult to conceal. A bomber is a mobile platform, but it is tethered by its radii of action to its sources of support. A bomber is a moving target only during the hours of its mission; a submarine is a mobile launch platform, hidden for months at a time. These submarines were silent (only receiving transmission, not sending them), submerged, undetected. A strong argument can be made that a survivable submarine force might be the ultimate deterrent, but this cuts to the heart of deterrence and goes far beyond matters involving merely the bases. So, I will acknowledge the value of the fleet ballistic missile force, but then leave it, at its inception. The important factor to my topic is the timing, late 1960, the end of my period. My concern is with the overall impact that all of these new strategic weapons systems had on the use and function of SAC bomber bases abroad.

Cumulative Effect Upon Overseas Bases

Until late 1960, operational control of the American strategic arsenal rested with SAC. Examination of the command's force structure throughout the 1950s reveals the strategic changeover which occurred at the end of the decade was a progressive development, not an instantaneous occurrence. SAC utilized overseas bases only when no other options existed, and the command rapidly assimilated new platforms as they arrived. The following chart lists the collection of SAC's forces and holdings over the course of the decade, and from this long perspective several new conclusions can be drawn concerning overseas bases.

Table 17
SAC Force Structure, 1950-1960

calendar year	heavy bomb wings	ICBM squadrons	air refueling squadrons	stateside bases	medium bomb wings	overseas bases
1950	2		12	19	12	1
1951	3		16	22	19	11
1952	5		19	26	21	10
1953	6		28	29	22	10
1954	6		32	30	24	11
1955	11		39	37	27	14
1956	11		40	36	28	19
1957	11		40	38	28	30
1958	11	3	48	39	28	25
1959	12	6	57	40	27	25
1960	12	10	59	46	25	20

Some of these units are not fully equipped. For instance, the ICBM squadrons of 1958 did not have any missiles. For the inventory of specific aircraft see the Table 13, 'Combat Ready Bombers.' Sources: data from HQ USAF, SD FY1950-1960; HQ SAC, Fortieth.

The first four columns show continual growth throughout this period, trends which would continue into the next decade. Medium bombers and overseas bases peaked about the time of Sputnik, and then began to decline, a trend which would continue and accelerate in the next few years. There is, expectedly, a direct correlation between medium bomb wings and overseas bases. But, even more significantly, there is an inverse relationship between these two elements and those in the first four columns. Heavy bombers, ICBMs, and aerial tankers could have their bases in the continental United States; by design, each of these systems could obviate the need for overseas medium bomber bases.

The overseas bases column show two large jumps, 1951 and 1957. The first was due to the Korean War, and the sites were primarily operational bases for rotational units, and most of these bases were in the United Kingdom. The increase in 1957 appears contrary to the professed decline of these sites, but further examination reveals

it to be largely from reorganization. After the outbreak of the Korean War, the Joint

Chiefs of Staff established the Northeast Air Command (NEAC) and assigned it dual

responsibilities, to defend the northeast approaches to the continental United States and

to develop bases for SAC staging operations in the region. NEAC was discontinued on

1 April 1957 and its bases were partitioned among Air Defense Command and SAC.

Through this, SAC gained six bases in Greenland, Newfoundland, and Labrador. These

were not primary bomber bases, but rather staging sites for bombers or forward

locations for tankers. SAC had used these bases throughout the decade, now the

command fully controlled the sites.[39] On 1 July 1957, the Sixteenth Air Force in Spain

came under SAC jurisdiction, and with it, four rotational bomber bases and a

headquarters. Construction of these sites began in 1953 and 1954, but it took several

years to become fully operational. These were new sites, but they were not meant to

merely augment SAC's base holdings, SAC's Spanish bases would assume the duties of

the rotational sites in Morocco, as a slew of troubles grew with the North Africa bases.

The 1957 acquisitions were merely organizational changes or replacements, not truly a

growth of the overseas bomber bases system.

The number of overseas bases is still high late in the decade, but the function of

these sites changed drastically. Operational use of overseas bomber bases declined

markedly after late 1957. No longer did entire medium bomb units rotate abroad for

ninety day tours, as they had since the Korean War. Appendix A.6 through A.8 shows

SAC bomber rotations through three representative overseas bases: Andersen AFB on

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[39] HQ SAC, Fortieth, pp. 63-64.

Guam, RAF Lakenheath in England, and Sidi Slimane Airfield in Morocco. It is clear

that use of these sites decreased, long before the bases were abandoned altogether.[40]

SAC crews began sitting ground alert operations at selected bases overseas when

REFLEX ACTION began on 1 October 1957, and seven months later the last SAC

bomb wing on a ninety day overseas deployment returned to the United States.[41]

Rotational training allowed crews to fly from an overseas base to familiarize themselves

with the regions, but in stark contrast, REFLEX aircraft never flew when on alert: the

planes sat "cocked" for the entire twenty-one day period, loaded with weapons and fuel,

and prepared for launch at pre-selected targets within fifteen minutes.[42] REFLEX

procedures became worldwide in 1958, and six B-47s remained on alert status at SAC

bases in England, Morocco, and Spain. Guam, the lone SAC base in the Far East, kept

twelve B-47s on alert.[43]

In October 1959 Eisenhower directed Secretary of Defense Neil H. McElroy to

conduct a new Presidential report on overseas bases, the Nash Report was almost two

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[40] By late 1957 "few SAC planes are on overseas bases--practically none," according to NSC consultant Robert Sprague in a meeting with the President, the Secretary of Defense, the Director of the CIA, the Chairman of the JCS, the Chief of Staff of the Air Force, and the SAC Commander. See memorandum of conference with the President, 7 November 1957, DDEL, WHO SS, DoD files, box 6, file Military Planning, folder '58-'61 (3).

[41] This was the 100th Bomb Wing, returning from RAF Brize Norton in the UK, and ended a period of five years of continuous B-47 wing rotations to England. HQ SAC, Fortieth, p. 74.

[42] There were more crews than aircraft, so the typical REFLEX tour for a SAC bomb crew involved one week of alert, one week rest and relaxation, then the last week back on alert. And many of the crews did not fly in and out with the aircraft; if the same unit had REFLEX responsibilities, only the crews changed after three weeks, not the aircraft. The replacement crews often flew with the tankers which frequently moved in between the overseas bases. A great deal of REFLEX information can be found in Peacock, B-47, pp. 137-145, which offers tremendous details concerning the B-47 operations in the UK. The chapter containing the section on REFLEX bears the title 'Decline and Fall,' and he too views the late 1950s as the waning days of the B-47's usefulness.

[43] Changing to an alert posture was not a quick transition for the command. SAC bases had to undergo modifications to construct separate living quarters for the alert crews, new ramp layouts for aircraft parking, and usually a new runway. The cycle for alert lent itself to a four-part cycle (planning, flying, alert, rest) and to support this SAC bomb wings changed from three to four squadrons. New training policies also had to be instituted to prepare the crews and the bases for alert procedures. Power's goal was to have one-third of the SAC force on continuous alert, and this was achieved in May 1960. HQ SAC, Fortieth, pp. 63-92; Lang Report, DDEL, p. 12.

years old and the findings needed an update. William Lang, from the Office of the

Assistant Secretary of Defense (International Security Affairs), conducted the study

aided by three members of the Joint Staff. The resulting Lang Report, titled 'Review of

United States Overseas Military Bases,' went to the National Security Council in April

1960. The introduction to this latest base report cited a passage from the earlier base

study:

> It is certain, however, that adjustments and shifts in emphasis will occur as we
> adjust our strategic doctrine to the range of new weapons, improvements in the
> mobility and firepower of our tactical forces, and the political or military
> vulnerability of particular overseas areas.[44]

This statement became the foundation for the new study of overseas bases, with a

charter to examine the changes then occurring and expected to occur over the next

decade.[45]

The Lang Report placed a heavy emphasis on overseas strategic air bases, but

recognized their altering role as they moved from occupied bomber bases to support

operations (such as tanker bases, emergency recovery fields, and post-strike staging

sites). The strategic equation was now considerably different than it had been earlier in

the decade. Military capabilities had dramatically increased on both sides of the Iron

Curtain, and the political situation had considerably changed on both sides of the

Atlantic. The report presented a chart of the programmed SAC force structure for 1960

and 1963, and through this a shift in emphasis is readily apparent:

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[44] Nash Report, DDEL, p. 12-13; quoted in Lang Report, DDEL, pp. 5-6.
[45] 422nd NSC Meeting, 29 October 1959, DDEL, AWF, NSC collection, box 11. See also cover memos from Executive Secretary and Secretary of Defense in Lang Report, DDEL.

Table 18
Programmed SAC Force Structure, by squadrons
1960 & 1963

	1960	1963	change
Medium Range Bombers	104	64	-38%
Long Range Bombers	36	42	17%
KC-135	26	40	54%
Intercontinental Ballistic Missiles	7	32	357%

Source: data from Lang Report, DDEL, p. 1.

Clearly the medium bomber force was in decline, while those of long range bombers

and jet tankers continued to climb. Most significant though, was the expected mercurial

rise in the ICBM force. Largely due to this, there was to be a one-forth drop in the SAC

bomber force. In 1960, for the first time since inception, the total number of SAC

squadrons declined: a few missiles could do the job of many bombers. Eisenhower had

long been a firm supporter of overseas bomber bases, but in his Presidential memoirs

(which were published in 1965) even he would write: "Today the guided missile is,

gradually, supplanting the airplane as an engine of war."[46]

By 1960 the bomber base lessons of World War II no longer applied: other

weapons now had strategic capability, bombers would not be the first to fight in enemy

territory, costly wartime bomber bases would not be required. The primary need for

these bases vanished. The tertiary need did not entirely disappear, for the bases still had

a role in any conceived strategic air war against the Soviet Union.[47] SAC retained

wartime operating rights its bombers at several sites around the globe, but peacetime

possession was no longer necessary.[48] These sites merely augmented one element of the

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[46] Eisenhower, Waging, p. 260.

