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HISTORY OF THE STRATEGIC ARMS COMPETITION 1945 - 1972

PART I

ERNEST R. MAY
JOHN D. STEINBRUNER
THOMAS W. WOLFE

ALFRED GOLDBERG
EDITOR

OFFICE OF THE SECRETARY OF DEFENSE
HISTORICAL OFFICE
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FOREWORD

The Historical Office of the Office of the Secretary of Defense was asked to undertake this historical analysis of the strategic arms competition in the spring of 1974 with the expectation that the project could be completed in 18 months to 2 years. A comprehensive classified history was to be prepared, subsequently to be followed by an unclassified version as well. The latter was envisioned as a contribution to the public discussion of the strategic arms competition and related arms control issues. Then-Secretary of Defense James R. Schlesinger and others believed that the lack of sufficient historical knowledge and analysis of the strategic arms competition as it evolved from shortly after World War II to the early 1970s handicapped the critically important discussion of these issues.

The lengthy period of time ultimately required to research, write, and edit the history reflects the difficulties inherent in a project of such scope and complexity. Seven years after its inception, this classified history, the work of three respected scholars--Ernest R. May, John D. Steinbruner, and Thomas W. Wolfe--is ready for distribution. The authors have presented voluminous historical evidence, analyses, and judgments as to the nature of the strategic arms competition, the interaction process, the internal decisionmaking processes in the United States and the Soviet Union, and many other matters.

An unclassified version of this study is now in progress. Timely comments from readers of the present work are welcome and may be useful in the preparation of the unclassified volume.

A. W. Marshall

Preface

This study was undertaken at the direction of Secretary of Defense James R. Schlesinger in 1974. The OSD Historian acted as director of the project and general editor of the final study under the overall guidance of the Director of Net Assessment, Andrew W. Marshall.

The principal authors of the study are Ernest R. May, Harvard University, Thomas W. Wolfe, Rand Corporation, and John D. Steinbruner, Yale University and the Brookings Institution. The choice of recognized scholars from outside government to prepare the study reflected the Secretary's preference for an objective work as free as possible from an institutional point of view. Therefore, although commissioned, supported, and published by the Department of Defense, the study is not "official history." It represents the views of the authors rather than the Department of Defense. The authors do not concern themselves with what policy ought to be but with what it has been. The study should be regarded as a contribution by the authors to the continuing national discussion and analysis of the important strategic issues treated in the study.

Secretary Schlesinger prescribed the preparation of a thorough, objective, critical, and analytical history of the strategic arms competition between the United States and the Soviet Union since 1945, with emphasis on the long-term historical view. He asked also for careful reconstruction of the events of the first 10 to 15 years after World War II because of the seminal nature of the postwar period. The

history was to focus on the dynamics of the competition--the factors and decisions that underlay changes in the major strategic offensive and defensive forces since 1945. Secretary Schlesinger believed that placing the strategic arms competition in critical historical perspective could provide a more authoritative basis than has existed in the past for discussion and debate of strategic issues, and for analysis of interpretations, hypotheses, and myths pertaining to the subject. As the final product, he had in mind an unclassified version of the study.

The classified history provides a systematic survey and analysis of the period 1945-1972 with some additional information and observations regarding more recent years. A special effort was made to provide thorough coverage of the first dozen years after 1945 in the conviction that this period is essential to an understanding of developments during the 1960s and 1970s. Many basic patterns of relationship and interaction were established during this period and many decisions that established long-term trends and policies were taken by both sides to the competition. Presentation of the Soviet side of the competition was a major objective of the study and represents an important achievement in view of difficulties in acquiring information, both because of the secrecy of Soviet decision processes and consequent actions and the problems of recovering intelligence files and data for periods more than a few years back.

The objectives of the study include the following:

1. To permit testing of current hypotheses about the competition and the interaction process against a more complete historical record than has previously been available.

2. To characterize U.S. and apparent Soviet strategies for the arms competition.

3. To permit more and better comparisons and contrasts between U.S. and Soviet programs.

4. To improve our capacity for shaping U.S. programs and policies through a better knowledge and understanding of Soviet actions and responses to U.S. actions.

5. To help in the creation of improved models and new hypotheses about the competition based on the more complete historical record.

6. To help clarify thinking within the Defense community and the Congress and among the public interested in defense, arms control, and strategic issues.

Competition, in the basic sense of the term, has existed between the United States and the Soviet Union since 1945. There has existed in varying degree and intensity a sense of rivalry, contest, emulation, and struggle for superiority between the two in many of the interactions that are characteristic of relations between nations. This study has focussed on the nature and extent of the arms competition between the two countries, and particularly on those arms which are referred to as strategic. These are primarily long-range nuclear weapons and vehicles with which the two countries can directly threaten each other's homelands. But other weapons and forces of lesser range and power also had important strategic impact, especially in the earlier days, and had to be taken into account. These included not only medium and intermediate-range ballistic missiles and strategic defensive forces but also general purpose forces--sea, land, and air.

The search for similarities between the past and present is of vital importance, particularly on the Soviet side. Exacting analysis of the historical past can yield evidence of long-term trends and recurrent and repetitive cycles of behavior which assist our understanding of the present and our planning for the near future. It can add a greater measure of assurance, if not predictive capacity, to our actions. Technical observations made 15 or 20 years ago remain highly pertinent; they may even have far greater utility in the present than they had at the time they were made.

Similarly, the search for variations in behavior and programs, for the unstable as well as the stable, for constraints as well as initiatives, can lend illumination to hypotheses and models of the competition. To get at the interaction process between the United States and the Soviet Union, a major objective of the study, a consistent effort has been made to focus on the perceptions, assessments, and reactions of both sides.

Arrangement and presentation of so complex a subject has been difficult. Some observations about the form and content of the study may therefore be helpful. In part, such unevenness, imbalance, and duplication as exist derive from the multi-authorship of the study. There are variations in organization and structure between chapters, differences in breadth and depth of treatment, shifts in emphasis and focus, and differences in the manner and degree to which authors combine historical description and historical analysis. In part, these differences derive also from the amount and quality of evidence available to the authors. For the earlier chapters, the paucity and lack of quality of materials on the Soviet side

resulted in broader and more general treatment of the subject. For the period since 1960, the documentation is much richer and the focus narrower and more precise, particularly for the Soviets, where the concentration is chiefly on weapons, forces, and deployments.

The strengths and weaknesses of the study are largely the result of the availability or nonavailability of evidence, which was, of course, much harder to come by on the Soviet side. Accordingly, to present a comprehensive account of what happened, and to essay interpretations and judgments, it has been necessary, as in almost all analyses involving the Soviet Union, to resort to speculation and inference to build bridges to understanding and to fill gaps.

Special mention should be made of information drawn from intelligence sources. It should be borne in mind that intelligence data, particularly about weapon systems and military forces, is periodically revised and updated and therefore some of the information in this study may be subject to change.

Statistical data is drawn from a number of sources, among which some inconsistencies are inevitable. The OSD Comptroller prepared a special study on the U.S. defense budget from 1945 to 1976 which is the basis for much of the budget data in this study. Other statistical sources have been used to present budget information not found in the Comptroller study, including comparative U.S. and Soviet data.

There are a number of differences between statistical tables in the text and the appendices (chiefly Appendix 7), particularly with reference to forces and weapon systems. These occur principally because the data in

the tables in the text are compiled from a number of different sources which are not consistent in categorization or presentation of content. Thus, these sources use a variety of categories for presenting information on forces and weapon systems--total inventories, deployed forces and systems, systems on hand, ready forces and systems, etc. No single consistent set of data for all of the information required was available, and it was often necessary to compile new tables which, although they contain similar information, may be inconsistent with other tables in the study. These inconsistencies are not significant and do not affect the text. In spite of the differences between text and appendix tables, it was judged desirable to include the more comprehensive appendix tables because they provide useful and ready reference not available elsewhere in the study.

That the study is not exhaustive follows from the nature and scope of the subject. It would have been unmanageable if it had attempted to include all aspects--both U.S. and Soviet--of the strategic arms competition. Therefore, such important aspects as the political, diplomatic, and intelligence records have not been treated comprehensively. Many questions and problems remain to be answered. A great deal of sustained historical analysis must be done if we are to derive the fullest benefits from this historical approach.

Major supporting studies were prepared under the direction of the Army, Navy, and Air Force, by the Institute for Defense Analyses and the Rand Corporation, and by the Office of the Historian, OSD. These provided invaluable collections of data and points of view that contributed a great deal to the final study. A list of these materials is appended. The

authors conducted a large number of interviews with former officials and other knowledgeable persons, thereby greatly enriching their understanding and interpretation of the historical record. Research into original records by the authors and their assistants constituted a major part of the effort and lends increased authority to the final product.

So many people and organizations contributed to this project in some degree that it is difficult to be certain that all are acknowledged. Mention has been made above of the valuable studies prepared by the military services and research organizations, which involved scores of participants. Other important studies were prepared in the Office of the Historian, OSD. A comprehensive chronology of the strategic arms competition was compiled by Herman Wolk, Dean Stevens, Jack Shick, Col. Jack B. Shaw, USAF, and Alice C. Cole. Samuel R. Williamson and Samuel F. Wells, with the assistance of Steven Rearden, prepared special supporting studies for the earlier period. Frank Walter made an invaluable contribution to the later chapters on the Soviet side through his penetrating research into the intelligence records. Ronald Hoffman contributed a series of excellent research memoranda on continental defense for use in Chapter V. Particular acknowledgment is due Harold Poppe of the CIA for his indispensable efforts in facilitating the work of the authors and researchers.

Special thanks are owing to those who attended seminars and provided informed criticism: Paul Nitze, Robert W. Komer, Ray Cline, Spurgeon Keeny, John DesPres, Lt. Gen. Glenn Kent, USAF, V/Adm. Gerald Miller, Ronald Stivers, Henry S. Rowen, Graham Allison, and William W. Kaufmann. A large number of readers of parts of the manuscript provided helpful and constructive

criticism that resulted in the correction of errors and the addition of new information and ideas. These included Herbert F. York, Raymond Garthoff, Jack Ruina, McGeorge Bundy, William W. Kaufmann, John Coyle, Karl F. Spielmann, Victor Jackson, Frederick M. Sallagar, Arthur Steiner, Maurice Matloff, Samuel A. Tucker, Richard M. Leighton, Henry Glass, Doris Condit, and Steven Rearden. Especially close and critical reviews by Max Rosenberg, Howard M. Ehrmann, and Stuart Rochester resulted in improved and more accurate text and documentation.

The administration of the project would have been impossible without the assistance of Col. Jack B. Shaw, USAF, Col. Dale L. Reynolds, USAF, and Sgt. Charles Hawley, USAF. Gloria Duarte typed most of the manuscript one or more times and performed remarkably in keeping track of a large variety of drafts and assembling the finished study. The final editing of the documentation fell to Alice C. Cole, who brought order out of chaos with her usual skill, rapidity, and tact.

Finally, Andrew W. Marshall, who provided general oversight of the project, was a model of patience, support, and understanding. His constant interest, encouragement, and constructive criticism kept the project always afloat and insured its completion.

Alfred Goldberg

Alfred Goldberg
Historian
Office of the Secretary of Defense

CONTENTS

THE STRATEGIC ARMS COMPETITION 1945-1972

PART II

CHAPTER I

THE ORIGINS OF THE COMPETITION: THE UNITED STATES FROM 1945 TO 1948

When hostilities ceased at the end of World War II, a new world order was already emerging. Of all the participants, only the United States and the Soviet Union remained as world powers. The other prewar world powers -- Germany, Japan, France, and Great Britain -- were all reduced to second class status. The great change in the U.S. world role in the early postwar years occurred in part because of perception of the Soviet Union as an aggressive, expanding power which threatened all the non-Communist world, including ultimately the United States. The perception of the Soviet Union as the only major military threat, particularly in Western Europe, influenced U.S. national security policy. On the Soviet side, perception of the United States as the major rival and as a threat to the Communist world, exerted a similar influence. Rivalry between the two powers took many forms. The development of competitive military forces was merely one, and strategic weaponry came to serve as a leading measurement of their relative power and standing.

When World War II ended in the summer of 1945, the United States held a great advantage over the Soviet Union in strategic air power. It had B-29 bombers which could reach targets deep in the Soviet Union from advanced bases and carrier aircraft able to attack Soviet coastal areas. It had a large inventory of conventional bombs, and it had the components for one atomic bomb and materials for others. Although the

Soviet Union possessed huge ground forces positioned near territory potentially of great or even vital interest to the United States, it had no bombers that could reach the United States and no nuclear weapons.

In the first 2 or 3 years after the war, the United States dismantled most of its military forces and did little to increase its stockpile of atomic bombs. In fact, as of April 1947, the Chairman of the new Atomic Energy Commission, David E. Lilienthal, informed the President that there were no atomic bombs available for immediate use.[1] Meanwhile, the Soviet Government invested heavily in a new long-range air force, an atomic bomb development program, and research on missiles.

In its broadest sense, competition may be said to have started at this time, when the Soviets began to seek what the United States already had. The strategic arms competition, a part of the larger competition, commenced soon after World War II, when the Soviets gave priority to strategic forces in their perennial quest to catch up with and surpass the United States.

For this reason, a history of the strategic arms competition ought to start with an account of Soviet actions. There are, however, three compelling reasons for focusing initially on Washington. First, one needs a sense of what the Soviets may have thought they were trying to catch up with.* Second, the initial period of competition involved changes in the United States which had no counterparts in the Soviet Union. The

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* For a discussion of Soviet perceptions, see Chapter III.

United States, for the first time, committed itself to a continuing role of active world leadership. Russia, on the other hand, had functioned as a world power for more than two centuries. Third, we know more about the United States. Without necessarily assuming that the two powers behaved alike, one can reconstruct the development of U.S. strategic forces and of ideas concerning their use and concerning competition with the Soviets and frame questions concerning parallel developments on the Soviet side, where the evidence is more fragmentary.

The Early Cold War

By the 1950s, the relationship between the United States and the Soviet Union was aptly characterized as "Cold War." It is not easy, however, to say when this Cold War commenced.

Viewed historically, U.S.-Soviet competition was almost inevitable. It had been prophesied more than a century before, in the 1830s, by De Tocqueville, who had remarked the underlying differences and potential antagonism between the two nations: "There are at the present time two great nations in the world, which seem to tend towards the same end . . . . I allude to the Russians and the Americans. . . . Their starting-point is different and their courses are not the same; yet each of them seems marked out by the will of Heaven to sway the destinies of half the globe."[2]

Many of the characteristics of the Soviet state are derivations or continuations from the Czarist empire. Political despotism,

police terror, and limitation on individual liberties came directly from Czarist Russia. So did some imperialist and expansionist impulses. The maintenance of a large military establishment has been continuous in modern Russian history, and the Russian people are accustomed to living with it.

Antagonism between the United States and Soviet Russia can be traced back to the beginning of the Soviet regime in the Bolshevik Revolution of 1917. Commitment to an open society and fear of revolutionary change combined in the United States to produce strong ideological opposition to communism, even during the bitter years of the Depression. Not until 1933 did the United States formally recognize the Soviet Union and establish full diplomatic relations.

Between 1939 and 1941, in the era of the Nazi-Soviet pact, Americans scarcely differentiated between the two. After the Germans invaded Russia in mid-1941, Senator Harry S. Truman reflected a widely held opinion when he said that Nazis and Communists were equally evil and that the world would be well off if they destroyed each other.[3]

Recollection of this long-term unfriendliness dimmed during the short period when the United States and the Soviet Union were allies against the Nazis. Americans who had embraced the Russians as comrades-in-arms construed the militant Soviet behavior after the war as a sudden reversal. Had they had longer memories,

they would perhaps have perceived much of what was happening as merely a return to the traditional relationship. The suspension of most differences between the United States and the Soviet Union during World War II in the face of the mutual enemy had not really altered the underlying hostility.

In the first half of 1945, which saw the death of Roosevelt and the surrender and complete occupation of Germany, differences between the two states became increasingly apparent. The Soviets criticized American and British failure to include them in negotiations for surrender of German forces in Italy. They condemned the decision at the end of the war in Europe to terminate lend-lease.* The United States Government, for its part, took the Soviet Union to task for ~~rai~~sing new questions concerning the constitution of the United Nations and for seeking to put Communists in control of Poland, Rumania, and Bulgaria. By August 1945, when Truman met with Stalin and Churchill at Potsdam, U.S.-Soviet relations were already visibly troubled.

At the end of World War II the U.S.-Soviet relationships dominated international politics. Britain, though a victor in the war, lacked the strength and will to play a large independent role. Most of Europe was in a state approaching chaos. On the other side of the globe, Japan had been conquered, and China was torn by civil war. Across the intervening

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* The decision was made in May but shipments were terminated only in August.

landmass, from the Mediterranean to the South China Sea, movements for national independence and for social or economic reform were producing turmoil. Almost everywhere the United States and the Soviet Union were in direct or almost direct confrontation. In Germany and Korea, their armies stood opposite one another. In Western Europe, the Middle East, and East Asia, Communists, under orders from or at least in league with Moscow, resisted the establishment or continuance of governments favorable to or favored by the United States, inspired to fervor by belief that the aftermath of war left bourgeois societies ripe for revolution. In Eastern Europe and other areas under Soviet influence, propertied and educated elites meanwhile sought support from allies in the American public, hoping desperately for rescue by the American government. These circumstances would probably have pitted the United States and the Soviet Union against one another even without fundamental ideological cleavage and a previous history of animosity.