[47] Overseas bomber bases could still serve a variety of military, political, and economic functions (as could overseas bases of any kind), but their support of the strategic deterrent force was minimal after 1960. See Albert Wohlstetter, "On the Value of Overseas Bases," RAND Pamphlet P-1877, 5 January 1960.

[48] See Appendix A.4.

strategic force, increasing options within a single part of the expanding arsenal of American weapons. Strategic tools had been recast, the medium bomber overshadowed by newer delivery systems. Overseas bomber bases had little place in this emerging force structure; and this had been the goal all along. The long sought ideal of freeing American strategic forces from other powers had finally materialized.

Chapter 9

Final Assessment

The whole story of U.S.-Western European relations in the 1950s is thus full of cross-currents that scholars have barely begun to examine. The story, in fact, is not easy to sort out. But in these days when people should be thinking of how to create a stable political system in Europe in the aftermath of the Cold War, it is important to look back and try to understand how the Cold War itself took shape. The way people interpret the past certainly affects the way they think about the future. There are always lessons to be learned. But even more important than that, there are always false lessons to be unlearned.[1]

Marc Trachtenberg, 1992

New Findings

Throughout this dissertation I have presented five major findings which add to our general understanding of American overseas bomber bases in this period of the Cold War. This section will articulate each new item and consolidate aspects which appear in earlier chapters. Additionally, I shall discuss my findings in relation to other historical works to distinguish my work and illustrate points where I contradict or significantly improve upon previous literature. It should be stressed that Strategic Frontier is the first systematic analysis of the overseas bomber bases controlled by the Strategic Air Command during the 1950s, and distinctions drawn between my work and other base histories are primarily due to the narrower focus of my topic. Previous authors who have commented on SAC bases generally had a much wider perspective and tended to make

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[1] Marc Trachtenberg, "The Nuclearization of NATO and U.S.-West European Relations," in Francis H. Heller and John R. Gillingham, eds., NATO: The Founding of the Atlantic Alliance and the Integration of Europe, (New York: St. Martin's Press, 1992), pp. 413-431, quote p. 425.

broad generalizations. Many of their statements are incorrect, misleading, or inadequate in regards to my area of concern. This chapter will clarify these points.

The first new finding is that overseas bomber bases were only intended as a temporary solution, and on this matter I contradict previous base histories. Other works tend to depict the life cycle of SAC bases as a stimulus-response model: the Korean War produced the bases, Soviet ballistic missiles forced their removal. Books by Harkavy, Blaker, Cottrell and Moorer, and Duke all present similar versions in which bomber bases are tied primarily to the Soviet threat.[2] There were indeed stimuli which spurred the development of these sites and hastened their decline, but these alone do not adequately describe the longevity of the bases. The matter is more complex and the time frame much longer than previously depicted. Properly, a thorough description of overseas SAC bases should have a narrower topical focus and a broader thematic focus than that used by previous historians. I have treated this issue in a more thorough manner and examined it from a different perspective. While previous authors discuss bomber bases merely as a subset of the American overseas base network, I have analyzed the SAC bases along a continuum of air power theory, bomber employment, and strategic force structures. A bomber base, by my description, was not an entity in itself, but the final step in the extension of American strategic air power. Pronouncements about the growth, use, and decline of the bomber bases should not be made solely in light of circumstances which

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[2] Blaker, Dilemma, pp. 30-46; Harkavy finds that the United States faced a dangerous "window" from 1959 to 1961 during which Soviet ICBMs could threaten B-52 and B-47 bomber bases. This is a somewhat jumbled description, for Soviet IRBMs could threaten B-47 bases overseas, while ICBMs could threaten stateside B-52 bases. And this latter threat did not end in 1961. Harkavy, Access, pp. 115-118; Harkavy reiterates this line of reasoning in slightly more detail in Presence, pp. 251-252; Duke, UK, pp. 101-106. Cottrell and Moorer are not as guilty of this as the others, Problems, p. 6.

existed in the 1950s, for several salient issues predate this period, and the temporary nature of the overseas bomber bases can be seen in several areas.

I have an entire chapter dedicated to aircraft, and staying strictly within the confines of strategic bombers it can be seen that overseas bases were only an transitory expedient. My research shows there was a constant effort to field newer, more capable planes which would obviate the need for overseas bomber bases. Even before World War II the United States sought to build a strategic bomber with intercontinental capability. In November 1941--the month before Pearl Harbor--the Army Air Forces placed production orders for the B-36, with a specified combat radius of four thousand miles, out of concern that Axis conquests might deny access to bases within striking distance of prospective wartime targets.[3] But wartime requirements delayed the development of the B-36 and other long-range bomber prototypes, and when delivered in the late 1940s none of these bombers attained intercontinental capability. The B-36 appeared promising in the late 1940s, offering a combat radius over three thousand miles, but the aircraft suffered from slow speed and limited performance, and was not expected to successfully penetrate the advancing Soviet air defenses. For a decade after the Second World War the Air Force struggled to produce a long-range bomber, but changing tactics, airframes, and fuel sources all failed to extend the combat radii of bombers. The B-52 became operational in 1956, but its effect was not truly significant until 1959, when ten heavy bomb wings attained combat ready status. By this point, conversion to the B-52 and KC-135 was well-underway, and with this, SAC aircraft no longer required overseas bases to reach the

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[3] This section will present aircraft issues. Later portions of this chapter will discuss other strategic forces and the broader issues of American strategy.

interior of the Soviet Union. The perimeter strategy of ringing the Soviet Union with an array of bomber bases was replaced by a polar strategy. Hereafter, American aircraft could be stationed in North America and fly across the North Pole to attack wartime targets in Eurasia. This polar strategy had been the desired form of projecting strategic air power for almost two decades, but it was not feasible until 1959. United States preference, not Soviet threats, was the primary reason for moving away from the use of overseas bases.

Overseas bases allowed SAC bombers to serve as a counterbalance to the tremendous superiority which Soviet ground forces held in Europe, and this too, was only a transitory requirement.[4] The need to forward-position SAC bombers was not an indefinite undertaking, for the inferiority of Western ground forces was being remedied, as NATO forces integrated, expanded, and increased their capabilities. The asymmetrical role of strategic bombers, and their attendant bases, was being replaced by other forces.[5] American leaders considered military parity a stabilizing influence on the Cold War, but it had the added benefit of reducing the need for positioning American strategic forces abroad.

The particular agreements signed between the United States and several host countries also illustrates the interim position of overseas bomber bases. Some SAC base rights in key locations existed with only yearly renewable terms, a curious arrangement if

[4] Harkavy makes a similar argument, but uses nuclear weapons instead of SAC overseas bases. Harkavy, Presence, p. 115.

[5] Asymmetry was defined in Chapter 3 as the use of strategic bombers to threaten the Soviet homeland, to counterbalance to the large Red Army presence in Europe. Soviet land forces could threaten Western Europe, so American bombers, in turn, would threaten targets in the Soviet Union. See Chapter 3, "The Purpose of Acquiring Overseas Bases" for a more thorough explanation of this concept.

American leaders were planning long-term use of the sites. I hold that American diplomats and military officers accepted these restrictive terms because overseas bomber bases were only a temporary solution.

By tracing the concepts and goals which underlie the SAC bomber bases overseas during the 1950s, it is apparent that American leaders desired the sites only while their strategic arsenal possessed limited range capability. At their height, SAC bomber bases comprised only three percent of the American overseas bases of the 1950s, but they should not be assessed merely a small subset of the United States base network. SAC bases resulted from entirely separate influences, and when viewed from this perspective, it is clear that having bases abroad was only a stop-gap measure.

My second new finding concerns the role of nuclear weapons. I claim that nuclear weapons had little to do with the development of overseas bomber bases. This is sure to be contentious, for it contradicts previous base histories and faults a large body of literature collectively known as strategic studies. Among these Harkavy expresses a common view:

> With respect to overseas military access, the close of World War II had also brought changes in military technology, evolving modes of strategy and the very basis for basing and access diplomacy. Most notably, the advent of nuclear weapons (superimposed upon the lessons assumed derived from the experience of strategic bombing during World War II) produced new needs for overseas bases, for deterrent purposes, and with a requirement for more or less immediate response.[6]

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[6] Harkavy, Access, p. 108.

I take issue with this statement on several counts. Harkavy fails to note that the lessons of World War II were produced primarily with conventional munitions, the Soviet Union did not possess the means to deliver a nuclear warhead until the middle of the 1950s, and that deterrence existed long before the advent of nuclear weapons. Deterrence is an ancient concept, nuclear weapons heightened the risk should it fail, but did not alter its principles.[7]

Previous literature which mentions overseas bomber bases fails to separate three distinct elements: the bombers, the bases, and nuclear weapons. The three fundamental elements of American strategy must be partitioned, to assess the historical precedent of each and to more accurately weigh its contribution. The novelty of nuclear weapons has allowed other historians and political scientists to lump the three together, blinding them to the individual characteristics. I have analyzed each part separately, to glean distinct characteristics and reassess interpretations of overseas bomber bases. Through this I discovered that there was sufficient cause for overseas bomber bases in the 1950s even without nuclear weapons.

The primary considerations of SAC bases derived from the inherent capabilities of bombers, not nuclear weapons. The historical roots for overseas bomber bases came from the tenets of air power theory which developed after World War I and from the combat experiences of World War II. Through these ideas and events a concept of strategic air power emerged which successfully promoted the bomber as the primary means of access to the heart of an enemy nation. For the United States, from the advent of the B-17 in

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[7] Brodie makes this point in <u>Missile Age</u>, p. 271.

1935 to the deployment of non-aircraft strategic weapons in 1960, the strategic bomber

possessed two qualities distinct among American weapons systems: it had the longest

radius of action and could attack an enemy faster than any other military force. During

the early Cold War period, only Air Force bombers could reach the interior of the Soviet

Union. Had the B-47 carried twelve tons of mere rocks, until the late 1950s it remained

the only weapons system capable of delivering a load two thousand miles and then

dropping it within half a mile of an intended target. Access was the key, not destructive

power, and targets, not weapons, defined the strategic mission.

I am not seeking to denigrate the deterrent and psychological capacities which

nuclear weapons brought to the bases, nor to ignore the contribution that these weapons

made to the era. But I do reject the intimate linkage that has been made between

bombers, bases, and nuclear weapons.[8] Harkavy, for instance, announces: "It is obvious

that in the earlier part of the post-war period the USA greatly depended on foreign bases

for its nuclear deterrence..."[9] A depiction such as this fails to distinguish the individual

influences which were driving each component part of America's base strategy and,

further, treats nuclear weapons as if they entirely altered earlier historical influences. In

countering others for their views on overseas bases and nuclear weapons, I am following

a similar tact used by George Quester when examining the deterrent literature of the

1960s. The opening sentence to his book <u>Deterrence Before Hiroshima</u> proclaims:

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[8] Duke mentions the strategic value of SAC bombers, but stresses the nuclear aspects of the bases. He does, however, undermine some of his own logic when he states: "From the mid 1950s on, as the deployment of Thor IRBMs was to show, nuclear forces did little but neutralize or match those of the other side." Duke, <u>UK</u>, p. 100-101.

[9] Harkavy, <u>Presence</u>, p. 251. Duke and Harkavy often make similar arguments, which is not surprising as they often cite one another.

We often assume today [1966] that atomic weapons have changed air strategy enough to preclude any interesting or valuable analogies with the past. An attempt will be made here to prove just the opposite, to demonstrate that we are not alone in the "balance of terror" problem that we face, or so original in our solutions to it.[10]

My research has shown that strategic air power, and its attendant overseas bases, possessed characteristics entirely independent of nuclear weapons. To any detractors, I pose the following counterfactual questions: without nuclear weapons, would the American bomber base structure have been any different? What could possibly have substituted for SAC bombers on overseas bases? Bombers abroad, regardless of their destructive capacity, offered direct access to an enemy nation and presented an asymmetrical threat toward enemy leaders. Nuclear weapons did not change any of this, but merely extended an existing capacity. Nuclear weapons certainly heightened the destructive capability of strategic aircraft, but I maintain that had fission and fusion not existed, American bomber bases would have been built at the same time, in the same places, for the same purpose.

The third new finding is that the demise of the SAC bomber bases was a long and multi-causal process. On this matter I also contradict previous scholarship, for I have shown that reliance on these sites waned at the end of the 1950s due to a combination of military and political factors. As mentioned in Chapter 8, previous base histories fixate on military causes for the decline of overseas bomber bases. The typical depiction is reductive and holds that by the late 1950s Soviet ballistic missiles threatened the overseas bases, and shortly thereafter the United States built new strategic systems (predominately

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[10] Quester, <u>Deterrence Before Hiroshima</u>, p. 1.

IRBMs and ICBMs) which could replace bomber bases abroad.[11] I take issue with

descriptions such as this, and fault others for being imprecise and not fully considering

the long-term strategic goals of the United States.

Other bases historians depict the situation in the late 1950s as an example of

technological determinism, where new systems magically appeared to fit an immediate

need to substitute for medium bombers on overseas bases. Ballistic missiles, however,

did not simply materialize at the end of the decade. The United States had actively

sought to field a force of IRBMs, ICBMs, and SLBMs throughout the decade, as Chapter

8 has briefly recounted. Thermonuclear breakthroughs from 1952 to 1954 reduced the

weight and size of a nuclear warhead, so it could fit within a ballistic missile. Missiles

had tremendous range capability, but until these breakthroughs they were not truly viable

strategic weapons, accuracy was far worse than that routinely attained by a manned

bomber (a five mile CEP versus a half mile CEP), and the one ton weight limit for the

warhead of a ballistic missile made it a wasteful, marginal, inefficient means of delivery

for strategic targets. But once armed with a small thermonuclear warhead, the collection

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[11] Blaker finds that as the B-52 and ICBM took over the strategic offensive mission, forward bomber bases, once so important to US nuclear strategy, were no longer needed, Blaker, Dilemma, p. 36. Harkavy's first book finds that Soviet missile advances led to a dangerous period from 1959 to 1961, when Soviet ICBMs could threaten B-52 and B-47 bases. This so-called "window" was closed in the short term with US IBM deployments to Europe in 1959, then with the American deployment of ICBMs and SLBMs in 1960. Harkavy, Access, pp. 117-118. Harkavy's second book offers an abbreviated version his previous work, but he does mention air refueling, Presence, pp. 251-252. Cottrell and Moorer treat the demise only very briefly, as a matter of substitution: the range limitations of the B-47 were overcome with the B-52, and overseas bases were no longer vital. Cottrell and Moorer, Problems, p. 6. Duke offers the most complex description, but his chronological is imprecise. He states that rotational tours were phased out in early 1955 (a date I dispute--see Appendix A.7) due to noise complaints from residents near to the runways and the high costs associated with such large deployments, but then announces that until the arrival of the B-52 in 1956, the US absolutely depended on overseas bases. To Duke, the American bomber bases in the UK declined with the arrival of British Victor bomber (1958), US ICBM deployments (1959), and the Polaris-missile submarines (1960). Duke, UK, pp. 101-102, 140-141.

of American ballistic missiles became a true alternative to the strategic bomber. The story of the ballistic missile's effect on overseas bomber bases is thus more complex, drawn out, and purposeful than previously described.

The bomber-missile changeover is only part of the story though. Bombers and missiles have been discussed here and elsewhere, but other military systems also had a tremendous impact on the use of overseas bases, and these systems have been ignored or minimized in previous base histories. Air refueling tankers, as discussed in Chapter 7, greatly enhanced the range capabilities of the SAC bomber force and were rapidly built up by SAC, with a ten-fold increase occurring between 1950 and 1955. By 1959 SAC had over two hundred KC-135s, which greatly aided the command's shift to a polar strategy. The impact of ballistic missile submarines, if mentioned at all, is typically lost within the array of American ballistic missiles which became operational in the late 1950s. But the Fleet Ballistic Missile force, which first went on combat patrol in 1960, presented a direct alternative to overseas bomber bases by offering strategic access to an enemy nation without the requisite of overseas bases.[12] This force must be considered when evaluating the SAC base system and, even beyond, for the SSBN force altered the very practice of deterrence. When both primary Cold War adversaries attained the ability to attack across intercontinental distances, the stabilizing factor of deterrence moved away from strategic capability and towards the security of strategic assets. Strategic bombers on an overseas base could not match the survivability of submarines on patrol in international waters.

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[12] As discussed in Chapter 8, the American SSBN force used three overseas submarine bases, but the sites were a convenience, not a necessity.

Thus, the military causes for the decline of overseas bomber bases have been far too rudimentary among previous works. There were indeed significant military influences which led to the terminus of the overseas bomber bases, but underlying all of them was a desire to avoid the need for the sites in the first place. The rapid demise of the bomber bases, recounted by so many others, was not happenstance. The primary military cause was not Soviet missile developments, or for that matter, even American missile developments. The United States moved away from use of these overseas bomber bases because that had been the goal all along. It was a long-term plan to free American strategic forces from possible interference by foreign governments.

In addition, previous base histories have been one-dimensional when describing the ebb of overseas bomber bases, for there were prominent political issues which affected the timing of this occurrence. This matter will be described in detail in the following section, but here it must be stressed that other historians have largely overlooked the role which international politics played in this decline.[13] As described in Chapter 4, the political influences for the demise of the bases came in a number of steps, from several directions. Beginning in the mid-1950s Soviet leaders boasted of alleged missile capabilities and the risks faced by nations which allowed SAC bomber bases on their soil. These threats forced the host nation government and local populace to weigh the benefits of a SAC base against the risks. This appraisal often resulted in greater

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[13] As Chapter 4 notes, Blaker readily admits that he does not even consider the political factors of overseas bases, see Dilemma, p. 2. Politics of other eras are discussed in Cottrell and Moorer, Problems, and Harkavy, Presence. Duke provides historical background in Europe, but focuses on the politics of base agreements in effect during the 1980s. The following works discuss only a single country, and thus offer only a limited political perspective: Adams, Morocco; Duke, UK; Bowyer, Freedom; Campbell, Unsinkable; and Murray, "Initial."

concern about serving as a host, which could manifest into local protests, operational restrictions, or increased demands upon the United States for military protection, economic incentives, or technical information about nuclear weapons. The United States government, in turn, had to reassess the contribution that each base made to American strategy, and measure whether some of these sites were worth the increasing demands. The political ramifications of this period are often lost due to the rapid deployment of new strategic weapons, which quickly circumvented the growing friction between the United States and many hosts.

The fourth new finding concerns the economic costs of overseas bomber bases. On this matter I have greatly improved upon earlier works by presenting the overall costs in a more detailed manner.[14] Following the methodology of Duke and Blaker, I too have separated the economic costs of SAC overseas bomber bases into two parts: permission costs and facility costs. I agree with Blaker's assessment (although he was concerned with the period after 1960) that permission costs are still indeterminate.[15] There were many reasons for this. As I presented in Chapter 5, both nations involved in base negotiations had a vested interest in keeping the expenses hidden. Facility costs, however, can be determined and I have done so specifically for a B-47 rotational bomber base--the most common type of SAC base abroad in the 1950s. On this matter I relied

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[14] As addressed in Chapter 5, most bases histories (such as Harkavy, Access and Presence, Cottrell and Moorer, Problems, and Campbell, Unsinkable) avoid economic issues. Blaker discussion of overseas bases costs in Dilemma is helpful due to its methodology, but it begins later, in 1960. Duke, UK, and Murray, "Initial," offer specific figures for the expenditures on American bases in the UK, but these numbers are not analyzed, nor put in context.