In 1945-46, the year following Potsdam, American-Soviet differences intensified. Meetings of the Council of Foreign Ministers saw sharp exchanges and few concessions by either side. In December 1945, the United States publicly attacked the Soviet Union for failing to fulfill its commitment to withdraw from northern Iran. Spokesmen for the United States became less and less guarded in criticizing Soviet policy in Europe and in opposing any Soviet role in the administration of occupied Japan.

Still, the hopefulness of the war years persisted, even at high official levels. At sessions of the Council of Foreign Ministers, Secretary of State James F. Byrnes continued to seek working agreements with the Soviets. The U.S. Baruch plan for international control of nuclear energy, though full of reservations reflecting suspicion of the Soviet Union, had some conciliatory features, for it offered promise that the United States would voluntarily give up its monopoly control of what some commentators had already dubbed "the absolute weapon." Prominent U.S. figures continued to voice faith in future cooperation, among them former Vice President Henry A. Wallace, who sat in Truman's Cabinet as Secretary of Commerce. From the American standpoint, one could not yet accurately characterize the American-Soviet relationship as one of Cold War.

Only during the second and third years of peace, from the summer of 1946 to the summer of 1948, did this perception develop. Within the executive branch in the United States, consensus emerged that the Soviet Government intended to expand the domain of communism, that it had no inclination to compromise its aims for the sake of good relations with the West, and that it might therefore seize any safe opportunity to discredit, undermine, or overthrow any non-Communist government. Set forth elegantly and forcefully by State Department Soviet expert George F. Kennan in dispatches from Moscow in 1946, which circulated widely in Washington, this conception of Soviet behavior gained currency in officialdom.

In October 1946, George M. Elsey of the White House staff prepared a memorandum summarizing the thinking among officials and government experts concerned with Soviet affairs. Presented to President Truman over the signature of Clark Clifford, Special Counsel to the President, this memorandum equated Communists with Nazis and likened the challenge to that faced by the Western powers when they mistakenly appeased Hitler in the 1930s.. It indicated that many of Truman's advisors and aides already felt concern that rapid demobilization of U.S. military forces, matched by no comparable demobilization on the Soviet side, was producing increasing disparity in power. It mentioned evidence that the Soviets were working to develop strategic weaponry and went so far as to say that the "United States must be prepared to wage atomic and biological war."

Those who might have argued differently had departed the government. Wallace had been fired in the early autumn of 1946. Byrnes was about to go, in part because he was thought to have offered too many concessions to Moscow. Loyalty-security investigations, which put in jeopardy the jobs of Federal employees who could be accused of ever showing pro-Soviet inclinations, discouraged questioning of the consensus from within the bureaucracy.

Somewhat more slowly, alarm manifested itself in Congress and among the public. In March 1946, when former Prime Minster Winston Churchill delivered his celebrated "iron curtain" speech at Fulton, Missouri, most

American newspapers expressed surprise, even though Churchill's criticism of the Russians was relatively mild and was bracketed by pleas for mutual understanding and cooperation. Soon, however, it became common for editorials to describe the Soviet Union in terms previously applied to Axis powers. Many candidates for office in 1946 campaigned as anti-Communists, and the November elections, giving the Republican Party majorities in both Houses of Congress, swept out almost all those in either party who had or might have displayed sympathy with the Soviets. Meanwhile, labor union leaders generally identified as "liberals" battled Communist elements in their own organizations and European Communist labor federations, which were rivals of non-Communist federations. Revelations, first in Ottawa and then in Washington, of Soviet wartime espionage in Canada and the United States served to convince many citizens that the Soviet Union had all along anticipated and prepared for postwar antagonism and that hopes for cooperation were chimerical.

In these circumstances, the Truman administration moved toward more resolute opposition to any further extension of Soviet or Communist influence. In June 1946, the President discussed with his defense advisors the possibility of remobilizing and sending 30 divisions to Europe if the Russians should attempt to extend their sphere in Germany. A few months later, when advised that the Soviet Union might make demands on Turkey which would jeopardize Turkish independence, the President authorized firm diplomatic support of the Turks. If the Soviets did not relent, Truman

said, he was prepared for war.[5] When the harsh winter of 1946-47 caused the British to conclude that they could no longer prop up Turkey and Greece, they asked the Americans to take over. The President delivered a dramatic message to Congress in March 1947, not only assuming these commitments but declaring, in what came to be called the Truman Doctrine, that the United States should back political elements anywhere in the world that were fighting against Communist subversion. Congress applauded his language and voted the aid requested for the Turks and Greeks. Much of the impetus for this policy derived from the situation in Greece, where the Greek Government was already engaged in a desperate struggle against guerillas supported by neighboring Communist states. U.S. military and economic aid helped defeat the insurgents after two more years of struggle.

In the summer of 1947, Byrnes's successor in the State Department, General George C. Marshall, put forward his famous Marshall Plan for large-scale economic aid to Europe. Although the offer included the Soviet Union and other Communist states, the expectation was that they would find American conditions unacceptable, since the primary purpose of the program was to alleviate economic and social problems in Western Europe, make non-Communist governments more popular and more stable, and thus frustrate the subversive designs of Communist leaders.

In spite of hardening American attitudes, U.S. policy still gave at least an appearance of flexibility. Marshall's offer to Communist governments was one evidence. Another was the relative caution with which the Administration moved toward setting up a non-Communist regime in the Western-occupied zones of Germany. Yet another was its policy

toward China, where Chiang Kai-shek's Nationalists were visibly losing ground before Communist forces. Even though American military planners thought that relatively small numbers of American advisors could assume direction of the Nationalist armies and perhaps turn the tide, and even though the U.S. Ambassador in China pleaded for such advisors, the Administration decided that rescue of Chiang was not worth the risk.[6]

The relationship between the United States and the Soviet Union became steadily more hostile. The Soviet government not only rejected Marshall's offer in the summer of 1947 but advised all Communist-controlled governments in Europe to do likewise. Presumably following guidance from Moscow, Communist parties in Western Europe ceased cooperation with bourgeois parties and resorted to demonstrations, strikes, and other tactics calculated to block successful economic stabilization. In Hungary, Communists seized complete control of a government in which there had previously been at least a pretense of representation of non-Communist elements. In Czechoslovakia, which supposedly had a model coalition regime, Communists forcibly ousted non-Communists from the government in February 1948 and ended most of the arrangements which had distinguished that state from others in Eastern Europe.

The coup in Czechoslovakia made more of an impression in the United States than almost any other event in the early history of the Cold War. It vividly recalled Hitler's successful takeover just before World War II. It was seen as proof that no deals or compromises with Communists could ever work. Even though Yugoslavia's defection from the Soviet camp a few months later elicited from Moscow violent words but little action, the Czech

coup continued to be read by many as signaling an intention by the Soviet Union to take the offensive before the Western Europeans regained strength.

Reinforcing this view was Soviet action in June 1948 sealing off all road and rail communications with Berlin, where the United States, Britain, and France had sectors of occupation. Offering the Western powers an apparent choice between acquiescence or a resort to military force, this Berlin blockade was seen as a trial of will and determination comparable to those repeatedly provoked by Hitler in the 1930s. Apprehension spread that, as in the 1930s, the outcome might be a new world war.

Service Planning, 1945-48

Prior to 1948, the developing rivalry with the Soviet Union remained almost exclusively political in character; U.S. military programs seemed to be largely unaffected.

Although the future Air Force remained part of the Army until September 1947, the Army and Navy went their separate ways. Indeed, they were so separate that Secretary of War Robert P. Patterson told a congressional committee in 1946: "There is no way you can get . . . an overall view of the national defense. You ask me questions about the Navy, and I say I do not know, and I do not. . . . you have to operate in the dark." Planning with regard to future military forces went on

more or less independently within each of the Services. Some of this planning commenced before the end of the war, and assumptions and force projections developed not only before the Cold War but even before Hiroshima and Nagasaki continued to exert influence for some time after the war. [7]

The Army's plans were the most coherent even if, in the end, the least realistic. They envisioned a future war somewhat like the European war of 1939-45. Conditions would be different in that initial air bombardment would hamper both sides. Nevertheless, the crucial phases of the war would once again entail industrial and military mobilization, movement across the seas of large expeditionary forces, and, eventually, the conquest of territory by infantry supported by armor, artillery, and land-based or sea-based tactical aircraft. Army plans gave a rough order of priority to the following: (1) ready ground forces suitable to deal with emergencies and to serve as cadre for rapid mobilization -- ideally around 25 divisions; (2) universal military training or some form of peacetime selective service that would make it possible to mobilize quickly a trained army of several million men; and (3) development of new vehicles, ordnance, and aircraft that might be produced in quantity when mobilization came.

Assumptions in the Navy were not dissimilar. Initial postwar plans drawn up in 1943 took it for granted that the task of the Navy in a

future war would be, first, to clear the seas of enemy submarines; second, to safeguard and transport ground forces moving to distant theaters; and, third, to provide seaborne air and artillery support for ground force operations. Not entirely discounting the possible effect of initial strategic bombing, these plans made a case for maintaining larger ready forces than would be needed if the United States could mobilize as safely and slowly as in the two world wars. They called for a "balanced fleet" built around a minimum of 12 attack carriers, a variety of supporting surface ships, and 80 submarines.

Some airmen in what subsequently became the Air Force held a different view of the future. The most powerful group of high-ranking officers came from the bomber forces. Although there were differences among them over bombing policy -- whether to emphasize military/industrial targets or urban targets -- there was general agreement that nuclear airpower was likely to be decisive in a future war. The first phase could well be the only phase, with the side more damaged at the outset having no choice but to surrender to the side less damaged. If it did not, its conquest would require little more than a mopping-up operation by ground forces.

Tactical airmen tended to think in terms of battlefield airpower; their influence showed in plans for a postwar Air Force which included

fighters, tactical bombers, and transport aircraft. Ideally, the planners agreed, this Air Force should consist of 138 groups. Forced to take realistic account of the money that might be available, they settled on a practical objective of 70 groups. Of these, 20 would consist of heavy and medium bombers for strategic air operations; 40 would consist of fighters, tactical bombers, and reconnaissance aircraft; the remainder would be made up of transport planes.

Since none of the Services received the money it requested in any of the immediate postwar fiscal years, each had to pare planned force levels. The Army had to retreat from the notion of maintaining 25 divisions in peacetime. The Navy had to plan on having only 8 attack carriers instead of 12, and the Air Force had to reduce its projected strength from 70 groups to 55, sacrificing primarily transport groups while preserving the balance between bombers and fighters. The general assumptions and force plans of the Services, however, remained essentially unchanged. [8] Until 1948, Service spokesmen going to Capitol Hill to defend funding requests showed little evidence of being influenced either by the accelerating Cold War or by an awareness that Hiroshima might have marked a revolutionary change in the nature of warfare. In retrospect, the proposed programs seem more appropriate for 1938 than 1948.

Part of the explanation is that leaders in the Services were preoccupied with occupation duties and especially with demobilization. The magnitude of their tasks is barely suggested by numbers. Between

1 July 1945 and 1 July 1948, the Army went from almost six million to a little over half a million. In operational ships and aircraft, if not in personnel, the Navy and Air Force shrank correspondingly. The sheer effort of moving men and materiel back to the United States, processing discharges, and destroying, selling, or storing supplies, equipment, ammunition, guns, vehicles, and the rest demanded most of the military's time and attention. While demobilization was in progress, the Services found it difficult to focus in any organized way on questions relating to possible future wars.

More important still, the leaders of the Services were engaged in intense debate with one another about the future organization of the military establishment. During World War II, a number of people in Congress and in the Army had become convinced that the nation would be better off with one unified military Service. In general, Army officers saw merit in there being a single chief of staff and general staff. With few exceptions, Navy officers had the opposite reaction. They feared that a unified high command would be dominated by ground force officers and airmen who lacked adequate appreciation of the importance of seapower and what the maintenance of seapower entailed. The central interest of Army airmen was to gain independence, and they were of two minds as to whether this would be furthered more by some form of unification or simply by creating a third, coequal Service.

Dispute over unification continued from 1945 to 1947. Although Truman originally leaned to the Army view, he was moved by some of the Navy's arguments. Concluding also that the Navy had strong congressional and public support, he accepted a formula endorsed by Navy Secretary James V. Forrestal, and Congress incorporated this formula in the National Security Act of 1947. It vested in a Secretary of Defense "general direction" of the National Military Establishment, consisting of separate Army, Navy, and Air Force Departments. It also formally established the Joint Chiefs of Staff, theretofore a body without a legislative charter, to perform collectively the tasks of an overall chief of staff. In amendments based on experience, Congress 2 years later provided that the Secretary of Defense head a Department of Defense of which the three Service Departments would be components, and that the fourth member of the JCS be entitled Chairman and be served by a small staff.

Many other issues remained unresolved. The Army and the Air Force still differed over their respective responsibilities for air operations. Although they agreed that artillery and fighter-interceptors both had roles to play in air defense, they disagreed as to the most desirable mix of the two and as to whether operational command should

lie with gunners primarily concerned with target destruction or with airmen concerned also about the survival of pilots. The Navy and the Air Force, meanwhile, differed even more violently concerning seaborne aviation. World War II had seen fliers within the Navy win a decisive victory over their long-term rivals, the champions of battleships and cruisers. Dominating all naval elements but the submarines, the naval fliers believed that carrier-borne aircraft could not only control the seas but could and should provide most of the air support likely to be needed by the American ground forces in the initial stages of any foreseeable future war. To Air Force aviators, on the other hand, carriers seemed an extravagance -- highly vulnerable and serving almost no purpose that could not be served more cheaply and effectively by land-based planes. Since bombers and fighters were gaining steadily in range, they could, in the Air Force's view, ensure control of the air over most, if not all, the sea lanes and provide most, if not all, of the support required by expeditionary forces. Though not going so far as to advocate the scrapping of all carriers, Air Force planners proposed that the Navy confine itself to operating surface vessels, including carriers, while the Air Force assumed control of all aircraft, including any that might operate from seaborne platforms. The gap between the two Services could hardly have been greater.

For a year following passage of the National Security Act, the top officers of the Services were locked in conflict over language

that would define their respective roles and missions. Long special sessions held by the Secretary of Defense with the JCS at Key West, Florida, in March 1948, and at Newport, Rhode Island, in August 1948, finally produced ambiguous compromise language which assured the Navy of control over carrier aircraft and of a mission not confined exclusively to attacks on targets at sea, while at the same time assigning the Air Force primary responsibility for strategic air operations.

Battles over unification and definition of roles and missions occupied much of the time and energy of leaders in the Services during the whole period prior to the middle of 1948. In the circumstances, it is understandable that they did not devote much attention to review of postwar force plans which, in any case, the President and Congress seemed little disposed to implement.

That plans and force projections continued largely to ignore the development of nuclear weapons is also understandable if one notes all the uncertainty which existed concerning such weapons. Since information about the bomb, its design, and its effects was very closely held, scarcely more than a handful of military officers knew enough to think in practical terms about how the weapons might be used. For a few years, too, it appeared that strong international

controls might be imposed on the use of atomic weapons. Well after the end of 1946 when the Soviets finally rejected the Baruch Plan, planning papers in the Pentagon and State Department continued to discuss international control as a live possibility. Not until 1949 did it become the accepted assumption that this would not be the case.[9] The few officers who did have knowledge of nuclear weapons had to assume in any case that they would remain very scarce and pose problems in operational use, for fissionable material was thought to be rare; the processes for converting it into actual bombs were complicated, delicate, and time-consuming; and the bombs themselves were expected to remain large, clumsy, and inaccurate. Since the atomic bomb dropped at Bikini atoll in 1946 missed its target of captured and surplus ships by a wide margin, knowledgeable military and naval planners could hardly recommend heavy dependence on nuclear weapons.

A further complicating factor was the slowness with which a postwar nuclear weapons program developed. The Army had managed the wartime Manhattan Project but had made little effort to retain it, chiefly because it did not consider it an appropriate function and because it feared political complications. Moreover, there was strong agitation in Congress and among scientists for civilian control of nuclear energy. In mid-1946, Congress authorized creation of a civilian Atomic Energy Commission (AEC), with a General Advisory Committee and a Military Liaison Committee to provide it with advice, respectively from scientists and military and naval officers.

It was early 1947 before this apparatus began to function. Since many facilities had meanwhile shut down and many scientists and engineers had gone off to industry or academia, the new AEC inherited a program in shambles. The commissioners needed time to plan and thus were slow to begin prodding the military establishment to specify needs and wants for nuclear weapons.

Given demobilization, debate over unification and roles and missions, and the state of atomic energy programs, the Services deferred efforts to make realistic plans for future wars or to consider the possible implications of the nuclear revolution. Although committees within the JCS organization, representing all the Services, began studying these subjects as early as December 1945, their work yielded only tentative concepts, never formally approved by the Chiefs. There was no joint emergency war plan until the very eve of the Berlin crisis in 1948.[10] Nor were there even Service plans going much beyond those developed during the late stages of World War II. In March 1948, the Chief of Staff of the new Air Force received from his Aircraft and Weapons Board a report that the Services lacked plans for strategic bombing operations employing nuclear weapons and did not even have an adequate program for developing appropriate forces.[11]

The small research and development budgets of the Services, to be sure, were funding work on future strategic weapon systems. All were

committed to the principle voiced by General Eisenhower when he was Chief of Staff of the Army in 1946: "We must be superior to any nation on any kind of weapon or equipment which we need."[12] While no actual effort was justified in terms of Soviet programs that needed to be paralleled or defended against or even anticipated, each Service had in development one or more weapon systems which it justified in part or in whole in terms of potential for posing a strategic threat to the Soviet Union. The Army hoped eventually to have not only defensive surface-to-air missiles but also very long-range surface-to-surface missiles. As early as mid-1946, the Navy represented its projected carrier force as "a most suitable means of waging atomic bomb warfare," and in late 1947, it justified its plans for a nuclear-powered submarine partly in terms of its prospective capability as a platform for launching a 500-mile-range "strategic guided missile" or providing terminal guidance for a longer range land-launched missile.[13]

Except in such research and development, however, the U.S. military establishment cannot be characterized prior to 1948 as engaged in a strategic arms competition with the Soviets or as a force within the United States Government promoting such competition. On the contrary, evidence concerning actual U.S. military programs -- procurement, deployment, budgetary allocations, and overall force posture -- in the period 1945-48 can only be construed as indicating little national urge toward competition in armaments, strategic or other.

The Development of Deterrence[14]

Outside the military establishment there was, however, a developing body of doctrine which would provide a rationale more elaborate than General Eisenhower's simple principle of superiority in a strategic arms competition. It revolved around the concept of deterrence.

In 1946, Bernard Brodie and four other social scientists published a book entitled The Absolute Weapon. Although the contributors differed among themselves, they agreed that the atomic bomb required massive changes in assumptions not only about actual warfare but about peacetime relations among rival powers. One of the authors contended that the bomb could serve for "determent." Fear of it could be sufficient to prevent any ambitious state from embarking on or even risking a general war.[15]

The fundamental idea did not seem new. Especially in the Navy, but in the other Service as well, many officers had trouble understanding the novelty of what came to be called "deterrence" because they had long believed that the United States could secure peace by maintaining and displaying ready military forces and the will to use them. But the concept of nuclear deterrence, as it took form, was distinctive in assuming that a government could face destruction of its own natural life even though it reckoned itself able, in conventional terms, to win a war, that is, to defeat an opposing power's armed forces and to conquer some or all of its lands.

So long as the United States retained a nuclear monopoly, the novel features in this theory of nuclear deterrence did not become fully apparent. They were not to be widely appreciated for many years. In the early postwar period, many Americans seized upon "deterrence" as signifying only a situation in which the United States deterred war by the threat of its atomic arsenal.

This notion of deterrence had profound appeal. The public accepted the general proposition that the United States should not revert to isolationism, that it bore responsibility for preservation of world peace, and that this responsibility required greater military readiness than in the past. At the same time, great uncertainty prevailed as to the economic future. Fear of a new depression alternated with fear of runaway inflation, and except among a handful of convinced Keynesians, the assumption prevailed that the proper role of government was to get its budget into balance. The levels of preparedness recommended by the Services seemed to the President and Congress to be far too costly. The President preferred to emphasize maintenance of a base for mobilizing a large army.

Despite polls indicating that a majority of the public approved of universal training, Truman could not convince the Congress. Many Representatives and Senators sensed that their constituents would eventually turn against a program that would come to seem a peacetime draft. Many also questioned whether preparing for long-term mobilization of several million citizen soldiers was the most effective means for meeting the nation's global responsibilities,

for even Army witnesses waffled on whether UMT would be preferable to maintenance of regular divisions.

In the spring of 1946, Congress displayed some independence in dealing with the Administration's defense proposals, even though both Houses had large Democratic majorities and some disposition persisted to help a new President through a difficult period. UMT legislation did not pass. Though the draft was extended for the sake of filling billets in occupation forces, the basic law was so amended as to handicap any efforts by the Army to maintain effective combat units. The Military Affairs, Naval Affairs, and Appropriations Committees of the two Houses registered their preferences in votes trimming funds for the Army proper while granting all that had been asked for the Army Air Forces, gratuitously increasing funds for nuclear activities still administered by the Army, and awarding the Navy not only the money requested by the Administration but some of the additional sums needed for forces which had been vetoed by the President and his Bureau of the Budget. For the most part, naval airpower benefited. Congress thus showed an early disposition to favor emphasis on nuclear weapons and airpower as opposed to creating a base for large-scale manpower mobilization or maintaining combat-ready ground forces.

After the elections of November 1946, with the Republican Party controlling both the House and Senate, all Administration proposals received unsympathetic treatment. Not only did a UMT bill once again fail

passage, but the draft was terminated altogether, and the House Appropriations Committee made deep cuts in funds for both the War and the Navy Departments.

The committee's action to reduce by 10 percent the allocation for aircraft procurement was reversed on the floor by a coalition of Democrats and members of the Republican majority. The Senate then voted not only to restore all other reductions in the Air Force budget but to provide more money for it than the Administration had asked. Both Houses showed favor to the Air Force while sharply curtailing funds for the other Services, and the legislative record made it clear that members thought that, in doing so, they were buying bombers that would carry atomic bombs.

The Senate impaneled a committee under Senator Owen Brewster of Maine to consider what should be the nation's policy with regard to airpower. To some extent, the formation of this committee was also influenced by ongoing Navy-Air Force debates. Certainly the committee's hearings provided one arena of contest for spokesmen of the two Services. Meanwhile, Truman named a parallel Presidential commission, headed by Thomas K. Finletter, to survey the same set of questions. In large part, Truman's objective was to preserve executive prerogative and to protect himself in case potential campaign issues should arise. The Finletter commission's hearings, however, provided yet another arena for the interservice struggle.

At the time, the outcome of work by these two bodies did not seem wholly foreordained. The Bikini tests had seemingly demonstrated that carriers were not necessarily vulnerable to atomic bombs and that the existing bombs could not be delivered on any target with assurance of accuracy. As Secretary of Defense Forrestal summarized the situation in early 1948, the case for heavy investment in land-based strategic air forces was shaky. The medium-range B-29 remained the best Air Force bomber. The B-50 might prove to be a better plane, but would have no greater range. While the B-36 could span an ocean, it was slow, clumsy, and required a 10,000-foot runway with 40 inches of subsurface construction. The 4,000-mile radius B-52 was at least 4 years from being operational and might not pass its tests. Close scrutiny, Forrestal implied, could create skepticism as to whether bombers and atomic bombs represented a realistic deterrent.[16]

In fact, the Brewster and Finletter groups by the beginning of 1948 had both concluded that these weapons could and would serve such a purpose. The only major difference between the two was that the Brewster Committee endorsed procurement of both land-based and sea-based bombers, while the President's appointees advocated chiefly investment in the Air Force.

The two bodies were not unaware of the points cited by Forrestal. Indeed, Air Force and Navy witnesses had called attention to every shortcoming in each other's forces. Members of the committees were convinced, however,

that the Soviets would not hesitate to expand their domain by threat or by use of military force. The Finletter commission identified 1953 as a point of particular peril when Russia would have recovered most of the strength sapped by the war and when — unless steps were taken in the meantime — America's inventory of weaponry would largely have disintegrated. Members of the two bodies could see no means of successfully deterring Russian expansion other than by threat of large-scale nuclear attack.

Given the newness of the theory of deterrence, the two groups not surprisingly confused the question of how to prevent war with the question of how to fight a war should deterrence fail. Said the Brewster committee, ". . . the capability of the United States most likely to discourage an aggressor against attack upon this Nation, most effective in thwarting such an attack if launched, and most able to deal out retaliation to paralyze further attack is air power."[17] Both bodies, of course, had the recent congressional debates in mind. They could not realistically consider alternative approaches to preparedness. The major practical question before them was whether to present a strong case for ready air forces, and they chose to do so.

The reports of the two groups, however, reinforced a tendency already present in Congress and the country to regard the strategic nuclear bomber for practical purposes as the primary weapon which the

United States needed. The reasons for this tendency were apparent. Since the probable enemy was far away, huge in extent, and largely landlocked, offensive operations other than aerial bombing appeared difficult if not impossible. In spite of the mixed verdict of the U.S. Strategic Bombing Survey,[18] Air Force bomber advocates stoutly maintained that the initial phase of a new war would be its decisive phase, and the atomic bomb lent weight to this thesis. Legislators and other leaders of opinion, trapped between dread of Soviet communism on the one hand and dread of deficit spending on the other hand, were receptive. Moreover, if such public funds as were spent for defense went chiefly for aircraft, maximum economic-political benefits would accrue, for aircraft production employed large numbers of workers in California, Texas, Washington, and Missouri and, in addition, created demand for engines, parts, steel, and aluminum, the production of which employed large numbers of people in Michigan, Illinois, Ohio, Pennsylvania, New York, and other populous states.

Evidence of public and congressional responsiveness to the notion that the long-range bomber was the sovereign deterrent and war-winner had some impact on the Services. The Navy's growing emphasis on possible strategic operations by its carrier-based planes and nuclear submarines has already been noted. The Air Force likewise called more and more attention to its strategic forces. Though not changing the balance between bombers and fighters in its force projections, it assigned to the Strategic Air Command all long-range bombers and some fighters and

other aircraft. Also, Air Force headquarters made a deliberate decision not to segregate the small number of bombers adapted to carry atomic bombs but to label the entire bomber force as a nuclear strike force. [19]

Even though American military forces had not by 1948 made any significant adaptation to either the Cold War or the nuclear era, doctrine and force posture were edging toward concentration on one type of war with one specific enemy, establishing thus a framework in which comparative strength in strategic armament would seem to be the central determinant of national security.

CHAPTER II

THE EVOLUTION OF U.S. STRATEGY AND FORCES, 1948-50

The years 1948-50 saw four convergent developments moving the United States toward conscious competition with the Soviet Union which would emphasize the comparative level of strategic offensive weaponry. First, because of Soviet moves interpreted as possibly preparatory to military action against Western Europe, the United States formally committed itself to fight in defense of that region. Second, because of that commitment and the attendant sense of crisis, the military Services began seriously to consider the possibility that war with the Soviet Union might break out within the next several years. Third, in spite of the commitment to Europe, a consensus that the Soviet Government was bent on some form of expansion, and intelligence estimates rating the Soviet Union as a formidable military power, the Administration continued to assign priority to a balanced budget at some sacrifice of military readiness. A movement to reverse priorities gathered strength slowly. Fourth, administrators, scientists, and engineers achieved advances opening a prospect that nuclear weapons could be had in large quantities and in packages of widely varying size and yield.

Progress of the Cold War

The most important political consequence of the crises of 1948 was acceptance by the United States of a formal, long-term commitment to defend Europe. President Truman interpreted the Czech coup as possibly portending a Soviet attempt to score gains in Europe by threatening to use or even using military force. He apparently did not think it likely that the Soviets would actually move their armies. He did, however,

have before him evidence of nervousness on the part of Western Europeans and American representatives in Western Europe, and he and his foreign policy advisors concluded that this nervousness could best be quieted if the United States signaled that it would meet force with force. Hence, Truman went before Congress in March 1948, reiterated his determination to prevent the subjugation of free governments, and asked for reinstatement of selective service, enactment of universal military training legislation, and a supplementary appropriation for defense. At the time, he had in hand no specific proposals from the military establishment. His impulse was more to make a political gesture than to accomplish any particular change in military posture. [1]

The President and his advisors were prompted in part by knowledge that Western European governments were already discussing among themselves a possible defensive alliance. American officials were giving them every encouragement to take this step and even hinting that, if the alliance materialized, the United States might later become a party to it. The United States had breached its doctrine of avoiding entangling alliances in 1947 when the Senate accepted the Rio Treaty in which the United States joined other American Republics in pledging collective defense of the Western Hemisphere. Exploratory conversations with senators, particularly Arthur H. Vandenberg of Michigan, a former isolationist converted to belief in collective security, persuaded Secretary Marshall, Under Secretary Robert A. Lovett, and others in the State Department that the Senate might take the further step of consenting to an entangling alliance with Europeans. The condition precedent, however, was that the Europeans themselves demonstrate solidarity and determination.

This hope was partially fulfilled in March 1948 when 5 European governments (Britain, France, Belgium, Netherlands, and Luxemburg) signed the Brussels Treaty. One possible obstacle crumbled shortly afterward when France, which had frequently followed an independent line, joined Britain and the United States in agreeing to grant independence and sovereignty to a non-Communist West German government. Outcries in Moscow against the Brussels Pact and the new West German regime helped meanwhile to keep alive a sense of high tension between West and East. And in early June 1948, Senator Vandenberg gratified his friends in the State Department by securing a vote of 64 to 4 in the Senate for a resolution implicitly endorsing United States adherence to the Brussels Pact.

Hard on the heels of the Vandenberg Resolution came the Berlin crisis. Momentarily, there passed through Washington a sense that war might actually be at hand. In view of all his earlier bold statements, the risk of undoing the prospective American-European alliance, and the fact that he was starting his campaign for a second term, Truman scarcely considered abandoning Berlin. At the same time, he showed no inclination to test the blockade with an armed convoy. Instead, he elected to try maintaining a communication and supply route through the air lanes which had not yet been closed off. At moments between June and September he and his advisors feared that the Russians were about to interrupt the airlift and force upon them a more painful choice. Among the expedients which they adopted in hope of preventing such Russian action was an ostentatious transfer of one group of B-29s to a base in occupied Germany and two groups to bases in the United Kingdom. Although these groups did not

include any of the planes specially prepared for carrying atomic bombs, Moscow was expected to get the message that outbreak of war could bring nuclear attack on the Soviet Union. Secretary Marshall and others later concluded that this message had been received. [2] That conditions did not become worse and that a negotiated settlement appeared possible encouraged an inference that the nuclear threat had been decisive.

The Berlin crisis eased somewhat, but the airlift went on. Truman surprised almost everyone by winning the election. Not long after he began his new term, the North Atlantic Treaty was signed -- on 4 April 1949. While the treaty was under debate in the Senate, negotiations over Berlin came to a successful end, and road and rail connections reopened. In an atmosphere less charged with tension, some skepticism surfaced about the projected European alliance. Dean Acheson, who had replaced an ailing Marshall as Secretary of State, had the duty of defending the treaty. Reflecting the consensus within the executive branch, Acheson offered categorical assurance that the United States would not have to maintain troops in Europe. In rounding up votes, Vandenberg cited Acheson's words. He and others contended that the security of Europe would be assured as long as the Russians knew that the United States had sworn to defend other members of NATO and had the atomic bomb in its arsenal. [3] The Senate finally accepted the treaty on 23 July 1949.

In the Far East, 1948-49 saw the final disintegration of Chiang Kai-shek's position on the Chinese mainland. He and the remnant of his army withdrew to the island of Taiwan in 1949. In response to congressional and public accusations that the Administration had passed up opportunities

to prevent the success of the Chinese Communists, Secretary Acheson at the end of 1949 issued a documentary "White Paper," defending the thesis that Chiang's regime had been too weak and corrupt to be saved. Leaders in the Administration believed -- erroneously as it turned out -- that the "White Paper" would put an end to debate. In the spring of 1950, the President made plain that the United States would not attempt to defend Taiwan if the Chinese Communists pursued Chiang there. Meanwhile, the Administration proceeded with plans to end the occupation of Korea, leaving a shaky authoritarian regime in control, and to sign, with the concurrence of other wartime allies, but not of the Soviet Union, a peace treaty with a now reconstructed Japan. Reflecting discussion in the National Security Council, Secretary Acheson outlined the general position of the United States in a speech to the National Press Club in January 1950 in which he described the defense perimeter of the United States in Asia as including only Japan and the Philippines.

In the Middle East, a long period of conflict had temporarily ceased in 1949 after the new Jewish state of Israel secured its borders by force and obtained recognition from most of the great powers. Against the risk of renewed conflict between Arabs and Jews, possibly creating opportunities for Soviet meddling, the United States, Britain, and France issued a tripartite declaration in May 1950 pledging themselves to preserve the existing boundaries among Middle Eastern states.

In the spring and summer of 1949, there was a growing feeling that perhaps the Cold War had passed its peak. Stalin's retreat on the issue of Western access to Berlin had been widely interpreted as evidence that

the Soviet Union had recognized the recklessness of challenging the West. Headlines in newspapers and questions at Presidential conferences increasingly concerned themselves with domestic rather than international issues. With much attention focused on the trial in New York of Alger Hiss, a former State Department official accused of having perjured himself in denying that he passed secrets to Communists in the 1930s, it appeared that even concern about communism was turning inward. One index of the shift was a regular Gallup survey of public opinion of the possible desirability of increasing the size of the military establishment. In February 1948, before the Czech coup, 61 percent were reported to favor enlarging the Army, 63 percent to favor enlarging the Navy, and 74 percent to favor enlarging the Air Force. In February 1949, with the Berlin blockade still in effect, the comparable percentages were 56, 57, and 70.[4] The fact that more than half the respondents wanted across-the-board increases and more than two-thirds wanted an expanded Air Force evidenced continuing concern. On the other hand, the trend seemed plain.