[15] As discussed in Chapter 5, the most thorough report on overseas bases of the decade, the Nash Report of 1956, repeatedly stated that permission costs could not be precisely quantified, for the diplomatic expenses associated with overseas bases had become lost within a collection of American goals and interests abroad. And this still holds true.

heavily on several RAND reports of the period. I began with the basic facility costs, as others have done, but then furthered the analysis by listing the construction costs and additional operating costs incurred for bomber bases in particular geographic locations. I have used the term 'systems cost' to define the aggregate expenses associated with building, supporting, maintaining, and using a SAC bomber base abroad. By my estimation, which I lay out in Chapter 5, it cost three billion dollars to build the collection of primary SAC bomber bases abroad. The total operating costs of these sites over the course of the decade was approximately five billion dollars. Thus, the overall total for building and operating the array of primary SAC bomber bases abroad was eight billion dollars, much higher than the mere facility costs offered by others.

But even with the high tabulation of systems costs, there was an economic rationale for seeking these bases abroad. Within the constraints imposed by American strategy and SAC force structure, paying for overseas bomber bases made sense. Comparatively, overseas bomber bases were the least expensive means of projecting strategic air power until the late 1950s. Air refueling was extremely costly, for the tanker requirement increased exponentially as bomber range extended. Among the primary bomber-tanker pair of the decade, it would take five KC-97s to double the combat radius of a B-47. Buying enough tankers to allow the B-47 to operate from bases in North America tripled the total aircraft systems costs. Extending the combat radius of a single B-47 wing to intercontinental distance (a prospect complicated by the bomber's limited crew size), was equal to the systems costs of five medium bomber bases built in French Morocco. Long range bombers were also expensive, the systems cost of a single B-52

wing was just shy of half a billion dollars--equal to the combined systems costs of a B-47 wing, a KC-97 wing, and a new rotational bomber base in Southern Alaska. It is a fair comparison to weigh the costs associated with fielding an American Army division against a medium bomber base, for SAC rotational bases were built so strategic bombers could offset the huge manpower advantage of the Soviet Army. Strictly in terms of annual costs, four SAC medium bomber bases could be operated around the edge of Western Europe for less than it cost to keep one Army division on the continent.

The expenses associated with building bomber bases abroad amounted to a tremendous return on previous investments. Overseas bases allowed the projection of an existing and very expensive bomber force. In the five fiscal years before the Korean War, the United States military placed production orders for 1,645 medium and heavy bombers, and without the use of overseas bases these aircraft could not serve their intended role. Overseas bases were the last link in a string of costs for American strategic air power during the 1950s. The total costs of overseas operations could legitimately be added to the costs of the American strategic aviation force, which until 1960 consisted wholly of SAC. For less than two percent of the decade's military budget the United States built and used an entire collection of overseas bomber bases for SAC, a command which consumed about one-fifth of the American military budget.

The fifth new finding, the matter of SAC control, is perhaps the most significant contribution that this work makes to the study of overseas bases. Most historians fail to even note this point, and those that do never analyze the issue, trace its development, nor scrutinize its ramifications. I speculate that the base histories discussed throughout this

work have never given SAC control proper attention because of their wider perspective, the differences involved with SAC control were not noticed or addressed because they comprised only a small portion of America's overseas base network. SAC histories, on the other hand, have just the opposite focus, one too narrow to note the contrasts between SAC bases and other American facilities abroad.[16] Both of these groups have failed to distinguish the significance of the chain of command for these sites.

SAC overseas bomber bases were unique facilities, and here, my work has been original research. I have examined the issue of SAC control in three key areas: why it was desired, how it occurred, and, most importantly, what this control meant. The philosophical underpinnings for seeking SAC control developed from the principles of air power theory, which held that a strategic bomber force should concentrate on strategic targets within the enemy homeland. According to this theory, to best accomplish its mission a bomber force should be directed by airmen and independent from theater commanders, who may seek to use the bombers for more immediate, battlefield objectives. SAC's operational chain of command was exceptional, it did not run through any regional or allied structures. SAC forces were under the command of SAC Headquarters, then the JCS, then the President. In the spring of 1951, SAC gained control of its own collection of overseas bomber bases, and this marks a significant turning point in the history of American military facilities abroad.

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[16] In addition to the SAC histories discussed earlier, there are several others that also fail to call attention to the issue of SAC control: Lindsay Peacock, Strategic Air Command, (London: Arms & Armour Press, 1988), pp. 16-17, 25, mentions that SAC air divisions operated abroad and that they controlled SAC facilities, but the matter is left there. Bill Yenne, SAC, (Novato: Presidio Press, 1980?), Mel Hunter, Strategic Air Command, (Garden City: Doubleday & Company, Inc., 1961), and Richard G. Hubler, SAC: The Strategic Air Command, (New York: Duell, Sloan & Pearce, 1958) each offers a survey of SAC operations to include the use of overseas bases, but the significance of SAC control is never discussed.

The next section will discuss how and why SAC gained control of a collection of overseas bases. The salient point here is the ramifications of this issue. I argue that SAC gained control of overseas bases because this well-suited larger American goals. Air Force officers sought SAC control of overseas bases, but could not have achieved this end on their own. They were aided by high-level military and political leaders. SAC was unique by mission and command structure, and the overseas bases controlled by SAC were an extension of these factors. United States leaders sought to control their own strategic assets, and with a system of SAC bases abroad this could be achieved. SAC overseas bases were technically independent of any foreign governments, so should alliances falter or deterrence fail, American strategic forces would still be controlled by American leaders. American national security would not be jeopardized.

Main Argument

This following section is only a brief synopsis of the main themes presented throughout this work. As such the argument will only be offered in skeletal form. I direct the reader to return to particular chapters for a more thorough explanation of the ideas, concepts, and findings mentioned here.

A thematic presentation has been used in the previous section and the bulk of this dissertation. However, a chronological structure will be used here to present a general summation of this work, for the many facets of SAC overseas bases can be recounted and the changing role of these sites can be more clearly discerned. For ease of presentation I shall return to the time periods used earlier in this work: the Korean War (June 1950 to

September 1953), the New Look (October 1953 to October 1957), and Sputnik (late 1957

through the end of the decade).

Again and again, it has been shown that the impetus for the funding, development,

and use of these bases was the Korean War. The communist invasion of South Korea

seemingly validated the assumptions put forth by NSC-68. To American leaders the

conflict was seen as a direct move against Western interests, one led by the Soviet Union,

sponsored by Red China, and carried out by North Korea. The complicity of these

communist nations is still debated, but the American response was clear: contain the

conflict on the Korean peninsula and prepare for the possibility of a major war in Europe

against the Soviet Union. For the first time, the Truman Administration accepted a

budget deficit and, in the course of only six months, enlarged the American military

budget fourfold. United States leaders directed a massive expansion of military forces

and, as part of this build up, the Air Force was to double its number of combat wings

within two years, with the largest increase among medium bomb wings.

The greatest concentration of American allies and interests abroad was Western

Europe. Allied military forces were weak throughout the region, yet closely positioned to

a massive Soviet army. The 175 divisions of the Red Army could not be matched by any

conceivable allied army, but strategic air power could readily offset the inferiority of land

forces, serving an asymmetrical threat towards the Soviet nation. Soviet armies

threatened Western Europe, so American bombers threatened the Soviet Union. In the

early to mid 1950s, only strategic bombers had the necessary speed, survivability, and

range to pose a viable threat towards the Soviet interior. The sole strategic bombers

among western nations were those within the Strategic Air Command, and the SAC force structure was heavily composed of medium bombers, aircraft with a combat radius of action of approximately two thousand miles. In order for SAC to pose a viable threat towards the Soviet heartland, medium bomber bases were required overseas.

There were several military considerations for locating the majority of the bombers on the edge of Western Europe. Offensive considerations were paramount, for the American strain of air power theory held that aviation forces are inherently offensive. The primary target sets for SAC bombers of this period centered upon the DELTA mission, strategic attacks which would disrupt the enemy war economy. The exact target locations are still classified, but several RAND studies of the early 1950s show that the geographic grouping of potential sites was heavily concentrated, with eighty-eight percent of the DELTA targets in the western portion of the Soviet Union. American bomber bases thus had compelling offensive reasons for arraying near Western Europe. Defensive considerations pushed the bomber bases toward the rim of continent, to better shelter the sites from potential enemy action. The resulting SAC bases were constructed at the edge of American bomber radii of action, positioned as far as possible away from Soviet military threats, yet within range of assigned wartime targets. These bases placed American bombers within single flight range of wartime targets, and through this, the Soviet interior could be directly threatened. The fundamental element was access, not which weapons the aircraft would employ.

Half of SAC's overseas bases were in the United Kingdom, and there was strong justification for this. Close relations between air leaders of the two countries ensured that

bomber bases in Britain were upgraded after World War II, so they could be quickly available for American aircraft should the need arise. Several of the bases had been used continuously by SAC bombers since the 1948 Berlin crisis. In 1950 adequate bomber facilities and necessary communications were not available anywhere else within striking distance of prospective Soviet targets. Defensively, the United Kingdom was appealing as well. In 1940 Britain alone had withstood the German aerial onslaught, and ten years later had the strongest air defense network in NATO. Unlike any other NATO ally in the first half of the decade, forces of the United Kingdom were expected to hold against any potential military challenges. Of all possible sites with access to the Soviet Union, the most secure location for American bombers bases was the United Kingdom. These sites are yet another example of the Anglo-American "special relationship." Despite political disagreement and fallout in other matters, the build up and retention of American bomber bases shows that tremendous cooperation existed on the highest matters of national defense. The two nations were intimately linked, mutually dependent. Britain needed security guarantees which only SAC forces could offer, and SAC aircraft required forward positions to remain viable. There is a great deal more to the story of SAC bases in Britain, I have only touched upon the issue. But I view this matter as one of mutual consent, a partnership sought by both sides, which was separately and collectively beneficial.