In September 1949 came Truman's announcement, subsequently confirmed from Moscow, that the Soviet Union had exploded a nuclear device. The news should not have caused surprise. Scientists had always conceded that the Soviets would eventually be able to build a bomb. Estimates as to when they would accomplish this feat had varied, with some date in the early 1950s generally thought most likely. The Soviet achievement came a little sooner than expected. The President and other Administration spokesmen played down its significance. After a few days, the press did likewise.

Speaking for the JCS, Army Lt. Gen. Alfred M. Gruenther was to comment

within less than 5 months that the Soviet test marked a moment in history comparable to Pearl Harbor or Hiroshima, for it signaled the vulnerability of the United States to surprise attack "of infinitely greater magnitude than that of 1941." [5] In retrospect, this assessment seems not far off the mark. Nonetheless, the apparent immediate effects were slight. The most visible was public surfacing of internal governmental debate over the scale of America's nuclear weapons program and the issue of whether or not to proceed with the development of a hydrogen bomb, the latter concluding with a terse announcement by the President on 31 January 1950 that he had directed the AEC to develop such a bomb.

Despite uproar over the "loss" of China, the shift away from interest in the outside world seemed to continue. In February 1950, in a speech at Wheeling, West Virginia, Senator Joseph R. McCarthy of Wisconsin publicized the thesis that the foreign problems to which Truman had responded since 1945 were largely to be explained as the work of Communist sympathizers hidden in Washington and were to be remedied not by alliances, aid programs, or military preparations but by investigation and purge of the executive branch. Although the outbreak of the Korean War at the end of June was to reawaken public awareness that there were woes in the world not all of America's making, "McCarthyism" was to retain popular appeal for years to come.

War Planning

Within the military establishment, the years from 1948 to 1950 saw serious consideration of the question of what the United States might do if war with the Soviet Union actually occurred.

In the first half of 1948, Service intelligence estimates credited the Soviets with 175 divisions, the best 40 of which were thought to be so positioned and equipped that they could at any time strike in force across western Germany and into the Low Countries and France. Backing up these ground forces were thought to be 9,000 fighter planes, 1,800 air defense interceptors, many with jet engines, and a large number of B-29-type bombers. In addition, the Soviets were supposed to have 279 submarines, some of new types, at least 4 and perhaps 19 of which were captured vessels of Type XXI, capable of long-range, long-submerged operations. [6]

At that time, in the season of the Czech coup and the Berlin blockade, the United States had virtually completed demobilization of its wartime forces. Although some occupation functions continued, the military establishment had largely completed its transition to a peacetime footing assumed to be permanent. Total military manpower was below 1.5 million. The Army's ready reserve force for dispatch abroad consisted of two and one-half divisions. The Air Force and Navy together had approximately 6,000 fighters of which 375 were specifically designated for air defense; 1,000 were jets. / The Air Force retained 567 B-29s, supplemented by 45 B-50s. [7] Thirty-two of the B-29s could carry atomic bombs but, as the Berlin crisis was to make evident, no preparations had been made for basing these planes or bomb assemblies within range of Soviet targets. [8] According to the current intelligence estimates the Soviets had overwhelming numerical superiority in every category except naval vessels and atomic bombs.

Yet the military establishment had now to consider seriously what should be done in the event that war broke out in the near future. In the

spring of 1948, the JCS approved their first postwar emergency war plan, code-named HALFMOON. Actually a composite of separate Service plans developed during prior months, it gave a clear indication of the pessimism with which all the Services viewed the prospect of entering into combat with the forces allowed them by the existing realities of American politics. [9]

The HALFMOON plan assumed that Russian armies would overrun most of Europe in 50 days. Although the American and British navies might be able to keep open the sealanes, American and Allied fighter forces would be unable to prevent punishing air bombardment of the United Kingdom. The plan called for retreat by U.S. occupation forces and an effort, which might or might not succeed, to hold a line somewhere on the Continent, perhaps at the Pyrenees, while Navy carriers moved into the eastern Mediterranean to block a Soviet move against the Cairo-Suez region.

Strategic bombing was the only offensive action which the plan could posit. Army planners assumed gloomily that any chance of retaining a foothold on the Continent depended on bombing that would slow the westward march of the Red Army, but neither the Navy nor Air Force segments of HALFMOON offered much hope that this would, in fact, occur. The Navy could promise only token raids against targets in the southern U.S.S.R. The Air Force had to acknowledge that it could not launch strategic bombing until the war was well underway. Since the plan was prepared before the Berlin crisis, the B-29 force was all in the United States and not within bombing range of the Soviet Union. Not only were few of the B-29s fitted to carry nuclear weapons but only a limited number of bomber crews were

* With the exception of one rotational squadron in Germany.

fully trained for such missions.[10] In addition to putting the right planes and crews at forward bases, the Air Force would have to obtain nuclear and nonnuclear components from the AEC and transport them abroad. It would also have to move one or both of the only two fully trained assembly teams. With everything in place, a team needed 24 to 36 hours to put together a bomb. On the assumption that air bases on the Continent would be overrun almost immediately and that those in the United Kingdom would become untenable within [redacted] the Army, with Navy backing, was to move into Iceland and Pakistan so that the Air Force could have alternative bases within range of major Soviet targets. The Air Force estimated initially that [redacted] calculating that their destruction would cut Soviet industrial production in half. As of the time when the plan was adopted, however, the Air Force Strategic Air Command (SAC) lacked data and SAC bomber pilots had no target folders.[11]

Although contingency planning can be academic, that of 1948-49 had an unusual degree of realism because of the succession of crises commencing with the coup in Czechoslovakia. Senior officers perceived how ill-prepared their Services were for a war that at times seemed just about to commence. Concurrent staff work on a possible war 5 or more years in the future helped to link contemplation of current shortcomings with thought about budgets and future force goals. Although successors to HALFMOON were developed in joint committees, each of the Services studied the issues independently.

In the Air Force, attention went chiefly to the question of how a strategic bombing offensive might be speeded up and made more effective.

Up to this juncture, SAC had not played a large part in Air Force planning. It had been established within the Army Air Forces in March 1946 as part of a reorganization accompanying demobilization and preparation for independence from the Army. In December 1946, it had been made responsible to the JCS. In practice it remained an entity of the AAF and later of the Air Force, for its personnel were all from that Service and its operational orders came from the Air Force Chief of Staff acting as executive agent for the JCS. Its initial commander, Gen. George C. Kenney, was merely one officer whom Air Force headquarters consulted (and sometimes did not consult) in the course of debates about future force structure, the operational use of nuclear weapons, and plans for coping with the possibility of war. [12]

With the Czech and Berlin crises giving sudden reality to planning exercises, SAC began to take a more prominent role. It was just beginning to analyze its potential operational problems and in May requested data from Headquarters USAF about such elementary factors as minimum safe altitude for dropping atomic bombs and potential radiation effects on escort and reconnaissance craft. In August, it received the air portion of HALFMOON (HARROW) for coordination and further development. [13]

After about a month of study, SAC proposed a set of objectives, chief among which was that SAC gear itself to deliver 200 atomic bombs within 48 hours after the outbreak of the war. The targets were to be chosen with a view to crippling Soviet industrial power and also reducing to a minimum the Soviet capability for launching air strikes against the United States. As a first move toward this objective, SAC recommended

rapidly stepping up the training of assembly crews. Except for setting delivery of 100 bombs as the interim objective, the Air Force Chief of Staff approved these recommendations. [14]

By the end of the year, assembly capability had risen to 10 bombs a day, and the JCS had approved an effort to train enough crews so that this rate could be doubled by the end of 1949. [15] In the meantime, Lt. Gen. Curtis E. LeMay, one of the most aggressive commanders in the Service, had been recalled from Germany in October 1948 to succeed Kenney as Commanding General, SAC, and the highest officers in the Air Force had spent an entire week at Maxwell AFB, Alabama, in December 1948 receiving detailed briefings on SAC's capabilities and aspirations. At the same meeting, SAC received top priority on Air Force resources. [16]

By March 1949, LeMay had not only set in high gear a refitting and training program making SAC truly combat ready but had developed an independent SAC war plan, which called for atomic strikes on 70 Soviet industrial complexes within the first 2 weeks of a war. [17] Supporting analyses suggested that this plan might require formations of 300 planes, 50 of which would be atomic bomb carriers and 250 escorts. All in all, 450 aircraft would be kept in constant readiness. For the time being, they would be forward-based B-29s. As soon as possible, however, they would be longer range, heavier B-36s and higher speed B-50s. To extend the range of both bombers and escorts and to make SAC less dependent on vulnerable forward bases, there would be a matching fleet of tankers for air-to-air refueling. [18]

As evidence that SAC was to get what it asked for as soon as possible, Air Force headquarters made program changes during 1949, canceling orders for a number of tactical aircraft and substituting an order for two more groups of B-36s. Other elements of the Service also suffered cutbacks to permit acceleration of the conversion of B-29s to tankers and to hasten development of the new, all-jet medium bomber, the B-47. The highest level of the Air Force had accepted the major objective of equipping, manning, and basing SAC so that it could deliver a massive nuclear offensive in the first few days of a general war.[19] The long-range bomber had clearly become the dominant weapon within the Service.

In the Navy, no single trend of thought about a possible war predominated, either before or after the exercise of putting together the HALFMOON plan. In large part, the carrier-centered "balanced fleet" had been an instrument designed to wrest control of the western Pacific from Japan. While most naval officers considered it the best possible instrument for controlling the seas, they had some difficulty with the question of how it might be used against the Soviet Union, a continental power with no ocean domain and few approachable sea frontiers.

Three rather different lines of thinking manifested themselves. In earlier years, the Navy's General Board had been the principal body for considering broad strategy and long-term force posture. During World War II, it had gone into eclipse. Afterward, it was reconstituted and during 1947-48 it produced some papers concerning a possible war with Russia. On the whole, the Board concluded that the Navy could not have a role such as it had played in World War II. Its primary function would be to control

the sealanes so that supplies and ground and air forces could be transported to continental theaters of operations. Its secondary function would be to provide air support to forces fighting near the coast and to bomb some accessible targets in the U.S.S.R.[20]

The office of the Deputy Chief of Naval Operations for Operations offered a contrasting line of thought which envisioned the Navy's playing more than a supporting part in a Russian war. In the initial phase, it would not only sweep the seas of enemy submarines and prevent conquest of the United Kingdom and other island bases off the European coast but would secure control of the eastern Mediterranean. This would be the decisive theater, for the United States and its allies could land amphibious forces in the Black Sea region and there engage the Soviet Army on its home ground. At least until the lodgments had been made, carriers would provide most of the necessary air support. Ground-based bombers, flying across western Europe or operating from Mediterranean bases secured by the Navy, would disrupt Soviet production and communications but have as their chief assignment the distraction and attrition of fighter aircraft that might otherwise oppose amphibious operations and subsequent sea-supported ground operations. According to this concept, the capability for strategic bombing would take second place to a naval capability for controlling the water and air between the Dardanelles and Suez.[21]

Elsewhere in naval headquarters, particularly in the offices of the Deputy Chiefs of Naval Operations for Air and for Special Weapons,* emerged the third line of thought -- that strategic bombing with nuclear weapons

*The DCNO (Special Weapons) was in existence for only 13 months, from October 1945 to November 1946.

could play a critical part in a war with Russia but that the Navy could perform such a mission better than the Air Force. The Bikini tests of 1946 indicated that carriers could be made safe against anything except a direct or near hit from an atomic bomb and that the inaccuracy of the bomb reduced the likelihood of such a hit. If nuclear weapons remained scarce, the Soviets would not waste their meager stockpile on elusive naval targets. Carrier-borne U.S. aircraft could, however, deliver atomic bombs on Soviet targets. P2V Neptune seaplanes had the capability. The new AJ-1 would be able not only to perform the mission but, unlike the Neptune, to make a return landing on a carrier, and AJ-1s were to become operational as early as 1949. Although acknowledging the AJ-1 to have deficiencies, the Navy's strategic bombing advocates argued that Air Force bombers had more serious shortcomings, not least of which was their dependence on vulnerable fixed bases. Their conclusion was that carriers and carrier-based bombers deserved priority among forces to be developed and kept in readiness. [22]

None of these three groups acquired the kind of dominance within the Navy that SAC was gaining within the Air Force. While the General Board lacked wide influence, its views were too well reasoned to be utterly ignored. Arguing essentially for a balanced fleet suited to a wide range of contingencies, many of which were unforeseeable, officers in Operations made a case for fighting in the Black Sea region, more for illustration than for prescription. Many officers in Air and Special Weapons felt ambivalent, for they, too, feared the unforeseeable, wanted the Navy to retain a range of capabilities, and recognized the risks to the Service entailed in conceding possible value to strategic bombing. Moreover, the

upper levels of the Navy contained yet other varieties of opinion. Some officers in the submarine service, the Bureau of Ships, and the Bureau of Ordnance were convinced that the Navy's future hinged on development of nuclear propulsion and submarine-launched missiles.[23] While the Air Force focused on securing priority for SAC, the Navy sought joint plans that would leave many options open. In HALFMOON and its successors the Navy accepted the assignment of clearing the seas and securing forward bases but insisted that maintenance of control over the eastern Mediterranean have high priority and inserted language which prevented the strategic bombing task from falling exclusively to the Air Force.

Army planning was to some extent a function of planning by the other Services. Except for a role in air defense, Army operations in the early phases of any new general war would depend on the extent to which Air Force bombing sapped Soviet capabilities for rapid ground force deployments in adjacent areas, Air Force and Navy fighters could provide local air control, and the Navy could establish a sea train for reinforcement. Tending to make worst case assumptions about the actual capabilities of the other Services and of the NATO allies, Army planners adopted the view, evident in HALFMOON, that prospects were dim for retention of a foothold anywhere on the Continent or even in the United Kingdom. Insofar as they indicated any hope for effective strategic bombing, however, they seemed to regard land-based bombers as more likely to be effective than carrier-based bombers. They looked to the Navy chiefly to bring supplies and reinforcements and to evacuate American troops in the event that no ground could be held. At an earlier juncture, when Iran had been thought a possible scene of crisis,

Army planners had worked with the Navy on schemes for operations in the eastern Mediterranean. In 1948-49, however, they displayed lack of enthusiasm for the notion of landings in the Black Sea region. Army contributions to joint planning thus tended to reinforce the Air Force case for SAC rather than the Navy case for the carrier fleet. [24]

Budgets and Forces

Although the Services had to think of war as a real possibility, they were not offered even a prospect of having significant additional resources with which to prepare for war. When the President reacted to the Czech coup by asking Congress to reinstitute the draft and augment the defense budget, he had not examined specifics or considered exactly what additional forces he wanted. When he learned that current new spending could commit him to higher and higher budgets in future fiscal years, he recoiled, authorizing Forrestal to seek $3.5 billion of additional appropriations, but in categories that would not jeopardize maintenance of a rigid $15 billion ceiling for fiscal year 1949. As a result, the principal Administration proposals involved short-term increases in military manpower levels. These proposals then came under attack in Congress, with many members asking what good it would do to increase U.S. ground forces since they would never match Russia's 175 divisions or to build up surface naval forces in the face of the fact that the Soviet Union had no navy to engage or significant sealanes to be severed. Airpower did stir some enthusiasm on Capitol Hill. After denying the Administration some of the money it had asked, the Republican-controlled Congress -- against the wishes of Republican leaders in the House -- voted an extra $822 million for the express purpose of speeding aircraft construction. [25] Despite public opinion

polls endorsing preparedness, the Services had to assume $15 billion to be an absolute limit for all fiscal year 1950 defense expenditures, including stockpile purchases, and a limit that Congress might diminish.

Simultaneously, the Services found themselves for the first time answerable not just to specialized examiners in the Bureau of the Budget and to congressional committees inclined to focus on details rather than on overall force posture but to a Secretary of Defense who had responsibility for presenting to the President and to Congress a unified budget for the national military establishment. Moreover, the unified budget sent to the White House would be reviewed by the Bureau of the Budget and by congressional committees now reorganized in consonance with changes on the executive side, with the erstwhile Military Affairs and Naval Affairs Committees merged as the Armed Services Committee and with each chamber's Appropriations Committee having a single subcommittee to deal with defense expenditures. In the circumstances, it was much more difficult than in the past for the Services to preserve differing conceptions of defense priorities and to develop overlapping or competing capabilities.