Prior to the Korean War, SAC bombers had deployed abroad, but it was events in the first six months of the war which precipitated the development of SAC control over its own overseas bases. This matter is best seen as an interrelationship among two

geographic theaters, the Far East and Western Europe. In accordance with American national security objectives, SAC bombers were sent to the Far East to augment the FEAF, and following standard procedures, when these bombers arrived they were under the direct operational control of the theater commander, General Douglas MacArthur. At the behest of General Hoyt Vandenberg, the Air Force Chief of Staff, the Joint Chiefs of Staff sent a total of four SAC medium bomb wings to the Far East. But there were limited strategic targets in the conflict and LeMay, Vandenberg, and members of the JCS grew increasingly frustrated at the ground-oriented campaign which the bombers supported.

Also in the summer of 1950, SAC's premier units went west to Europe, to bolster the precarious allied defenses in the region. It was here that the command first gained control of its own bases, and the matter started with LeMay. He accepted the command arrangements in Korea, but at the same time sought to ensure they would not be repeated elsewhere. The SAC commander was concerned about a potential lack of support from theater commanders for his deployed forces, and he used logistics as the initial basis for seeking direct control of SAC aircraft abroad. At this time an array of overseas sites was being prepared for use by SAC, the bulk were in the United Kingdom, but others were in Puerto Rico, Guam, Okinawa, Alaska, and French Morocco--each a location controlled by a different theater commander. LeMay argued that SAC forces, as part of a specified command, were not attached to any theater command, but under the direction of SAC Headquarters, then the JCS, then the President. LeMay's argument was based on the tenets of American air power theory, and paralleled that used by General Hap Arnold to

gain operational independence for the Twentieth Air Force in World War II. To the SAC

Commander, bomber forces abroad could best be directed by centralizing control, and

mission, not geography, should dictate command arrangements for strategic assets.

LeMay succeeded, but this could only have happened with broad support from

above. Vandenberg actively supported the arrangements out of frustration with bomber

employment in Korea, the Chief wanted bomber forces controlled by airmen, and the

only way to ensure this was to advocate SAC control. Vandenberg endorsed LeMay's

plan at a meeting among high ranking Air Force officers on 22 December 1950. Also

present were several Air Force generals who would later play prominent roles in

propagating this policy: Lauris Norstad (later USAFE Commander, NATO Commander

for Air, and SACEUR) and Nathan Twining (later Air Force Chief of Staff and Chairman

of the JCS).

LeMay established two SAC air divisions in early 1951: the 5th was responsible

for SAC forces in French Morocco, and the 7th for SAC forces in the United Kingdom.

As these units readied to move overseas, LeMay sought to gain control of more than

merely SAC's deployed forces. With the endorsement of Vandenberg, the support of

Norstad (USAFE Commander), and the acquiescence of General Dwight Eisenhower

(SACEUR), SAC gained operational control of its own collection of overseas bases. At

this point SAC established itself as a controlling agency external to any theater command

arrangements, a position that would be maintained for the remainder of the decade. SAC

control of overseas bases was a means to an end, a method of directing the strategic

mission. I have traced the development of SAC control within Air Force primary

documents, then go beyond this level of analysis to claim that the arrangement could not have materialized without strong support beyond the Air Force. Even from the beginning, there were international complications with seeking SAC control of overseas bases, and I hold that these matters were endured because SAC control conformed to larger desires among American leaders, namely to maintain direct operational over America's strategic forces, wherever they may be assigned.

The first year of the Korean War witnessed a tremendous American diplomatic effort to gain overseas operating rights for SAC bombers. An American 'country team' negotiated SAC base rights with each separate host nation. The most difficult negotiations involved smaller countries far removed from the tensions of the Cold War, particularly those newly emerging from colonial status. American motives were distrusted from the start and this led to continual political tension. The easiest sites to obtain were in nations which held a multilateral defense treaty with the United States. For SAC bases, the most significant of these was NATO. During the 1950s SAC gained operating rights in eighteen separate countries or territories, with NATO nations and their colonial territories comprising twelve. Western European nations tended to have a strong identification with the Cold War and the provisions of collective security, but even so, the unique status of SAC bases did not go unnoticed. Seeds of concern were planted at this time as the political crux of these sites appeared: the bases were to support NATO, but were not a part of NATO. This was not a major issue for the NATO hosts at the time, for the Soviet Union possessed no comparable strategic weapons which could immediately endanger the bases or the surrounding areas.

Negotiations for SAC operating rights generally took one to two years. Twenty-four separate agreements were signed in the 1950s (six were with countries already holding previous SAC agreements), and nineteen were before 1954. The terms of access varied considerably among the host nations, with the most prominent factors hinging on the issue of time, the length of the agreement and the period in which SAC aircraft could use the site. The most restrictive time limits were in Iceland and Greenland, which had one year renewable terms. The most restrictive access existed with SAC wartime bases in the Japanese home islands, which imposed tight constraints on any use of nuclear weapons or the ability to launch strategic attacks unless Japan was actively threatened. The most common terms involved many NATO member nations, which allowed base use only if both nations were at war against a common enemy under the terms of the NATO alliance. The most permissive terms were in the United Kingdom, which held a compilation of formal and informal base agreements with SAC. Any use of British bases was a matter of "joint decision" involving only the two governments, without the requirement for consultations among any multinational organization. Beyond the United Kingdom, SAC gained bases rights through Commonwealth and British colonial territories in Canada, Bermuda, Malta, Cyprus, and Ascension Island. The British presence in Libya and Egypt greatly aided SAC access to air fields in the Middle East as well.

The Korean War period was a time of rapid base build up and saw continual use of existing sites. SAC bases were under construction throughout the Northern Hemisphere, with the highest concentration of sites around the edge of Western Europe.

The only way to threaten the homeland of the Soviet Union and its alleged junior partner, Red China, was with SAC bombers and continually throughout these years American leaders played a shell game with SAC aircraft on overseas bases, sending the bombers abroad to emphasize American resolve amidst international incidents.

The enunciation of the New Look policy in October 1953 was not a change in regards to strategic air power, merely a public statement of an already existing American position. There was continuity between the Truman and Eisenhower Administrations on the use and status of strategic air power. But changes were coming for overseas bomber bases. The New Look period lasted the middle four years of the decade and, in regards to SAC overseas bases, truly marked a period of transition, a fulfillment of the earlier build up and a premonition of the coming demise.

In the middle of the decade the Air Force was spending over one billion dollars a year on military construction, and about a quarter of this went to SAC overseas bases. The build up of overseas bomber bases was complete during this period and SAC's presence abroad peaked in 1957, when the command controlled a total of thirty sites beyond the continental United States. But upon closer inspection, this number was not representative of a high reliance on bomber bases. SAC gained six new overseas bases when the Northeast Air Command disbanded in April 1957, and none of the new bases were for rotational bombers. Bases in Greenland, Newfoundland, and Labrador were primarily for use by tanker units. Additionally, SAC gained operational control over the Sixteenth Air Force in Spain, and along with this four bomber bases and a headquarters

site. But, these Spanish bases were begun three to four years earlier and were intended to replace the troubled SAC bases in Morocco.

During this period American nuclear weapons underwent the final stage of a series of scientific breakthroughs which had a significant impact on SAC overseas bases. An increase in destructive power occurred with the thermonuclear tests of 1952, which proved the validity of fusion weapons. The explosive power of a single weapon could now be measured in equivalent megatons of TNT. Two years later, in the spring of 1954, nuclear tests proved that the effective size of these new weapons could be significantly reduced. Prior to this, SAC bombers were the exclusive means of strategic attack, for only these aircraft offered an effective means of delivering a load over thousands of miles. But the miniaturization of fusion weapons reduced the size of a typical strategic weapon from ten thousand pounds to only fifteen hundred pounds, and this smaller weight could be carried by a ballistic missile. The Army began developing two land-based IRBMs, the Navy sought another to carry aboard nuclear-powered submarines, and the Air Force pursued two ICBM systems. The proliferation of thermonuclear technology among American strategic weapons would greatly reduce reliance on overseas bomber bases.

Also during this period political difficulties arose with the possession and possible use of SAC overseas bomber bases. The fact that these bases were exclusively controlled by the United States further heightened the difficulties of retaining access to the sites. The rise of nationalism posed a threat to retention of SAC sites in relatively smaller nations, particularly those which had recently gained independence. These nations

tended to be physically and politically distant from the tensions of the Cold War, and American motives were often mistrusted. By the middle of the decade, SAC access was either lost or jeopardized in Egypt, Iceland, Morocco, and Libya, as successive new governments called for the renegotiation or removal of SAC bases. Advancements in Soviet strategic weaponry produced political problems for SAC bases among more established host nations. The Soviets tested a thermonuclear device in 1954 and the following year Soviet leaders boasted of emerging missile technology which could attack nations holding SAC bomber bases. Host governments and local populations began to realize the risks entailed with keeping a SAC base on their soil. Unlike other military bases (such as naval ports, army posts, or fighter bases), a SAC base did not contribute to regional defenses. A SAC bomber base protected the area only through deterrence, should war occur these sites actually brought increased risk to the region. And due to the nature of SAC's mission, the bases would become primary targets for Soviet weapons. Thus, a host nation would become a battleground in a superpower war, even if the host did not actively participate in the conflict. The governments of Spain, Japan, and even Britain began to show concern with serving as hosts for SAC.

The Suez War of 1956 marked a significant turning point concerning the use of overseas bases. For every international incident prior to this, American leaders sent SAC bombers to overseas bases. But from here and for the remainder of the decade, the strategic response of the United States would be seen at stateside SAC bases, not those overseas. SAC did send aircraft abroad, but these were tankers to bases in the North Atlantic area. Overseas bomber bases experienced no changes during this crisis. SAC

conducted its largest exercise to date in December 1956, when one thousand aircraft flew simulated combat missions throughout North America and the Arctic region. This was a watershed for overseas bases, for through this it can be seen that SAC was moving away from a perimeter strategy which relied on forward bomber bases, towards a polar strategy with bombers based in the United States.

The Sputnik launch in October 1957 accelerated trends that had begun earlier in the decade. The Soviet satellite caused American leaders to question their technical superiority over the Soviets and realize that America's only strategic forces, SAC bombers, were now vulnerable at their primary locations. The deployment timelines for alternative strategic weapons were compressed, to lessen reliance on overseas bases. Allies were also rattled by this event, and more than anything else, Sputnik brought political tensions with SAC bomber bases to the forefront. The tone of Soviet pronouncements became harsher and more direct concerning SAC host nations, so national leaders and local inhabitants began to fully comprehend the risks associated with these sites. The potential Soviet missile threat was now apparent and host nations fully reassessed their positions. There were protests against SAC bases in the Middle East, the Far East, and North Africa. The Japanese opposition to the sites was especially virulent, but even the solid support previously seen among some segments of British society began to erode. SAC bases were no longer a reassurance from the United States, a guarantee of the host nation's national security, but actually a liability, a focal point for hostility from the Soviet Union and potentially a location for wartime devastation. It was increasingly difficult to maintain an independent American strategic force on the soil of another

sovereign nation. By late in the decade SAC bases abroad compounded problems and fears among the many nations involved, the United States, the hosts, and the Soviet Union. These sites had become contentious for all.

SAC's collection of overseas bomber bases thus became a handicap on American foreign relations. Political problems and military risks forced American leaders to question whether these sites would be available should the United States need them in a war. The climbing political costs associated with these sites caused American leaders to reconsider their true value, and accelerated the search for alternatives, options that would allow increasingly complex political and military problems to be avoided.

Late in this period the United States fielded an entire collection of new strategic weapons, and underlying each of these was an American desire to avoid the need for overseas strategic bases. American leaders sought to protect their strategic assets and retain direct control over them as well, and each of the new systems fulfilled these provisions.

SAC had one wing of B-52s in 1957, two years later this number had increased ten-fold. By 1959 the command had over three hundred B-52s, all on bases in North America. The B-52 was the first true intercontinental bomber, with a combat radius of action of 3,550 miles Without refueling this aircraft could leave the United States and reach all but a small section of southern Russia; with only one refueling, every target in the Soviet Union could be reached. At this same time a fleet of jet aerial tankers entered the Air Force inventory, greatly aiding the SAC bomber force. By 1959 the Air Force had over two hundred combat ready KC-135s, and unlike its predecessors, this aircraft

did not require bases across the ocean. In 1960 ten SAC bases were in Canada, and all were for tankers, to enable B-52s to reach wartime targets by traversing the North Pole region. The long-sought polar strategy was finally realized.

Two forms of ballistic missiles also greatly altered SAC's overseas base structure. The first American ICBM arrived in 1958, and by the end of the decade this force was undergoing exponential growth. Both the Atlas and Titan ICBM missiles were assigned to bases in the continental United States, strictly under American control and as far removed as possible from the Soviet strategic arsenal. The Navy's Fleet Ballistic Missile program combined an elongated nuclear-powered submarine with the Polaris IRBM, and the first of these went to sea in 1960, patrolling neutral waters and also strictly under American control. This SLBM force not only offered a direct substitute to overseas bases, but challenged the very strategic role of the bomber. The nature of deterrence began to change, with emphasis moving towards maintaining a survivable strike force. In this regards, no bomber, whether stateside or overseas, could compete with the submarine.

SAC still had an assortment of overseas bases in 1960, but operations at these sites had undergone significant changes in the previous three years. On 1 October 1957, General Thomas Power, the new Commander in Chief of SAC, instituted REFLEX ACTION at selected SAC bases as a test of a new alert posture for the command. Previously entire SAC bomb wings rotated abroad for a period of ninety days, to practice flying operations at forward bases. But Power was concerned about the vulnerability of these forward-based bombers, for Soviet ballistic missiles could reach the sites, possibly

on a pre-emptive strike. During REFLEX duties SAC bombers did not fly, but sat, armed

and fueled, with crews readied to launch towards preplanned targets. This procedure was

defensive, to allow the bombers to survive with only fifteen minutes warning of an

inbound attack. REFLEX operations became worldwide in 1958, and SAC had bombers

on alert in England, Morocco, Spain, and Guam. The last SAC bomb wing on a ninety

day rotation returned to the United States in April 1958, marking the end of a policy that

had started in July of 1950.

Until 1960 America's entire strategic arsenal was under control of the Strategic

Air Command. Here, I direct attention back to Table 17, which shows a breakdown of

the SAC force structure over the course of the decade. It can be seen that the changeover

among strategic weapons which occurred from 1959 to 1960 was not an instantaneous

move, but a progressive development. There is a direct correlation between medium

bombers and overseas bases, and both reached their height at the time of Sputnik. But at

this point, the cumulative growth of heavy bomb wings, air refueling squadrons, and

stateside bases was felt. Throughout the decade SAC rapidly assimilated these items, and

I argue that this was primarily due to a desire to replace overseas bomber bases. These

categories, along with ICBM squadrons which would soon arrive, continued to grow for

the remainder of the decade, while medium bombers and overseas bases declined. There

is a casual relationship between these groupings, for the combined effect of new weapons

systems reduced dependence on medium bombers and their required overseas bases. This

was a planned replacement, not an overnight occurrence in response to Soviet advances.

Soviet progress sped this changeover, but was not the driving force. American leaders

had long sought to free their strategic forces from the possibility of foreign interference, and these new weapons finally allowed American strategic arsenal to operate from the sanctity of neutral waters and stateside bases.

The Wider Context

I will conclude by briefly placing my topic within a wider context.

The short history of SAC overseas bomber bases is a striking illustration of the economic potential of the United States. SAC bases abroad were negotiated, built, used, and abandoned, all over the course of a single decade. The sites were deemed a necessity in the early 1950s, to guard a perceived vulnerability, but even while these sites were being pursued, an assortment of alternative systems was being sought as well. The new systems (long range bombers, aerial tankers, ICBMs, and SLBMs) all developed concurrently. Strategic weapons were not competing against one another for budgetary allotments, but undergoing parallel development. Choices were made concerning the funding of these systems , but these were not hard choices, for all could be produced simultaneously. The separate systems were viewed as complementary, a mix of weapons which would further the American strategic arsenal. In less ten years the United States could afford to entirely restructure the composition of its strategic force.

American overseas bases of the twentieth century have been primarily developed for counter-hegemonic purposes. Bases have tended to go to overseas locations where a potential enemy nation poses the greatest threat to American interests. Prior to the middle of the century, when using traditional forms of military power, this was a fairly

straight-forward process: merely match an adversary's forces, wherever they might be arrayed. But the asymmetrical use of strategic air power made this matter much more complex. Strategic air power appears, at first, to serve as the supreme counter-hegemonic tool for the United States. In peace, it offers an asymmetrical threat towards the enemy homeland, and in war, it could reduce the military and economic power of an enemy nation. This concept underlies the development of SAC overseas bomber bases, but it became far more problematic to accomplish as the decade progressed. Positioning SAC bombers abroad well served American interests, and initially the bases also fortified the national security of host nations, but later in the decade the sites actually endangered the hosts. At this point, foreign basing of a purported counter-hegemonic force actually resembled a form of American hegemony.

SAC bomber bases of the 1950s are another example of American leaders searching for an active United States role in world affairs, while simultaneously guarding American interests. These bases allowed the United States to project its influence abroad with minimal risk to the physical security of the United States. The risks were borne primarily by the host nations for the bomber bases. This is not to say that host nations gained no benefit from SAC bases, but rather that these benefits had to be carefully weighed against the risks. SAC bases presented a range of very difficult national security questions for America and the hosts.

The 1949 strategic concept developed by NATO nations assigned the United States as the sole provider of strategic air power for the alliance, a role which America sought and allies could not provide. Yet the United States stayed distant in several

respects. American exclusivity over strategic military power allowed comparably smaller commitments from the United States among tactical forces, particularly Army ground units. The SAC chain of command emphasized that although the United States was part of the alliance and that American strategic forces would support it, in the end SAC forces were purely an American asset. The changing reception given to the SAC bases among so many hosts also shows that other NATO members were equally guided by national interests: the sites were welcomed when they offered security, then opposed when the risks seemed too high. On this particular issue, NATO was an alliance clearly motivated by individual national self-interests.

The life-cycle of the SAC bases occurred during a crucial period of Cold War history, and the status of these sites reflect upon that era. This was a time of international uncertainty. Sides were being chosen, alliances solidifying, and countries on the geopolitical margins being courted by both East and West. It was a dangerous world. Yet throughout the continual tension and recurrent crises, the ultimate recourse provided by the SAC bomber bases was, to my knowledge, never actively considered. The presence of these bombers abroad demanded that the United States, the Soviet Union, and the host nations, all recognize the extreme consequences should a large-scale war break out.