The Air Force protested the President's budgetary rulings, saying that they jeopardized the attainment of the 70-group goal endorsed by the Finletter commission and by many members of Congress. Air Force Secretary W. Stuart Symington complained that the staff of the Secretary of Defense showed favoritism toward the Navy. Meanwhile, he made a direct challenge by sending to his opposite number in the Navy a memorandum saying that atomic bombs were sufficiently scarce so that they should be reserved for "targets of the greatest strategic significance," pointing

out that the Air Force had primary responsibility for strategic air operations, and concluding: "There is no justification for development on the part of the Navy of special equipment, or organization, for the purpose of dropping atomic bombs." Though the Secretary of the Army did not join in this particular challenge, he did send the Secretary of Defense a formal memorandum arguing that the advent of the atomic bomb reduced the importance and value of the surface fleet. [26]

Up to this time, the Navy had been counting on developing postwar forces consistent with its various conceptions of the nation's possible defense needs. It envisioned launching flush-deck "supercarriers" much larger than carriers of the Midway-class, capable of handling jet aircraft of widely varying weights, including AJ-1s and other planes fitted for carrying atomic bombs. Before the crises of 1948 provoked serious joint war planning, the Navy had obtained authorization from the President and Congress to proceed with a design so that construction of the first supercarrier could commence in fiscal year 1949. At this time the Navy was expecting to keep afloat 12 attack carriers, retiring some of the Essex-class when supercarriers began to enter the fleet. From the Navy's standpoint, this was not enough, but it was equivalent to the Air Force's getting along with 50 groups instead of 70 and meanwhile replacing the B-29s with B-36s. [27] The reaction of the Air Force and Army to the President's directive on the FY 1950 budget ceiling suggested that the supercarrier or the 12-carrier force or both might be in jeopardy. Hence the Secretary of the Navy and naval officers counterattacked by raising questions in the Pentagon and the Budget Bureau as to whether the Air Force

B-36 could actually get to the Soviet Union and deliver atomic bombs anywhere near their assigned targets. [28]

Secretary of Defense Forrestal, himself a former Secretary of the Navy, asked the JCS for an analysis of what the United States could accomplish by strategic nuclear bombing and how it would affect the capacity of the Soviets to wage war. Although an Air Force officer, Lt. Gen. Hubert R. Harmon, headed the committee charged with this task, the Chief of Naval Operations succeeded in getting terms of reference which ensured that the estimate would be cautious, for the committee was enjoined to look only at the bombing projected in HALFMOON and to consider only direct effects, not secondary effects such as fire and panic. Called for in October 1948, this report was not ready until May 1949. It partially satisfied the Navy's hopes by saying that nuclear bombing might well halve the Soviet Union's industrial production but would not bring about its defeat and would not prevent it from conquering all of Europe. The Air Force, however, objected to these findings as based on insufficient investigation and succeeded in getting yet another study commissioned. [29]

Naval officers in JCS committees meanwhile defended the theses that maintenance of control over the eastern Mediterranean would be a crucial task in a war and that carrier task forces in those seas and in the western Pacific could effectively bomb targets in the Soviet Union. In the face of the President's budget ceiling, it was evident that the United States could not prepare adequately both for these operations and for the strategic bombing campaign outlined in the plans emanating from SAC. Army members of JCS committees indicated their verdict that SAC's plans were more

promising. The chief Army planner, Lt. Gen. Albert C. Wedemeyer, announced his view that the emergency war plans should be changed to provide for no U.S. operations in the eastern Mediterranean, even if the result were loss of Middle Eastern oil. That region should be left to the British, he said, while the U.S. Navy concentrated on supplying and supporting ground forces in Western Europe and the western Mediterranean. In the actual new emergency war plan developed in the spring of 1949, the Army relented to the extent of including control of the Cairo-Suez area as an objective to be pursued, if resources were available; but it was clear that joint war plans would not provide a justification for forces tailored to Navy conceptions of U.S. strategic force needs as distinguished from Air Force/SAC conceptions of those needs. [30]

Another forum in which the Navy pleaded its case was a committee which Forrestal had created to review the working of the 1947 National Security Act. Headed by New York banker Ferdinand Eberstadt, who had played an important role in developing the 1947 act, it had a mandate to review strategic as well as organizational issues, and the Deputy Chief of Naval Operations for Air, Vice Adm. Arthur W. Radford, laid before it in detail the Navy's view of how a war might progress. He attacked frontally the notion of a decisive initial phase in which strategic bombing would all but vanquish the enemy. There could be little such bombing at the outset, he contended, and not much more during the succeeding phase of counter-offensive buildup. Only in the last stages, when American and Russian forces were grappling on land, would large-scale strategic bombing be effective. Radford based his argument in part on findings of the U.S.

Strategic Bombing Survey and in part on the thesis that a major function of strategic bombing was to draw off enemy fighters that might otherwise be covering ground forces. In effect, Radford contended that the atomic bomb was merely a bigger bomb, that it could not be counted on to win a war, and, this being the case, that it would be an inadequate weapon for deterrence of war. [31]

The Navy presentation, together with evidence concerning current deficiencies in the capabilities of SAC, had some impact on the Eberstadt committee. At any rate, its report to Forrestal in November 1948 emphasized the fact that existing land-based bombers required forward bases which might or might not be tenable and that enemy air defenses might prove effective against them. It called for maintaining a powerful carrier fleet, at least for the foreseeable future. [32]

Assertions and insinuations by Navy representatives prompted some questioning in the Office of the Secretary of Defense, the Bureau of Budget, and the White House. The Defense Comptroller, Wilfred J. McNeil, had long before advised caution about heavy investment in B-36 forces, given the bomber's weight, slow speed, and possible vulnerability, and Forrestal had told Truman of the bomber's deficiencies in performance./ Bureau of the Budget Director Frank Pace urged the President to reflect on the larger issue of whether he wanted to risk placing himself in a position in which, in a crisis, strategic nuclear bombing might be his only military option. Troubled by Forrestal's questions and perhaps by Pace's, Truman obtained from the Air Force Chief of Staff and other Air Force officers briefings on the plans and capabilities of SAC. He was told that the JCS had specified as the number one and number two tasks

for the military establishment defense of the United States and "reduction of enemy industrial productivity below that level required to support his war-making effort." (Actually, JCS documents defined the second task more ambiguously and wordily as "a powerful air offensive against selected vital elements of the Soviet war-making capacity, exploiting all capabilities therefore, and taking advantage of available atomic weapons to the extent necessary in the over-all effort to obtain the most rapid and efficient achievement of the National War Objectives." [33]) Truman was also told "primary responsibility for both of these is charged to the Air Force." He was assured that only 4 of 14 strategic bomber groups would consist of B-36s; the rest would be B-29s suitable for missions involving conventional instead of nuclear ordnance and that much of the remainder of the existing or hoped-for Air Force would defend home territory. [34]

Not wholly satisfied with what he heard, the President pressed and pressed again for a formal estimate by the JCS of the probable effects of strategic nuclear bombing conducted by the forces available or projected. Because of the disinclination of the Chief of Naval Operations to endorse any conclusions going beyond those of the Harmon report, and the equally strong disinclination of the Air Force Chief of Staff to endorse those conclusions, the President's questions went unanswered even when, after 7 months' delay, he asked plaintively for at least interim conclusions. He was told that a committee of the Weapon Systems Evaluation Board, headed by Lt.Gen. John E. Hull, would report in January 1950 and that Hull was reluctant to return a preliminary opinion. He would eventually be told by Hull's group that 75-80 percent of the bombers would get through, destroying one-half to

two-thirds of the targets—but he did not receive this report until June 1950.[35]

In the meantime the Services fought to a conclusion of sorts the battle over budgetary priorities. Leaders in the Navy had early recognized that the President's ceiling would not allow both progress on the first supercarrier and preservation of a surface fleet with 12 carriers. They had chosen to keep the supercarrier project and cut back to eight active carriers.

Only with difficulty and with the acceptance of reductions in other forces had the Navy succeeded in keeping eight carriers as a target. Forrestal, acting as Solomon, had partitioned the $15 billion budget into almost equal shares for the Services, but Congress reacted coolly to his allocations. Though both again under Democratic control as a result of the 1948 elections, the two Houses ended the session by trimming back Administration requests for both the Navy and the Army while, like the Republican-controlled Congress of 1948, adding $800 million to what the President had asked for the Air Force. Representative Mahon explained the prevailing opinion by saying, "We greatly diminish the likelihood of World War III when we prepare ourselves to strike a quick and deadly blow at the very heart of the potential enemy. . . . The only force under heaven that can now deliver the quick and devastating blow is the United States Air Force. I say without hesitation that our first line of defense is the Air Force."[36]

While Congress acted on the FY 1950 budget, the defense establishment worked on that for fiscal year 1951. In the beginning of 1949, the President decreed that FY 1951 defense spending should not exceed

$13 billion. In March, he let Forrestal go and replaced him with Louis Johnson, a former Assistant Secretary of War, giving Johnson the mission of keeping the total defense budget as low as possible. Acting on a suggestion made earlier by Forrestal, Truman also recalled to active duty General of the Army Dwight D. Eisenhower to function, in effect, as arbiter among the Services and chief budget adviser to the new Secretary.[37]

Upon taking office, Johnson asked for a review of major development and procurement projects. Finding both the Air Force and the Army opposed to the Navy's supercarrier, he peremptorily ordered its construction cancelled. Eisenhower had already expressed misgivings about the ship. After scrutinizing what was left in the Navy's force plans, Johnson ruled that the budget would permit maintenance of only six carriers. In June 1949, discovering that outlays still threatened to exceed the $13 billion mark, he recommended a cutback to four carriers.[38]

Dismayed by these developments, naval officers protested, but unavailingly. In the summer of 1949, some of them decided to take their case to the public. Through leaks to the press, followed by testimony before the House Armed Services Committee, they made an open attack on the strategy and force structure toward which the United States was gravitating.[39]

On Capitol Hill, the issues received their first airing because middle-level civilians and officers from the Navy charged publicly that the B-36 represented a poor investment and that Air Force procurement of the plane had shady aspects. Press coverage concentrated on the second accusation, which turned out to have no substance. The testimony of senior naval

officers made clear, however, the existence of profound differences in opinion between the Services. A subsequent series of hearings, running into the autumn of 1949, enabled them to state their case.

Naval officers used the occasion to question whether strategic nuclear bombers represented either the best deterrent or the primary force to keep in readiness for the initial stages of an actual conflict. Said Radford, " . . . there is no short cut, no cheap, no easy way to win a war. We must realize that the threat of instant atomic retaliation will not prevent it, and may even invite it." He went on to declare that the United States should prepare to win a war "and win it in such a way that it can be followed by a stable, livable peace." [40]

To the extent possible within constraints set by security considerations and concern for the sensibilities of allies, Radford and other Navy witnesses asked how the United States would defend or liberate Western Europe and other vital areas if its primary weapon was the strategic nuclear bomber. If the United States relied chiefly on the threat of strategic bombing to deter aggression, they warned, the aggressor would need only to effect a successful surprise attack on bomber bases and nuclear weapons stockpiles in order to gain free rein. This strategy could encourage war rather than prevent it.

Rear Adm. Ralph A. Ofstie, one of the Navy's few experts on nuclear weapons, cautioned Congress and the country against exaggerating the military or political value of nuclear bombs:

> The idea that it is within our power to inflict maximum damage upon the enemy in a short time without serious risk to ourselves creates the delusion that we are stronger than we actually are. This, in turn, becomes a constant temptation for policy makers to overcommit themselves, to make commitments actually impossible to fulfill. [41]

Neither in the first hearing nor in the second did Navy witnesses follow a common or even coherent line. Some attacked strategic bombing on ethical grounds while others merely claimed that the Navy could do it better than the Air Force. Radford and Ofstie risked self-contradiction by arguing both theses.

With some justification, the press characterized the hearings as part of an "admirals' revolt," prompted largely by budget cuts, the cancellation of the supercarrier, and evidence that the Air Force was supplanting the Navy as the nation's first line of defense. Even though the second round of hearings continued, publicity declined after the Secretary of the Navy, the Chief of Naval Operations, and a number of lesser officers resigned or were retired or reassigned. In the end, the effort succeeded in making more widely known the weaknesses of the B-36 and exposing some issues to public view. It did not, however, rescue any Navy program or alter trends in strategy and force posture. Radford was to concede before the hearings ended that the Navy's effort at persuasion had failed. [42]

While the new Chief of Naval Operations, Adm. Forrest P. Sherman, and others who took high positions in the Service continued to champion an increase in carrier strength and development of the supercarrier, they abandoned any effort to challenge the principle that strategic nuclear

offensive forces deserved priority in the force structure. Instead, they concentrated on developing the Navy's capability for contesting SAC's monopoly of the strategic offensive mission.

The Army had all along conceded priority to strategic nuclear offensive forces. Conceivably, Army planners could have argued that well-positioned ground troops would more effectively deter Soviet aggression and certainly serve more effectively to defend territory, if aggression occurred. At the time, the Army possessed most of the available intelligence about the Soviet order of battle. It held most of the maps, aerial photographs, and other materials covering the Soviet Union which had been captured from the Germans. Through agencies in occupied Germany, it conducted most of the interrogation of people who had been in the Soviet Union or Eastern Europe. It ran a certain number of secret agents in areas occupied by the Soviets, and it intercepted a significant number of signals and radio communications exchanged among Soviet posts and commands. From these data Army officers could have deduced that many of the alleged 175 Soviet divisions were shells and that a number of the divisions in Eastern Europe counted as combat ready were in fact no more so than were American occupation units.[43] If so, they could perhaps have devised plans calling for a more modest force than the 50 American and Allied divisions ordinarily posited as necessary to hold a line in Europe against the Soviet Army. Probably, however, the fate of the President's universal military training program, together with budgetary pressures that made questionable the maintenance of even two combat-ready divisions and recognition that Europe was by no means the only vulnerable area, inhibited Army consideration of strategies that would give ground forces priority over strategic air forces.

The overall level of U.S. military spending up through the end of fiscal year 1950 evidenced little competition with the Soviets. Although spending was much higher than before World War II, the President, Congress, the military, and most American commentators perceived it as providing no more than minimal preparedness, not even keyed to keeping up with the Russians in lines where intelligence estimates described them as possessing or threatening to possess a lead. It is a reasonable inference that the budget reflected an assumption shared within the national political leadership that rivalry with the Soviet Union was more political and economic than military and that there was no occasion for U.S. participation in an arms race.

Within tight budgetary constraints, however, U.S. force posture was beginning to show a competitive character. Prior to 1948, the Services had prepared plans much as in the years after World War I, taking account of a wide range of conceivable developments. The crisis of 1948 and subsequent events caused them to engage in some comparatively urgent and realistic planning for large-scale direct conflict with the Soviet Union. Limitations on funds and time, combined with conflicts between and among the Services and mounting congressional enthusiasm for airpower in preference to other types of military power, led to acceptance by the Air Force and Army and after a struggle, by the Navy, of the principle that priority should go to ready strategic nuclear offensive forces -- specifically, to SAC. And within SAC these forces were tailored to the prime contingency of a massive attack on centers of population and industry in the Soviet Union delivered as soon as possible after the onset of war. Since SAC's requirements regarding numbers, types, and

characteristics of aircraft were all guided by this objective and by intelligence concerning Soviet air defenses, a generally noncompetitive defense budget was internally so allocated as to put the United States in a posture of enterprising competition to maintain a lead over the Soviets in strategic weaponry.

The Nuclear Program

Concurrently, important changes were occurring in the nation's nuclear weapons and nuclear energy programs. After the AEC came into being in early 1947, AEC Commissioners and their various advisors had needed a year or so to assess what might be done. Recognizing that a key problem was shortage of fissionable material, they eventually took some hesitant steps to increase the supply. In particular, they began to offer bonuses for new finds of uranium. At the same time, they began to recruit new personnel and to screen more carefully those who had stayed on. In the various AEC laboratories, research was encouraged on improvements in processing and in weapons design and on development of nuclear powerplants for naval vessels and aircraft, but debate at the Commission level remained inconclusive. They were not short of money. The President indicated to Commission Chairman David Lilienthal that he would support any reasonable request. In fact, when presented with his initial submission, Truman asked Lilienthal if he was sure that a billion dollars would be enough.[44] The Joint Committee on Atomic Energy served as a forceful advocate for the AEC on Capitol Hill. The Commissioners simply found it slow work to decide which directions they wished to follow.

Early in 1948, the AEC agreed that production of adequate fissionable material for weapons should have first priority, with development of aircraft

and submarine propulsion systems second and energy for industrial use third. Since the JCS -- not yet seized with serious war planning -- expressed satisfaction with planned production levels, the Commissioners concluded that their top priority program required nothing more than relatively slow-paced construction of an additional reactor at Hanford. They expected AEC laboratories to devote most of their resources to propulsion research. [45]

Meanwhile, however, results of the 1948 Eniwetok tests showed that U-235 was much more usable than had been supposed and that substantially more numerous and more powerful bombs of varying designs could be produced from already available fissionable material. These conclusions led engineers and scientists in the AEC to press for improvements in production facilities and new efforts in weapon research. The test results had still more effect on the growing number of military officers familiar with nuclear matters, for these officers became able, almost for the first time, to argue that nuclear weapons could actually be tailored to operating requirements and produced in quantity. The effects of missionary work within the Services became apparent by the end of 1948 in new communications from the JCS, now at work on war plans, asking the AEC to increase significantly the production of fissionable material. [46]

Responding to these requests, pressures from within, and the general Cold War atmosphere, the AEC in 1949 reactivated the gaseous diffusion plant at Oak Ridge, built alongside it an enrichment plant to double its output, hurried work toward two new reactors at Hanford, and established three additional laboratories (Brookhaven on Long Island, Knolls in

Schenectady, and Mound in Miamisburg, Ohio) to join Argonne, Clinton, and Berkeley in pursuing research on improved production. The Los Alamos laboratory received a go-ahead for further research and development on weapons, and research on propulsion systems was once again remanded to secondary priority.[47]

These new efforts had scarcely commenced, however, before they stalled. Much of the upper-level management of the AEC became preoccupied during the spring and summer of 1949 with congressional hearings on a series of ill-founded charges leveled against Chairman Lilienthal by Senator Bourke B. Hickenlooper. Before these hearings had concluded, another diversion came in the form of challenges to the Commission's plans from both the Pentagon and the JCAE.

Although part of the prompting for the new AEC program had come from the JCS, these new undertakings by the AEC did not arouse undiluted enthusiasm in the defense establishment. Naval officers feared potential effects that would give the Air Force an advantage in the debates over budgets and strategy then nearing their climax. Some were also concerned because of the importance they attached to development of propulsion systems. Partly as a result, the JCS lodged some new requirements which the AEC viewed as unrealistic. Meanwhile, Chairman McMahon of the JCAE asked if the scale of the AEC effort was truly adequate. All this evidence of uncertainty contributed to a decision by Truman to appoint a special subcommittee of the NSC to review the entire nuclear program. From July to October 1949, when this review was taking place, the AEC had to continue to mark time.[48]

In the latter part of 1949, the jam ended. With the Soviet nuclear test having been detected, the NSC subcommittee appointed by Truman gave strong endorsement to the AEC plans. In the meantime, the JCAE advocated an even greater expansion of production and research not only on new fission weapons but also on a fusion bomb. Willingly on all points except the last, the Commission adopted the Joint Committee's advice. It was then compelled by the Presidential decision of January 1950 to proceed also with research on fusion.

In the first half of 1950, the nuclear program therefore had brisk momentum. Additional supplies of uranium were arriving. Oak Ridge and Hanford were rapidly enlarging their capacity to produce fissionable material. Construction of new facilities at Savannah River, S.C., offered prospects that fusion research could progress without impeding output of fission bombs. Los Alamos had gotten the warhead weight down from 10,000 pounds to 8,500 pounds and was at work on designs for lighter and smaller weapons.[49]

As the JCS and Service staffs conducted planning exercises and developed budgets in the aftermath of the admirals' revolt, they did so in increasing awareness of the AEC's actual and potential capability for supplying them with usable nuclear weapons. By the spring of 1950, the number of people in the military establishment with access to nuclear secrets had risen to 30,000.[50]

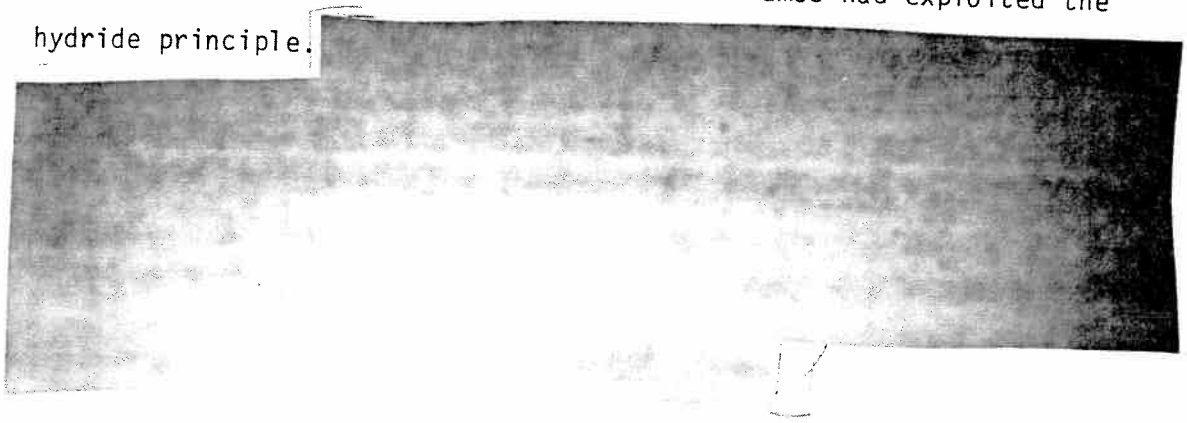
The flow of information to the designers of aircraft and other potential carriers of nuclear weapons had become much more free. Although actual stockpile numbers continued to be known only to very few, there was growing confidence that nuclear weapons might turn out to be more readily available than previously imagined. Military men in the know were also beginning to perceive that nuclear weapons could be produced in a variety of shapes and sizes.

In the early years of the nuclear program, it was generally taken for granted that most weapons produced would be for Air Force bombers, and Air Force officers had worked with engineers at Los Alamos to redesign the bombs tested at Bikini so that they would have greater accuracy and be produced in shapes and quantities suitable for the B-36. The 8,500-pound warhead grew out of such cooperation.[51]

Meanwhile naval officers sought weapons suitable for carrier aircraft. Only gun-type warheads had the requisite dimensions. The Air Force objected vehemently to using fissionable material in gun-type weapons because their efficiency was so much less than that of implosion weapons. Between April and October 1948, however, the Navy succeeded in reaching an understanding with Los Alamos for production of the gun-type Mark 8. Before the spring of 1950, when the Mark 8 reached the test stage, the engineers at Los Alamos were able to promise implosion devices (the TX-5, TX-7, and TX-13) small enough to be fitted to carrier planes. One, the TX-7, was to be built by Douglas Aircraft and tailored for the Douglas A2D, which would be a follow-on for the AJ-1.[52]

By early 1950, the Army, too, had become a bidder. Army ordnance was developing a 280 mm. cannon, and the AEC designed a gun-type TX-9 warhead

to fit it. Again, the Air Force protested, but again its protest was unavailing.[53] Smaller, lighter weapons had become possible because, after the Eniwetok tests, scientists at Los Alamos had exploited the hydride principle.



Thus by June 1950, it appeared certain that nuclear weapons production would expand. Whether or not the AEC succeeded in developing a hydrogen bomb, it seemed sure of being able to make weapons with higher yields. Also, the AEC promised eventually to produce much smaller and much lighter weapons.

Except for the acceleration of research, production, and the development of new facilities after the Soviet test of August 1949, the U.S. nuclear weapons program proceeded quite independently of any known or suspected occurrences on the Soviet side. The AEC itself displayed little interest in what the Soviets might be doing. Only the Air Force had deemed such intelligence important enough to deserve a strenuous collection effort. In 1947-48 it developed a routine for air sampling without which the first Soviet test might have gone undetected, and it advocated in joint bodies that high priority go to acquiring relevant information of other

types, but the Navy and Army successfully resisted this latter effort.[55] Advances made by the AEC prior to 1950 derived from scientific and technological enterprise not seriously influenced by any sense of international competition.

The Hydrogen Bomb[56]

The decision to develop a fusion weapon was taken outside the AEC and indeed ran contrary to its advice. The scientific concept was not new. It had been the basis of one line of research during World War II. One of its champions, then and afterwards, was the physicist, Edward Teller. In the period of renewed nuclear research and development after 1948, Teller became an ardent lobbyist for an intensive effort to prove the feasibility of controlled fusion and thus create a super weapon. He made converts of some other scientists, some people in the military establishment, and Chairman McMahon of the JCAE.

The General Advisory Committee of the AEC, however, unanimously opposed a concentrated effort such as Teller advocated. Headed by J. Robert Oppenheimer, this committee questioned whether a weapon could actually be produced, noted that work on it would consume a significant share of the raw material available for fission weapons, and made the point that the booster principle already offered promise of bombs many times more powerful than those which had leveled Hiroshima and Nagasaki. The only prospective use for a fusion weapon with still higher explosive yield, said the Committee, would be for "exterminating civilian populations." It would have no military purpose.[57]

Some members felt that, for this reason, the United States should never pursue the technology. Others held that it should refrain from doing so unless and until the Soviets did so. All agreed that one argument for self-restraint on the American side was the possibility that the Soviets might not sink resources into the necessary research, development, and testing in the absence of evidence that the United States was doing so.

After receiving the advisory committee's report, the Commission voted 3 to 2 against the fusion weapon program. One member of the minority, Lewis L. Strauss, formally appealed to Truman to reverse the verdict, and Truman called upon Secretaries Acheson and Johnson to sit with Lilienthal and review the matter. Since Teller and his allies had already succeeded in winning Johnson to their side, the result was to give a casting vote to Acheson.

Strauss argued that the Soviets would not be influenced by what the United States did, that, as atheists, they would not be dissuaded by moral arguments such as those in the Oppenheimer report, and that it was "the historic policy of the United States not to have its forces less well armed than those of any other country (viz, the 5:5:3 naval ratio, etc., etc.)." [58] Somewhat the same argument came from the JCS and from McMahon and the JCAE. The JCS responded to the central objection of the Oppenheimer group by citing troop concentrations and bases used for Soviet strategic nuclear bombers as conceivable military targets. Primarily, however, they emphasized that the United States should develop the weapon because the Soviets might do so, gain an apparent technological lead, and thereby

produce a "profoundly demoralizing effect on the American people" and bring "inevitable jeopardy to our position as a world power and to our democratic way of life." [59]

Though Acheson indicated initial misgivings, he eventually decided to support a fusion weapon development program, accepting the advice of Paul H. Nitze, the new chief of the Policy Planning Staff, who warned him that "the military and political advantages which would accrue to the U.S.S.R. if it possessed even a temporary monopoly of this weapon are so great as to make time of the essence." [60] When Lilienthal learned how Acheson leaned, he went along so that the threesome could give the President a unanimous recommendation, and it was with their report in hand that Truman announced the decision to proceed with the "super."

The most careful recent study of the decision concludes that the President had almost no choice. He could not long have withstood the combined force of the Teller group, the military establishment, the JCAE, and the elements of the public which they represented. [61] This was also Lilienthal's conclusion. He wrote of Truman in his diary for 31 January 1950: ". . . there has been so much talk in Congress and everywhere and people are so excited he really hasn't any alternatives. . . ." [62] Like the turn in force posture toward priority for the strategic offensive, the move to develop weapons of gigantic yield was not so much a product of measured analysis within the government as it was a reflection of perspective prevailing in Congress and among the public thus represented.

Though the outcome may have been foreordained, the debate over the "super" nevertheless was significant, not least because it supplied evidence

that a substantial number of American officials were beginning to see the United States as engaged in a strategic arms competition with the Soviets. In more elaborate and sophisticated forms, the terms of this debate would be the terms for many future debates and perhaps for debates in Moscow as well as in Washington.

Opponents of the "super" proceeded from an assumption that weapons were developed primarily for use in war. They relied heavily on an argument that the United States had little or no need for warheads of very high yield. Those who favored development, of the bomb, on the other hand, tended to reason instead that some weapons, certainly strategic weapons, were important less for their probable practical use than for their symbolism. They spoke only in passing about the operational functions of the "super" and bypassed altogether the question of whether there were any military targets that could not be totally destroyed with a boosted fission bomb. Their principal contention was that the Soviets, should they develop a fusion weapon ahead of the United States, might feel that they had a psychological advantage that perhaps translated into a political and military edge. Intermediate parties such as the West Europeans might come to a similar conclusion. So might the public at home. One can label their contrasting assumptions "utilitarian" and "perceptional." They were to manifest themselves again and again.

Some opponents of the "super" adopted in addition what may be termed an action-reaction assumption. Though contending that the United States had no military need for the weapon, they held that they would favor adding it to the U.S. arsenal if the Soviets did so. By the same token, the Soviets

could necessarily be driven to develop the "super" if the United States led the way. Others in the Oppenheimer camp argued with greater consistency that each party could be guided throughout by its own particular requirements. Commissioner Henry D. Smyth argued, for example, "that there would be weapons that they would want and that we couldn't use, that would be very useful to them and wouldn't be useful to us." [63] In general, advocates of the "super" argued that the Soviets would forge ahead regardless of what the United States did. On the other hand, they also argued that the United States could not afford to allow the Soviets an apparent lead and would certainly have to react were the Soviets to take the initiative. These contrasting assumptions were also to surface again and again. [64]

In a sense, the development of the concept of deterrence provided the first element for a doctrine to guide the United States in a strategic arms competition. Acceptance by the Services of the central role of the strategic bombing mission supplied a second element. The debate over the hydrogen bomb indicated some of the possible lines of future development -- a perceptional as opposed to utilitarian conception of what the competition was about and an assumption that the behavior of each party would be strongly influenced by the behavior of the other.

NSC-68[65]

In large part, the force posture and emergent doctrine suggesting that competition with the Soviets might centrally involve competition in strategic nuclear weaponry was a product of financial pressure. Other factors made some contribution, to be sure, not least the successes of scientists and engineers working for the AEC. But financial considerations were paramount. The questions raised by Defense officials,

the Budget Director, and the President about the B-36; the admirals' revolt; the not unsympathetic hearing given Radford, Ofstie, and others on Capitol Hill; and the votes on the hydrogen bomb issue within the AEC's General Advisory Committee and the AEC itself, all suggested some uneasiness over existing trends.

When the President ordered on economic grounds that the defense spending during fiscal year 1951 be held below the $14.4 billion actually budgeted, officers in all the Services, including elements of the Air Force other than SAC, began to fear that the United States would strip itself of every type of ready military force other than strategic bombers. Similar concern was felt in the State Department. With Secretary Johnson exerting pressure in the Pentagon, and the Treasury, the Council of Economic Advisors, and the Bureau of the Budget enlisted to participate, the President obtained, even in the aftermath of the Soviet nuclear test, an agreed NSC paper asserting that the Department of Defense could, with $13 billion, "maintain substantially the same degree of readiness and posture during FY 1951 which it will maintain in FY 1950." 66

Acheson and Nitze felt increasingly that the President made a mistake in putting a balanced budget ahead of military strength. The Secretary of State had been invited into debate on nuclear programs when asked, in effect, to resolve the hydrogen bomb issue. When Lilienthal agreed to make the report to the President unanimous, he conditioned his change of position on a proposal that there be a comprehensive review of America's political and military posture. When the President accepted this proposal and set up a special committee under the NSC to carry out the review, Acheson and Nitze

were thereby given an opportunity to try to effect an alteration in the priorities governing the nation's defense posture.

A working group was created, within which the principal figures were Nitze, heading a delegation mostly from his own Policy Planning Staff, and Maj. Gen. James H. Burns (ret.), accompanied by others, mostly civilians, who were aides to the Secretary of Defense. Even though Burns and the other Defense participants were supposed to represent Secretary Johnson, the fact was that they all agreed with Nitze and Acheson on the objective of demonstrating to Johnson and the President a consensus that adequate defense should take precedence over a balanced budget.

One major problem for this working group was the fact that the actual consensus was very superficial. The group asked the intelligence community to assess the implications of Soviet development of nuclear weapons. CIA analysts predicted that the Russians would have one hundred 2C-KT atomic bombs by 1953 and two hundred by late 1955. They reckoned 100 accurately delivered bombs to be sufficient for preventing "immediate" American counteraction, 200 sufficient to "destroy the U.S. capabilities for offensive war" and perhaps even to "prove decisive in knocking the U.S. out of a war." Nevertheless, said the analysts, the Soviets were not likely to resort to any military operations other than very limited ones against already weakened areas unless provoked or thoroughly convinced both that their objectives had to be achieved by war and that a successful surprise attack could neutralize U.S. strategic forces and the U.S. mobilization base. CIA's analysts concluded that the appropriate measures for the United States were to strengthen air defense areas to insure that U.S. strategic bombers would not be destroyed

on the ground and meanwhile to develop other forms of military power in order not to be so dependent on a force that might turn out to be vulnerable. [67]

The Services differed from CIA in appraisal both of Soviet force posture and of probable Soviet behavior. The Army G-2 said that CIA underestimated actual and planned Soviet military strength. Air Force Intelligence argued that a basic Soviet aim was to take over the United States through a revolution brought on by a war and that the Soviets were likely therefore to precipitate a war whenever they perceived themselves as possessing military superiority. [68] In joint estimates, the Service intelligence agencies advised that the Soviets would probably have two hundred 20 KT bombs a year earlier — that is, by 1954 — and possibly an operational hydrogen bomb together with B-29 type bombers equipped for refueling and perhaps a newer, faster, and longer range bomber plus nuclear-armed guided missiles. Army, Navy, and Air Force estimators seemed in agreement that the Soviets would concentrate on building their strategic offensive and defensive forces with the aim initially of posing a threat to the United States to offset that posed by the United States against the U.S.S.R., but with the aim also of being able to actually destroy U.S. strategic forces and damage U.S. war-making potential if war should come. [69]

Defense members of the working group voiced some concern about the possibility that the Soviets would achieve nuclear superiority. Burns warned at one point that the United States could "lose the armaments race in the atomic energy field." [70]

On the other hand, Najeeb Halaby, one of the OSD civilians on the team, put on record his view that the crucial problem was not Soviet power or even Moscow's perception of Soviet power but rather Western European perceptions of whether or not the United States could and would live up to its commitments under the North Atlantic Treaty. [71]

The working group eventually achieved an internal consensus. Its members agreed that until the mid-1950s the United States could retain an edge in strategic offensive nuclear power if it simply continued diligently along lines already being followed. The emphasis in the near future should go to general purpose forces -- especially those of the European allies -- and to continental defenses.