This work has been focused on overseas bases, and these sites were intimately tied to the status of the strategic bomber. The rise and demise of overseas bomber bases are but a consequence of similar fates encountered by SAC bombers. In the early 1950s, the bomber was the dominant form of American strategic air power projection. This position

was unchallenged for most of the decade, but alternative systems emerged late in this period and the bomber's exclusive hold on the strategic mission had been lost. Other, more desired means had arrived to project strategic air power. Overseas bomber bases are reflective of the bomber's position, but even more, the bases are a causal influence on alternatives which developed to the bomber. Seeking to replace the bomber bases also led to replacements for the bomber. The bomber still had a significant role in American strategy, but only as a contributor to the strategic mission, not the sole purveyor. The late 1950s signaled the end of the strategic primacy of the bomber, a period that had lasted for over two decades.

In conclusion, this analysis should go beyond the bombers and the bases to assess the position of strategic air power. Prior to the late 1950s, strategic air power could be stated in merely one word: bomber. But at the close of the decade, the definition of strategic air power returned to its roots: attacks through the air on targets within the enemy homeland. The argument put forth by SAC generals, that targets, not weapons, defined the strategic mission, had been fully accepted. Bombers, cruise missiles, and ballistic missiles on land and sea, all seek strategic targets and all travel through a common medium, the air. The strategic mission is inclusive of all of these means of delivery. Through this perspective, this story is not so much about the decline of the bomber, but rather the rise of the concept of air power. The opening quote for this dissertation bears repeating. It comes from the Summary Report of the European War, written in 1945 as part of the United States Strategic Bombing Survey:

The air has become a highway which has brought within easy access every point on the earth's surface--a highway to be traveled in peace, and in war, over great distances without limit at ever-increasing speed. Continued development is indicated in the machines and in the weapons which will travel the reaches of this highway...[We] must govern the place accorded Air Power in plans for coordination and organization of our resources and skills for national defense.

By 1960, air power, of all forms, had become firmly established as an integral portion of American national defense. This story has been about the journey undertaken as strategic air power sought to assert its role, and ultimately, should be seen as a triumph for the acceptance of air power.

A.1 Players

<u>President</u>
Harry S. Truman	12 Apr 1945	20 Jan 1953
Dwight D. Eisenhower	20 Jan 1953	20 Jan 1961

<u>Secretary of State</u>
Dean Acheson	21 Jan 1949	20 Jan 1953
John Foster Dulles	20 Jan 1953	15 Apr 1959
Christian Herter	15 Apr 1959	20 Jan 1960

<u>Secretary of Defense</u>
Louis A. Johnson	28 Mar 1949	19 Sep 1950
George C. Marshall	21 Sep 1950	12 Sep 1951
Robert A. Lovett	17 Sep 1951	20 Jan 1953
Charles E. Wilson	28 Jan 1953	8 Oct 1957
Neil H. McElroy	9 Oct 1957	1 Dec 1959
Thomas S. Gates, Jr.	2 Dec 1959	20 Jan 1961

<u>Secretary of the Air Force</u>
W. Stuart Symington	18 Sep 1947	24 Apr 1950
Thomas K. Finletter	24 Apr 1950	20 Jan 1953
Harold E. Talbott	4 Feb 1953	13 Aug 1955
Donald A. Quarles	15 Aug 1955	30 Apr 1957
James H. Douglas, Jr.	1 May 1957	10 Dec 1959
Dudley C. Sharp	11 Dec 1959	20 Jan 1961

<u>Chairman of the Joint Chiefs of Staff</u>
Gen of the Army Omar N. Bradley	16 Aug 1949	15 Aug 1953
Adm. Arthur W. Radford	15 Aug 1953	15 Aug 1957
Gen Nathan F. Twining	15 Aug 1957	30 Sep 1960
Gen Lyman L. Lemnitzer	1 Oct 1960	30 Sep 1962

<u>Chief of Staff, Air Force</u>
Gen Carl A. Spaatz	26 Sep 1947	29 Apr 1948
Gen Hoyt S. Vandenberg	30 Apr 1948	29 Jun 1953
Gen Nathan F. Twining	30 Jun 1953	30 Jun 1957
Gen Thomas D. White	1 Jul 1957	30 Jun 1961

<u>Commander in Chief, Strategic Air Command</u>[1]
Gen George C. Kenney	21 Mar 1946	19 Oct 1948
Gen Curtis E. LeMay	19 Oct 1948	1 Jul 1957
Gen Thomas S. Power	1 Jul 1957	30 Nov 1964

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[1] This position was originally titled Commanding General, SAC. It was changed to Commander in Chief, SAC (CINCSAC) in April 1955. LeMay was appointed as a Lieutenant General, and received his fourth star on 29 October 1951.

A.2   SAC Growth, 1946-1960

year	bases	bombers	aircraft	personnel
1946	18	148	279	37,092
1947	16	319	713	49,589
1948	21	556	837	51,965
1949	17	525	868	71,490
1950	20	520	962	85,473
1951	33	669	1,186	144,525
1952	36	857	1,638	166,021
1953	39	762	1,830	170,982
1954	41	982	2,640	189,106
1955	51	1,309	3,068	195,997
1956	55	1,650	3,188	217,279
1957	68	1,655	2,711	224,014
1958	64	1,769	3,031	258,703
1959	65	1,854	3,207	262,609
1960	66	1,716	2,992	266,788

The column labeled bases is for the total number, stateside and overseas. The column labeled bombers includes only those aircraft serving in a primary role; bombers modified for testing, air refueling, or reconnaissance are omitted. HQ SAC, Fortieth, pp. 1-90.

A.3 AAF Heavy Bomber Bases in the UK, WW II

Alconbury	Glatton	Mendlesham	Ridgewell
Attlebridge	Grafton Underwood	Metfield	Seething
Bassingbourn	Great Ashfield	Molesworth	Shipdham
Bungay	Halesworth	North Pickenham	Snetterton Heath
Bury St. Edmunds	Hardwick	Nuthampstead	Sudbury
Chelveston	Harrington	Old Buckenham	Thorpe Abbots
Debach	Horham	Podington	Thurleigh
Deenethorpe	Horsham St. Faith	Polebrook	Tibenham
Deopham Green	Kimbolton	Rackenheath	Wendling
Eye	Knettishall	Rattlesden	
Framlingham	Lavenham	Ridgewell	

In addition, American bomber forces also used five United Kingdom bases for training: Bovingdon and Cheddington in England, along with Toome, Greencastle, and Cluntoe in Northern Ireland. Bombardment division headquarters were established at Brampton Grange, Elveden Hall, and Ketteringham Hall. Strategic air depots were located at Abbots Ripton, Neaton, Troston, and Hitcham. Source: data from map in Craven and Cate, <u>AAF in WW II</u>, vol. I, p. 619.

A.4   Overseas Strategic Air Bases, Formal Agreements, 1950-1960[2]

<u>Azores</u>

signatories	US and Portugal
date	6 Sep 1951, renewed 15 Nov 1957
agreement	Defense Agreement of 1951
length	peacetime use, five years
	wartime use, duration of NATO
scheduled mission	staging bases for strategic air operations
base(s)	Lajes Field, Santa Marie (standby basis only)
note(s)	not under NATO Status of Forces, bilateral only
	wartime use only when both countries involved under NATO
	extremely suspicious of US anti-colonialism

<u>Bermuda</u>

signatories	US and UK
date	27 Mar 1941
agreement	Leased Base Agreement--see Canada
length	99 years
scheduled mission	staging
base(s)	Kindley

<u>Canada</u>

signatories	US and UK/Canada
date	27 March 1941 (UK),
	5 December 1952 and 1958 (Canada)
agreement	Leased Bases Agreement with the United Kingdom
	Special weapons deployment
	Goose Bay Base Agreement
length	99 years (UK), 20 years (Canada)
scheduled mission	air refueling bases, staging
base(s)	Ernest Harmon, Pepperell, Ft. McAndrews, Goose Bay (negotiated separately), Lang report states "six other sites" without listing them

<u>French Morocco</u>

signatories	US and France, later Morocco
date	22 Dec 1950, 1956
agreement	not specified
length	duration of NATO, renewable terms
scheduled mission	strategic air operations
base(s)	changed for initial agreements, eventually Sidi Slimane, Ben Guerir, Nouasseur, (supply depot at Boulhaut)
note(s)	question of wartime strikes not raised

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[2]Nash Report, Annex B, December 1957 and Appendix, Country Studies, November 1957.
'Air Base Agreements presently in effect,' attachment. 1 in letter, Wilson to President, 24 June 1953, DDEL, AWF, Admin., file 1, folder Air Bases--outside US; various <u>FRUS</u> volumes; Duke, <u>Europe</u>.