> During the next four or five years we must build up strength in non-atomic weapons on the part of ourselves and especially our allies in Western Europe, which will counterbalance Russia's improved position in the atomic energy field. . . . . We must also make all reasonable efforts to lessen Russia's ability to drop bombs on ourselves or our friends. [72]

A few outside consultants were interviewed by the working group. Their comments suggested some of the variety of opinion consistent with the general agreement that the Soviet Union constituted a threat and that some higher level of activity by the United States was called for. Oppenheimer and President James Bryant Conant of Harvard drew an identical conclusion -- that the United States should revise its mix of military capabilities. Oppenheimer spoke of eventual "complete dependence on the atomic bomb" and Conant of "cutting back on strategic air power and putting more emphasis on land forces and tactical air power." Chester I. Barnard of the Rockefeller Foundation

and Commissioner Smyth of the AEC were nearer to Nitze and Burns in concluding that the United States should continue energetic development of strategic forces but build up other types of forces alongside them. Robert A. Lovett, temporarily out of government service, produced a different set of observations. Perhaps because he approved the President's efforts to keep the budget balanced, he saw the report as not necessarily implying a higher level of military readiness but rather an increase in U.S. will and capacity for propaganda and covert operations designed to cause trouble for the Russians within their own sphere. Physicist Ernest O. Lawrence felt a need to stay far ahead in scientific R&D, especially in strategic weaponry.[73]

Secretary Johnson had already indicated that one option for the United States would be merely to step up a bit what it was already doing. After learning of some of the debate between the CIA and the Service intelligence agencies and being warned that the English physicist Klaus Fuchs could have brought the Russians abreast of U.S. work on a fuzing mechanism for a hydrogen bomb, Johnson had recommended, and the President had approved, acceleration of and added funding for work on the fusion device.[74]

Cautioned by the variety of opinion among the consultants and probably aware of the still greater variety of opinion that might surface within the military establishment, other parts of the executive branch, and the Congress, the working group confined itself largely to penning generalities that would command wide agreement. Its draft of a paper eventually to be labeled NSC 68 characterized the world as polarized "between the idea of freedom under a government of laws, and the idea of slavery under the grim oligarchy

of the Kremlin/" It spoke of "the implacable purpose of the slave state to eliminate the challenge of freedom/" The Soviets were said therefore to have a "fundamental design" calling first for preservation of absolute power within their own sphere but also necessarily "for the complete subversion or forcible destruction of the machinery of government and structure of society in the countries of the non-Soviet world and their replacement by an apparatus and structure / subservient to and controlled from the Kremlin." Since the United States was the formidable obstacle to this design, antagonism was sure to persist until there occurred "a fundamental change in the nature of the Soviet system, a change toward which the frustration of the design is the first and perhaps the most important step."[75]

Though the language may seem extravagant in retrospect, one should recall that the document was composed at a time when Senator Joseph R. McCarthy's name was beginning to become a household word and when almost no one with aspirations in public life was likely to dissent openly from even more extreme characterization of the Soviets. During hearings on the hydrogen bomb issue, for example, Senator McMahon successfully pressed both witnesses and colleagues to agree that the Soviet Government embodied "total evil."[76] And the language laid a foundation for the general conclusion that the United States would have to pursue its policy of containment for the foreseeable future, that such a policy required "superior aggregate military strength, in being and readily mobilizable," and that, in view of the Service intelligence agencies' estimates of overall Soviet capabilities, strategic and tactical, "our military strength is becoming dangerously inadequate."

One long section of NSC-68 reviewed alternatives to continued development of strategic offensive nuclear forces, pointing out their infeasibility. The nature of the Soviet system was said to preclude either abolition of nuclear weapons or international control. The West could never trust Soviet promises; the possibility of a "no first-use" pledge or other measures which might make nuclear weapons nonoperational, like poison gas in World War II, was set aside on a variety of grounds. One was concern lest, "in our present situation of relative unpreparedness in conventional weapons, such a declaration would be interpreted by the U.S.S.R. as an admission of great weakness and by our allies as a clear indication that we intended to abandon them." A second was an estimate that development of the requisite conventional forces would cost too much. A third was doubt that the Soviets would believe a no-use pledge by the United States or would keep such a pledge if it were mutual. The only sure means of deterring Soviet use of atomic weapons, said NSC-68, was for the United States to possess "overwhelming atomic superiority" and "command of the air." The final count was an argument that the United States might need nuclear weaponry to win a war.

Other than dismissing radical departures from current strategy, NSC-68 did not venture far from generalities. In line with Lovett's prescription, it made a case for more extensive and adventurous covert operations, but it did not otherwise prescribe whether a higher level of effort by the United States should take the form of more aircraft for SAC, more ground forces for the U.S. Army, more military assistance for NATO allies, or a combination of programs. Nor did it even hint at how much higher the level of effort should be. Nitze believed privately that the American

defense budget should go from $15 billion to $40 billion a year. He felt that Burns and the other Pentagon representatives were thinking more in terms of an additional $5 billion or so per year. [77] The actual language of NSC-68 was sufficiently vague so that it was endorsed by men who went on either to comment that little or no new spending would be needed or to call for only limited additions to the budget. Although Edward W. Barrett, the Assistant Secretary of State for Public Affairs, read NSC-68 as pointing toward "a gigantic armaments race," State Department Soviet expert Lewellyn Thompson judged "that no very great increase in our present rate of expenditure would be called for, but rather a better allocation of resources and a unified national policy." Thompson's fellow Soviet expert, Charles E. Bohlen, had recently told a congressional committee that he did not think the Russians had been deterred from war by U.S. nuclear weapons and that, indeed, he had "not been able to detect the slightest influence on Russian policy resulting from our possession of the A bomb." Nevertheless, his conclusion with regard to NSC-68 was that the United States should pursue intensive research and development on strategic weaponry, both defensive and offensive, as a substitute for "a full-scale rearmament program of the standard nature." [78]

The Secretary of the Navy said that there should be no expansion of military spending not somehow compensated for by cuts elsewhere in the Federal budget. Secretary of the Army Gordon Gray pronounced it his conclusion that NSC-68 provided no justification for spending large additional sums for <u>offensive</u> weapons. It did, he thought, warrant increased allocations for such items as Army air defense missiles. Vannevar Bush, former head of the Research and Development Board, spontaneously seconded Gray by calling for "a change of emphasis" in U.S. defense programs, shifting funds

from SAC bombers to air defense radar, surface-to-air missiles, and anti-tank weapons. The Air Force saw NSC-68 as not only arguing the case for strategic airpower but as also possibly opening the way for challenges to the predominance of the strategic bomber. Air Force Secretary Symington guardedly declared that the study was unduly specific in citing 1954 as the year when the Soviets would become capable of a surprise nuclear attack which could seriously damage the United States, if "opposed by no more effective opposition than we now have programmed"; otherwise the study was "vague in phrasing." [79]

Although Secretary Johnson was loyally holding defense spending to the limits set by the President and had at one juncture denounced his own representatives on the working group for conspiring with the State Department to subvert the President's policy, he raised no objection to the final text. Indeed, he reported to the White House that the reaction of the Services and the JCS was generally favorable and that he himself wanted "implementation of the policies contained in this paper." [80]

Truman recognized that NSC-68 challenged his own policy of holding down defense expenditures in order to keep the budget in balance. He probably recognized also that whatever its shortcomings as a piece of analysis clearly lining up policy choices, it would serve as a splendid campaign document for anyone seeking to persuade Congress or the country that the Administration's defense programs were inadequate. The evidence that Truman saw NSC-68 in such a light is a communication from him to members of the NSC, adding the administrator of the foreign economic aid program, the Director of the Bureau of the Budget, and the Chairman of the Council of Economic Advisers to those who would review the document. Those agencies

had helped to write the earlier NSC paper endorsing lowered defense expenditures; the Budget Bureau was on record as advocating no increase in defense spending until after FY 1954. The President also directed "that no publicity be given to this Report or its contents without my approval."[81]

A formal NSC meeting to consider NSC-68 ended merely with an agreement that an ad hoc committee, including representatives of the officials added by the President, would examine and report on its programmatic implications. During succeeding weeks, the National Security Resources Board tried a flier by calling for $15.5 billion to be spent over the next five fiscal years for civil defense and strategic stockpiles. Its request was promptly shot down as "excessive." By late May the ad hoc committee had ready a shopping list that, if adopted in toto, could have added over $5 billion to FY 1951 allocations for economic and military aid, propaganda, covert operations, and civil defense.[82] The comparable shopping list for additions to U.S. military programs remained under debate within the Pentagon.

In the ordinary course of events, the practical significance of NSC-68 would have become apparent between August and December when the budget for fiscal year 1952 was prepared and reviewed. Nitze and Burns had done their work sufficiently well so that the President probably would have felt compelled to fix a higher ceiling, even if it entailed a deficit. What would have been the new ceiling or the relative share for strategic weaponry no one can judge. Actual deliberations on future budgets were conducted in an environment totally transformed as a result of the outbreak of the Korean conflict.

NSC-68 and debates on its implementation nevertheless retain significance in part because they indicate that the overall U.S. defense budget would soon have evidenced a shared national belief that the United States was engaged in military competition with the Soviet Union. Even without Korea, it would have ceased to be the case that competition mirrored itself chiefly in allocations within the military establishment. NSC-68 and the attendant discussion also suggest, however, that, in the absence of the Korean conflict, evidence of more competitiveness in overall defense spending could have been accompanied by a shift in the character of competition manifested in force postures. A defense budget developed in peacetime on the premises of NSC-68 could have involved reduced emphasis on strategic offensive forces and increased emphasis on air and missile defense or theater general purpose forces. As of mid-1950 the United States was beginning to engage in long-term military competition with the Soviets, but the terms of competition remained in flux.

CHAPTER III

SOVIET POSTWAR DEFENSE PROGRAMS 1945-48

In retrospect, Soviet military forces between 1945 and 1948 do not seem so imposing as to justify the degree of alarm expressed by American political and military leaders, an alarm sounded not only in public appeals for spending on defense but also in confidential documents such as NSC papers. Beginning in 1945, the Soviet Army, like the U.S. Army, was demobilized. CIA estimated in 1947 that it had been cut from over 10 million to about 2.6 million and that total Soviet military manpower, including security troops, had dropped from 12.4 million to below 3.8 million. Adhering to the formula that a unit existed unless there were three pieces of evidence to the contrary, all U.S. intelligence services described the Red Army as having 175 divisions; but it should have been evident from the manpower estimates that most of these divisions were shells. The Soviet air forces were only beginning to modernize, and the only Soviet bombers with range to cover Western Europe and U.S. bases in the Western Pacific were 105 TU-4s, exact copies of the U.S. B-29.[1]

Since the Soviet Union had suffered enormous war damage, including probably more than 20 million military and civilian casualties, a hard look at Soviet military capabilities during 1945-48 should have produced strong skepticism about the proposition that the Red Army was poised to strike at Western Europe. One of the Americans best situated to pass judgment, Harry Rositzke, who headed CIA efforts to collect clandestine intelligence within the U.S.S.R., says that, in fact, he continually questioned the estimates of Soviet strength and readiness which were circulating in Washington.[2] His evidence strengthens the impression that much of what was written and said about the Soviet threat was a

function less of evidence about what the Soviets were actually doing than of fear about what they might do.

Large Soviet military forces did materialize later. By mid-1950 the Red Army had perhaps a million more men than in 1948, and U.S. intelligence counted not only a larger number of divisions than in 1948 but twice as many mechanized divisions. It was supported by 2,400 tactical bombers, including an initial installment of jet IL-28s, and more than 7,500 fighters, of which almost 2,000 were advanced MIG-15s. The Soviet navy had 100 new ships and more than 60 new submarines, all built since World War II. The force of TU-4s had jumped from 100 to 500, and the successful test of August 1949 demonstrated that large resources had been poured into a nuclear weapons development program. Especially in view of the losses the Soviet Union had suffered in World War II, the level of investment in modern military forces seems remarkably high.

The question arises whether the military buildup in evidence by mid-1950 was planned long in advance or whether it reflected a Soviet reaction to threatening gestures and language from the West. In large part, the effort to answer this question will be deferred to a later chapter* because it links so closely with the question of whether or how the Soviet government reacted to the large-scale American strategic force buildup during the Korean conflict of 1950-53. This chapter sketches in what is known or can be inferred concerning decisions on Soviet force

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*See below, pp. 242-50.

posture made in the immediate aftermath of World War II.

It has to be emphasized that the evidence is meager. It consists in large part of data regarding the forces that subsequently materialized together with public utterances which were designed to produce effects rather than make disclosures, testimony from defectors whose knowledge was at best partial and whose reports were often biased, and a handful of memoirs--by military men writing about World War II but letting slip some comments on postwar events; by engineers involved in aircraft and weapons design; and, above all, by Nikita Khrushchev. While the American side of the American-Soviet strategic relationship can be reconstructed from a body of information so vast that it can only be sampled, the Soviet side has to be pieced together from random fragments like those which archeologists would use to study a lost civilization.

Consequently, there is temptation to take the United States as a model and to assume that, in the absence of contradictory evidence, generalizations developed from American data are applicable, pari passu, to the Soviet Union. Intelligence analysts continually warn against such "mirror-imaging." It is important at the outset, therefore, to underline differences between the two structures which existed before the strategic arms competition commenced and which for the most part have persisted since.

First, most important and most obvious is the fact that Soviet policies are based on assumptions drawn from Marxist-Leninist philosophy. One which is particularly noteworthy here is an assumption that capitalists must in all circumstances regard a socialist society as a mortal threat. It follows that leaders of bourgeois governments such as those of the United States or Britain will accept peaceful coexistence or some measure of cooperation, as in World War II, only when their own conflicts paralyze them or when they perceive the balance of forces to be so adverse that war against socialism

involves excessive risk of bringing on revolutionary war at home. From Stalin to Brezhnev, from Vyshinsky to Dobrynin, Soviet leaders and representatives have believed that conciliatory actions by bourgeois states are usually to be explained as a product of fear. Although Westerners are inclined to interpret Soviet behavior in similar fashion, the Soviet view has tended to be more doctrinaire and less liable to admit the possibility of exception.

This general assumption must have colored decisions on postwar foreign and defense policy made by Stalin and his subordinates. From their standpoint, the United States had been an enemy from 1917 onward. It had been seen as one of the most determined and most cunning of socialism's enemies, for it had been the last major power to accord diplomatic recognition to the Soviet regime, and it had successfully played the jackal in World War II as in World War I, entering only after its various bourgeois rivals had exhausted one another. Soviet historical writing depicts U.S. diplomatic recognition as entirely a function of the great Depression and American need for Soviet trade, and it represents lend-lease aid and the alliance of World War II as a cynical, opportunistic, and not entirely unsuccessful endeavor to pit Russians against Germans and thereby save American and British lives. There is no reason to suppose that Stalin and his advisers and agents held any contrary view, nor is there any reason to suppose that they ever expected the postwar relationship with the United States to be anything other than antagonistic.

Second, and not unrelated, the Soviet leadership, when compared with that of the United States, consisted of men with longer experience and greater technical knowledge concerning military affairs. As of 1945-46 this was

much less true than it would be by the end of the 1970s when the Soviet Presidium would still be dominated by men who held high office in World War II, but the advisers to Stalin did tend to be men of longer experience than the advisers to Truman, and Stalin himself, of course, had been at the helm for 20 years. Whereas Americans were inclined to perceive 1945 as the beginning point for a new era, Stalin must have seen it more as the end of an interruption--as a point at which, with the menace of Hitler dissipated, he could resume what he had commenced earlier.

Thirdly, the Soviet system was more subject than the American to direction from the top. To be sure, the Soviet Union was not free of bureaucratic competition resembling that prevalent in the United States. Mission elements in the armed Services surely had some role in framing requirements. It is hard to conceive, for example, that needs for air defense were not partly defined by subunits that had particular tasks--the operation of antiaircraft guns, detection of incoming planes, counteraction by interceptors, etc. -- for in any system, the men with operating responsibilities and expertise would have been assumed to know something about the dimensions of their task, the requisite manning levels and maintenance needs, and even desirable weapon characteristics.

Even in this respect, however, there were several important differences between the Soviet system and that of the United States. The Soviet armed Services were not counterparts of the U.S. Services. Although the Soviet navy yearned to be like the U.S. Navy or the Royal Navy, in practice it remained subordinate to the army. Its chief operational functions had been coast defense and riverine warfare. When Admiral V. A. Alafuzov

wrote in Morskoi Sbornik in 1946 of a possible independent role for the navy, his article was rapidly followed up by another, from Admiral G. Levchenko, atoning, characterizing the navy as "the Faithful helper" of the Red Army.[3] Similarly, the air forces were in practice auxiliaries of the ground forces. Some elements within the ground forces possessed independent strength at least equal to that of the navy or air forces. This was true of armor and especially of artillery, for the Red Army used large quantities of artillery and had separate artillery divisions with separate paths of advancement for artillery officers. On occasion, Soviet artillerists boasted of the decisive importance of their weapons in terms faintly reminiscent of those used by American and British airmen. Stalin himself once spoke of artillery as "the god of war."[4] Insofar as there were contests in the Soviet Union comparable to those between the air force and navy in the United States, they probably involved more parties, and more parties within each Service.