<u>Greece</u>

signatories	US, Greece
date	1953
agreement	1953 Base Agreement
length	NATO
scheduled mission	pre-Day, and D-Day
base(s)	Elevsis and three on Crete (Kastillion, Iraklion, Tymbakion)
note(s)	Cyprus issue clouds relations with US and NATO

<u>Greenland</u>

signatories	US and Denmark
date	4 June 1951
agreement	Defense of Greenland Agreement of 1951
	Air Base Agreement for Greenland
length	twelve months notice by either party, given through NATO
scheduled mission	forward strike facility, staging
base(s)	Thule, Sondrestrom, Nord, Narsarsuak (standby)
note(s)	question of wartime strikes not raised
	refuses to allow atomic weapons within Denmark
	Denmark sees Greenland bases as its primary NATO commitment

<u>Iceland</u>

signatories	US and Iceland
date	5 May 1951
agreement	Bases, Defense Installations and Facilities Agreement of 1951
	Base Agreement of 1956
length	12 month notice required through NATO
scheduled mission	staging and recovery field
base(s)	Reykjavik
note(s)	prefers bilateral negotiations with US, rather than through NATO
	considers position in NATO unique due to geography

<u>Italy</u>

signatories	US, Italy
date	1954
agreement	Bilateral Infrastructure Agreements of 1954
length	NATO
scheduled mission	D-Day
base(s)	Foggia Amendola
note(s)	US forces must be under command of SHAPE
	extremely hospitable to US presence

Japan (main islands)

date	28 Feb 1952
agreement	Administrative Agreement of 1952, 1960
length	mutual agreement
scheduled mission	D-Day use
base(s)	Kadena, Yokota
note(s)	requires consultations in the event of hostilities or deployment of nuclear weapons

Libya

date	1944 & 1948 (UK), 24 Dec 1951 (Libya)
agreement	Base Agreement
length	1948 indefinite, 1951 twenty years
scheduled mission	strategic air operations
base(s)	Wheelus
note(s)	subject to ratification by Libyan Parliament, not ratified by 1953 rental payment of forty million dollars over twenty years

Norway

signatories	US, Norway
date	17 & 19 Oct 1952
agreement	Air Base Arrangements
length	duration of NATO
scheduled mission	D-Day use
base(s)	Sola, Gardermøen
note(s)	wartime use through NATO, only when both nations at war against a common enemy

Okinawa

signatories	US, Japan
date	1945
agreement	Article III, Peace Treaty with Japan
length	indefinite
scheduled mission	strategic air operations
base(s)	Kadena
note(s)	US sole administering authority of UN trusteeship US has unilateral authority over territory and inhabitants

Saudi Arabia

signatories	US, Saudi Arabia
date	18 June 1951
agreement	Base Agreement
length	five years, automatic renewal unless six month notice given
scheduled mission	D-Day use
base(s)	Dhahran
note(s)	King considers it a ten year agreement

<u>Spain</u>
signatories	US, Spain
date	1953, 1954
agreement	Mutual Defense Assistant Agreement
	Defense Agreement of 1953
	Technical Agreement of 1953
length	ten years, two automatic extensions for five years apiece
scheduled mission	strategic air operations
base(s)	Sevilla (Moron, San Pablo), Madrid (Torrejon), Reus, Zaragoza
note(s)	seeks information on atomic risks
	If communist aggression "threatens the security of the West" the US can use as necessary with immediate notification of Spanish government. If "other than emergency," consultations required.

<u>Turkey</u>
signatories	US, Turkey
date	23 June 1953
agreement	Military Facilities Agreement
length	duration of NATO
scheduled mission	D-Day
base(s)	not specified
note(s)	only if both countries engaged under auspices of NATO

<u>United Kingdom</u>
signatories	US, UK
date	1941, 30 April 1951, 7 Mar 1953
agreement	1941 Leased Base Agreement
	Joint Communiqué
	Air Base Cost Sharing Agreement of 1953
	Visiting Forces Act of 1952
	"numerous other agreements"
length	until either party believes collective security assured
scheduled mission	strategic air operations
base(s)	total of fifteen possible sites
note(s)	"a matter of joint decision ..."
	America's closest military ally
	bilateral agreements, not under NATO

<u>United Kingdom--Other</u>
Malta, Cyprus, Ascension Island--all through service-to-service agreements

A.5 Nuclear Accidents Related to Overseas Bomber Bases, 1950-1960

date	aircraft	location	remarks
13 Feb 1950	B-36	off coast of British Columbia, enroute from Eielson AFB, Alaska	aircraft mechanical failure, weapon with dummy nuclear capsule dropped into ocean before crew bailed out
5 Aug 1950	B-29	Fairfield-Suisun AFB, California, bound for Andersen AFB, Guam	ground fire after emergency landing, nuclear weapons onboard, 17 deaths in crash and subsequent fire
10 Nov 1950	B-50	over water, outside US	aircraft emergency, nuclear weapon jettisoned
10 Mar 1956	B-47	Mediterranean, enroute from MacDill AFB, Florida	two nuclear capsules in carrying cases capsules no trace found
27 Jul 1956	B-47	overseas base (Lakenheath, UK)	out of control upon landing, hit nuclear storage igloo containing weapons,
28 Jul 1957	C-124	off Atlantic coast of US (weapons shuttle to overseas facility)	aircraft problems, two weapons jettisoned were never found
11 Oct 1957	B-47	Homestead AFB, takeoff for overseas deployment	crash after takeoff, weapon in ferry configuration and capsule recovered intact, both slightly damaged by heat
31 Jan 1958	B-47	overseas base	fire during takeoff roll, slight contamination at scene
11 Mar 1958	B-47	Florence, South Carolina, enroute to overseas base	accidental jettison during deployment mission from Hunter AFB, Georgia

Note: The most infamous overseas nuclear accidents occurred the next decade, and both involved SAC bombers. In 1966 a B-52 dropped two nuclear weapons into the Mediterranean near Palomares, Spain. In 1968 another B-52 crashed near Thule, Greenland. Several other accidents may relate to overseas bomber operations, but this cannot be confirmed for the entire mission profile is not provided. Source: Report to the Secretary of Defense, 'United States Nuclear Weapons Accidents, 1950-1980,' cited in Hansen, Secret History, p. 227-229.

A.6   SAC Bomber Rotations, Andersen AFB, Guam, 1947-1960

Major Commands assigned:

Twentieth Air Force	3 February 1945
FEAF	15 May 1949
SAC	1 April 1955

year	rotation dates	bomb units
1947	7 July-15 Oct	654 BS
1948	26 Mar-5 July 1950	30 BS
	17 Aug-1 Jun 1953	19 BW
1954	10 Jul-8 Oct	509 BW
	"	715, 830 BS
	12 Jul-8 Oct	393 BS
	16 Oct-12 Jan 1955	92 BW
	"	325, 326 BS
1955	14 Jan-12 Apr	5 BW
	22 Apr-24 Jul	717, 718 BS
	1 Aug-3 Nov	334, 335, 336 BS
	31 Oct-26 Jan 1956	6 BW
	"	24, 39, 40 BS
1956	29 Jan-25 Apr	99 BW
	"	346, 347 BS
	26 Apr-5 Jul	92 BW
	"	325 BS
	12 Jul-4 Oct	303 BW
	"	358, 359, 360 BS
	5 Oct-11 Jan 1957	320 BW
	"	443 BS
1957	1 Jul-8 Mar 1960	327 AD

BS is bomb squadron. BW is bomb wing (usually composed of three squadrons).
AD is air division (usually two bomb wings). Source: Fletcher, Bases Outside, pp. 3-5.

A.7   SAC Bomber Rotations, RAF Lakenheath, UK, 1948-1960

Major Commands assigned:

USAFE	27 November 1948
SAC	28 April 1951
USAFE	1 October 1959

year	rotation dates	bomb unit
1948	11 August	not specified
1949	June-21 Aug	830 BS
	15 Aug-15 Nov	65 BS
	20 Nov-18 Feb 1950	33 BS
1950	22 Feb-12 May	96 BS
	17 May-28 Nov	32 BS
	17 May-28 Jun	301 BG
	28 Jun-28 Nov	301 BW
1951	6 Sep-13 Dec	19 BS
	25 Sep-4 Dec	352, 353 BS
	9 Dec-27 Feb 1952	329 BS
	10 Dec-4 Mar 1952	330 BS
1952	2 Mar-3 Jun	341 BS
	2 Mar-3 Apr	342 BS
	15 Mar-4 Jun	97 BG
	15 Mar-1 Apr	97 BW
	5 Mar-4 Jun	340 BS
	4 Jun- 3 Sep	715 BS
	4 Jun- 4 Sep	830 BS
1954	9 Dec-9 Mar 1955	321 BW
	"	445, 446, 447 BS
1955	9 Jun-9 Sep	25 BS
	"	40 BW
	"	44, 45 BS
	13 Sep -3 Nov	486, 487, 488 BS
	14 Sep-3 Nov	340 BW
	12 Nov-28 Jan 1956	98 BW
	"	343, 344, 345 BS
1956	11 Jul-5 Oct 1956	307 BS
	"	370, 373, 372 BS

BG is for bomb group, roughly equivalent to a bomb wing. It was a term leftover from WW II, seldom used after the Air Force wing reorganizations of the early 1950s. Source: Fletcher, Bases Outside, pp. 123-125.

A.8   SAC Bomber Rotations, Sidi Slimane AB, Morocco, 1950-1960

Major Commands Assigned:
SAC   December 1950
closed   3 December 1963

year	rotational dates	bomb unit
1951	2-7 Dec	11 BW
1952	13-17 Mar	97 BW
	14-16 Apr	97 BW
	15-30 May	376 BW
	9-27 Aug	47 BW
	5 Sep-17 Nov	303 BW
	5-11 Dec	201 BW
1953	15 Jan-20 Feb	44 BW
	20 Feb-30 Mar	308 BW
	2-12 Nov	305 BW
1954	20-30 Jan	22 BW
	20 Feb-10 Apr	301 BW
	15 Apr-15 Jun	44 BW
	17-25 Apr	72 SRW
	15-20 May	303 BW
	1 Jun-15 Jul	68 BW
	15 Jun-15 Jul	11 BW
	8-18 Jul	6 BW
	7 Aug-20 Sep	2 BW
	15-25 Aug	7 BW
	15 Sep-15 Nov	308 BW
	12 Dec-15 Jan 1955	321 BW
1955	4 Jan-20 Feb	306 BW
	10-20 Jan	68 BW
1956	6 Jan-30 Mar	19 BW
	9 Apr-6 Jul	321 BW
	5 Jul-21 Aug	2 BW
	8 Aug-20 Oct	308 BW
1957	6 Mar-8 May	379 BW

1 July 1957 SAC aircraft and crews from the 305, 306, 19, 379 BW began testing ground alert procedures for fourteen day periods. Operation REFLEX ACTION initiated on 1 October 1957. The following wings sent six aircraft:

1958
Feb   306 BW, 19 BW
Jul   19 BW
1959
Jan   19 BW
Jul   19 BW

Source: Adams, Morocco, pp. 43, 91-92, 136.

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