The role of industrial producers was also different. Industries producing defense goods belonged to the state apparatus. After early 1946, when there was some reorganization and most of the responsible supervisory bodies were relabeled ministries rather than commissariats, the chief military-industrial subdivisions were: Armaments, Aircraft, Shipbuilding, Agricultural Machine Building (including munitions), Transport Machine Building (including tanks and motorized transport), Machine Building and Instrument Making, and Ferrous Metallurgy. Within these organizations, estimates of production capabilities and, probably, recommendations as to efficient allocations of material and manpower filtered up from individual plants through functional or regional glavks to become consolidated proposals for the State Planning Commission and other overall coordinating bodies.

The heads of design bureaus enjoyed special status and personal access not only to ministers but to Stalin himself. Through liaison offices and the like, the military Services and the producers and designers of military goods exchanged information at various levels. Recommendations moving up through the military-industrial hierarchy were thus not drawn up in total ignorance of military thinking. They did, however, reach high-level decision-makers through a separate stream, and they must sometimes have presented considerations different from those emphasized by the Services.[5]

In any event, many Soviet officials who dealt with military force requirements had to think in terms of overall resource allocation. With regard to antiaircraft guns, for example, planners at some level had to consider not only how many such guns should ideally be deployed but how many should be produced, given competing demands for other types of guns, and what should be the total output of guns, given competing demands for machine tools, steel, skilled workmen, etc. Planning in the Soviet Union was more comprehensive than in the peacetime United States. Moreover, the planners usually employed a longer time horizon. Although they must frequently have been concerned with year-to-year or even month-to-month adjustments, they worked within the framework of a 5-year plan, and they had to think accordingly.

The Soviet and U.S. Governments also differed in that it was common Soviet practice for people at upper levels to set performance goals without much consultation with the people who had to meet those goals. Treating nonfulfillment of the goals as personal rather than organizational failings, the Soviets typically replaced or punished nonperforming managers or commanders rather than allocating additional resources. This

practice created incentives for managers or commanders to do the best with what they had, to be very cautious in claiming what they could do if they had more resources, and sometimes to engage in pretense or deception rather than admit inability to do a job.[6]

During the war and for a short period thereafter, the highest body to deal with postwar force planning was the State Committee for Defense (the GOKO). With Stalin as chairman, it consisted of[8] members or candidate members of the party Politburo, each of whom also headed up a major commissariat or had a mandate as a sort of super commissar. For example, Lavrenti Beria headed the secret police. Lazar Kaganovich was Commissar for railroads with jurisdiction over all transportation. Georgi Malenkov superintended aircraft production and planning relating to occupied areas. N. A. Voznezensky was, among other things, chairman of the State Planning Commission and presumably had a mandate to see that other sectors of the economy made contributions to war production. Marshal Klementi Voroshilov until 1944 and then General Nikolai Bulganin, though both political appointees rather than professional military men, provided additional liaison with the armed forces.

Stalin unquestionably dominated the GOKO. He had access to any obtainable information; and he showed unslakeable thirst for data about weapons design, manufacture, and use and about the strengths and weaknesses of military-industrial managers and military officers. In addition to reports through regular channels, tidbits of all types presumably came to him from Main Economic Administration and Main Military Administration of the secret police. Furthermore, Stalin had developed to a science the techniques for getting underlings to do what he wanted.

During 1945-46, Stalin reorganized his government, doing away with the GOKO. Although Politburo members who had been on the GOKO continued to have specialties, most were relieved of managerial responsibilities. Most of the commissariats became ministries, and the men heading them reported directly to Stalin. When they perceived a policy issue, they were supposed to consult with the appropriate Politburo member. Only if a minister felt unable to resolve it would the issue be brought to the full Politburo, with Stalin in the chair. But Stalin would know about it, and would usually be better informed than his Politburo associates about those issues. Also, the ministers had reason to see their own fortunes as wholly dependent on Stalin rather than on others in the party. The effect of the reorganization--almost surely intentional--was to enhance Stalin's control and diminish the roles of all others.

Thus, despite the existence of bureaucracies competing for scarce resources under conditions of high uncertainty, the Soviet system has to be seen as subject to a high degree of centralized direction. Although Soviet leaders could only choose among options that seemed feasible and although results might not materialize for a long time, they were in a better position than their American counterparts to select and pursue conscious policies. At the end of the war, Stalin restored his own utter preeminence. Questions about Soviet postwar defense policy are therefore questions about what Stalin decided to do, given options that would be offered to him from the military and industrial establishments, his own prior history, and the tenets of Marxism-Leninism to which he subscribed.

There can be little doubt that some postwar force planning took place during the war and while the GOKO still functioned. Some intensive review of long-range military needs had occurred at the end of the

1930s, during the final period of the great purge and at a time when Soviet leaders thought it possible that their country might develop in peace while the bourgeois states fought among themselves and weakened one another, and perhaps created conditions for successful Communist revolutions. From this review had emerged plans for increasing the military strength of the Soviet state. It was apparently intended that first emphasis go to weapons which would give ground forces greater strength and speed--more powerful and more quickly mobile artillery; faster and more heavily armed ground support aircraft; and heavier and faster tanks and troop vehicles. Second emphasis was to go to a surface and undersea fleet which could undertake offensive as well as defensive missions and interfere with seaborne supply and reinforcement of hostile armies on the Eurasian continent.[7] Though worsening conditions after 1940 and the outbreak of war in 1941 interrupted progress, it is reasonable to assume that these plans were not simply discarded. In all likelihood, Stalin began sometime in 1944, if not earlier, to review the question of how, if at all, these plans should be revised in light of wartime experience and foreseeable postwar conditions. In the same period he must also have been asking what would be the industrial and other demands for postwar rehabilitation of the Soviet economy and resumption of progress toward domestic economic goals.

The first decision which Stalin announced publicly concerned the postwar navy. In July 1945 he declared that the Soviet Union would build a strong fleet.[8] He did not say what its composition would be, and, as of that date, he may have decided nothing more specific than that rebuilding of shipyards should have high priority and that the yards should construct naval vessels rather than merchantmen.

The period between the end of the European war in May 1945 and the issuance of the new five-year plan in February 1946 witnessed some high-level debate about postwar military forces. In the winter and spring of 1944-45 Stalin sought detailed information about types and qualities of planes that might be produced after the war. He questioned not only A.I. Shakhurin, the Commissar for Aviation Industry, but also Shakhurin's deputy, designer Alexander Yakovlev, and he received information from the various design bureaus which operated with some degree of autonomy under the Commissariat's Central Design Bureau--those of Yakovlev, Andrei Tupolev, Sergei Ilyushin, and the teams, LAGG (Semyon Lavochkin, Gorbunov, and Gudkov) and MIG (Artem Mikoyan and Gurevich). A special committee on the exploitation of the German economy headed by Malenkov meanwhile gathered data on German aircraft technology, and Soviet intelligence agents in North America received special instructions to gather material on U.S. and Canadian jet engine research.[9]

At least from the time when the Germans began to use jet fighters on the eastern front, Stalin was prodding Soviet engineers to duplicate this technology. Presumably in execution of plans by Malenkov's committee, German jet engine specialists were rounded up en masse in June 1945 and brought to the Soviet Union. By autumn lively debate was in progress among designers as to whether it would be better to copy the bottle-shaped German ME 262 or to go instead for jet fighters of native Soviet design. Champions of the latter course (Yakovlev, Ilyushin, and the MIG and LAGG teams) prepared a formal memorandum. Going beyond the particular dispute, it argued that "a serious lag in our aviation" would create "a dangerous situation." This memorandum served as one point of focus for a meeting of members of the party central committee in December 1945, presided over by Stalin.

Some months later, in April 1946, Stalin was presented with a long-range plan for jet fighter development. Presumably, it resulted from collaborative work among the design bureaus, with some assistance from air force officers and some advice from the Ministry of Foreign Trade about imported components that might become available. This plan called for a first generation of jet fighters using German Junkers JuMO-004 and BMW-003A engines with 1800-2000 pounds thrust--the nearly completed MIG-9 and Yak-15. There was to follow as quickly as possible a second generation using engines imported from Britain which could develop almost 5000 pounds thrust. Stalin expressed skepticism that the British would release these engines, saying, "Just what kind of fool would sell his own secrets!" Anastas Mikoyan assured him, however, that the deal could be made. The plan further called for a third generation of fighters, 5 or 6 years down the line, which would be powered by Soviet-made engines of up to 17,600 pounds thrust.

Stalin accepted the plan. Moreover, he ordered Yakovlev and the MIG team to have small formations of Yak-15s and MIG-9s ready to appear at the Tushino air show in August 1946. Subsequently, engines were bought from the British, and an extensive additional campaign was mounted to round up German aeronautical engineers and put them to work in Russia.[10]

Stalin had clearly decided that military aviation should have high priority in the immediate postwar years. Sometime between the spring of 1945 and the spring of 1946 he also authorized large-scale production of the piston-engine TU-4 (Bull), Andrei Tupolev's copy of the U.S. B-29. In this case, he did not opt for the highest attainable technology. He must have been aware that the United States would soon have the more advanced B-36, and there is some reason to believe that Tupolev himself took the position that

a better bomber could be developed if Stalin would tolerate some delay. For this type of aircraft, however, the dictator evidently judged early production and deployment to be more important than advanced performance characteristics. He did say that he wanted a bomber which could reach the United States, but he did not seem to attach high priority to its production.[11]

Stalin also apparently concluded the Soviet Union should push ahead rapidly in developing missiles. The subject must have received some attention during the war, for, in accordance with what appeared to be a well-prepared plan, the Red Army, when moving into Germany, seized laboratories and facilities involved in developing the V-1 and V-2, and their data and some of their personnel were sent to the Soviet Union. Testimony from Leonid Vladimirov suggests, however, that Stalin's personal interest may have been awakened slightly later, when a letter was sent to him by several Soviet rocket engineers warning that the Western powers had captured the most valuable German materials and people and that the Soviet Union could face grave peril if it failed to pursue an energetic research and development program of its own. Whether as a result of earlier deliberation or of this warning from engineers or of a greater feeling of confidence that the West would take no counter-action, Stalin did authorize a further intensive effort to identify and bring to the Soviet Union German rocket specialists. Two laboratories operated. One was at Moscow/Kaliningrad, the other at Moscow/Khimki. In addition, a test facility at Kapustin Yar went up on the lower Volga. At some point, one or both of the laboratories received some German engineers previously held in detention at Sukhumi on the eastern coast of the Black Sea.[12] Given that there was an acute shortage of construction equipment and material, particularly concrete, and that war-damaged transportation facilities in southwestern Russia were strained to the utmost, the order to build these facilities suggests that missile research had high priority.

In still another area, that of nuclear power, Stalin showed keen interest in pushing toward the technological frontier.[13] Within the Soviet scientific community there had long been nuclear physicists. Their research before the war was on a par with that in the West, and they had had significant government support, probably based on belief that they might develop a new source of energy for industry. The war interrupted and slowed their work. With increasing indications that an atomic bomb might be feasible, they were given additional resources from 1943 onward. Then, if not earlier, their research came under the supervision of Lavrenti Beria, an arrangement that imposed restraints but also provided access to facilities in the vast prison and labor camp system and to the scientists, technicians, and skilled workers populating parts of this system. Development of a Soviet atomic bomb was accorded some degree of priority. Uranium mining was underway in the Fergana Valley region of the Soviet Union early in 1945. In November Stalin established a First Chief Directorate under the Council of Ministers to oversee further efforts. Supplies in occupied territories were confiscated, and intensive mining commenced in eastern Germany and Czechoslovakia. Meanwhile, a 1.5-meter diameter cyclotron in Moscow was completed for use by Igor Vasilevich Kurchatov and others in "Laboratory No. 2 of the Academy of Sciences," and a 10-watt graphite reactor modeled almost exactly on one at Hanford, Washington, was started.

During 1945-46, probably in the early part of the latter year, when the Five-Year Plan was being completed, Stalin decided on overall allocations for defense. At the same time, he effected the governmental reorganization mentioned earlier, and the erstwhile commissariats, in some cases divided up, merged, or retitled, became ministries. In the case

of the military establishment, there came into being a Ministry of the Armed Forces, with Stalin himself as the minister. Reporting to him were three headquarters organizations--those of the navy, the land forces, and the air forces. What had previously been aviation of the Red Army thus became, for practical purposes, a separate Service. In addition, the ministry had more or less autonomous directorates for artillery, armor, and air defense (PVO). The long-range air force (LRA) once again became a separate command, directly under the authority of the minister.

Primarily, Stalin was engaged in demobilizing the giant forces of World War II. Red Army manpower was reduced by more than 70 percent by 1948, and air forces manpower by about 50 percent. But it seems clear that Stalin also ordained rapid modernization of the forces that were to survive. In the ground forces, the absolute number of armored units was to rise, and most rifle divisions were, in a very short period of time, to become motorized. The Ministry of Transport Machine Building was reportedly directed to produce 5,000 armored military vehicles per year.[14]

In the military budget proper, our best estimate is that the ground forces, including "mobilization troops" received about 41 percent of the total outlays for 1947, the air forces received approximately 17 percent; and the navy's share, excluding naval air, amounted to 11 percent. In all probability, however, it was anticipated that the air forces and navy allocations would go up, for the large numbers of TU-4s and MIG-15s that entered service in the late 1940s must have been on order by 1947. Certainly, this was the case for the Sverdlov-class cruisers, new classes of destroyers, and Z-, W-, and Q-class submarines copying German technology which began to come off the ways.[15]

All in all, it would appear that Stalin in 1946 elected the following as a postwar defense policy. The Soviet Union would have ground forces of diminishing total size but with increased mobility and striking power. It would as rapidly as possible develop the new type of artillery promised by German experiments with the V-1 and V-2, including weapons usable for strategic warfare, if possible at intercontinental range. It would also develop rapidly for both battlefield and air defense use tactical aircraft equal or superior to any in the world, and it would build up a bomber force potentially capable of strategic operations anywhere in Europe and Asia. It would also expand and modernize its surface and undersea fleets, though not as yet building vessels capable of any other than guerre de course operations outside of Soviet coastal zones.

To some extent, Stalin's defense policy may be explained as a relatively farsighted response to foreseeable demands on Soviet military forces. It was clear that both Germany and Japan had been utterly defeated. Neither could become a threat to the Soviet Union for at least 10 years, probably more. The other neighbors of Russia were weak. The economies of France and other states in Western Europe were shaky, and most of their governments were divided, with Communist parties wielding great influence in their parliaments. China was torn by civil war. There seemed little reason for Soviet leaders to fear in the near term -- the decade, 1945-55 -- a new land invasion of their homeland and hence little reason for maintaining huge ground forces.

It would have been reasonable for Stalin to feel that the Red Army should be equipped during this period for four missions: (1) Maintenance of domestic security; (2) occupation duty in Germany, Austria, Korea, and possibly Japan; (3) prompt aid to a friendly government in Eastern Europe in the event of an

uprising or invasion; and (4) prompt support for Communists elsewhere in Europe or Asia if they should effect a revolution and be threatened by counterrevolutionaries. Small mobile ground forces with lots of firepower were ideally suited to these missions.

While the effects of World War II persisted, Stalin could feel Great Britain and the United States would represent the chief threats to the Soviet Union and to communism as an international force, and that these powers were unlikely to attack in the first instance with their own ground troops. At any rate, there would be plenty of warning if they made ready to stage such an attack. For the foreseeable future, their principal weapons would be ships and airplanes. On this assumption, it made sense for the Soviet Union to build sea and air defenses and develop weapons that could be used for operations against their fleets and their homelands--long-range submarines, heavy bombers, and long-range missiles.

It is possible that reasoning along these lines guided Stalin's choice. To be sure, some of his decisions did not precisely fit such reasoning. The ground forces he decreed were somewhat larger than necessary for their missions unless Stalin contemplated their fighting as far away as France or Spain, in which case they were too small. The new classes of cruisers and destroyers did not have the range or armament to cope with enemy fleets unless covered by shore-based aircraft or artillery, and while some of the new submarines would have the potential range. they were too light to carry the torpedo load for effective operations against enemy fleets or ocean shipping. The TU-4 could carry bombs as far as Britain, but it could not reach the United States, and Stalin's policy apparently did not involve high pressure for a follow-on bomber with intercontinental range and the ability to get past American air defenses.

It may be, however, that these anomalies are more apparent in retrospect than they could be at the time. It may even be that they are not anomalies at all—that, for example, Stalin conceived his naval program as only a first phase in a longer range scheme or that he had faith that any bomber would soon be made obsolete by long-range missiles. It is not at all inconceivable that Stalin thought Soviet postwar forces to be tailored exactly to the conditions that might confront them. And it must be borne in mind that Stalin may well have expected developments after the first postwar decade to resemble developments of the 1920s, with some or all of the West European states regaining strength and the United States becoming preoccupied with its own affairs.

Yet another possibility is that Stalin conceived of the postwar Soviet military establishment less as a force designed for military operations than as an instrument of foreign policy. In the 1920s and 1930s, Stalin had behaved very cautiously. Taking the position that development of a strong Communist state in Russia had to have priority, he had chosen not to risk the safety of Russia for the sake of assisting revolutions elsewhere. On more than one occasion, he had, in fact, commanded foreign Communists to sacrifice advantages in order to help the Soviet Union. The little we know of his relations with leaders of Communist parties in Europe, the Americas, and Asia suggests, furthermore, that he was scornful of most of them.

Nevertheless, there is evidence that in the late 1930s Stalin saw the approach of a second world war as heralding a new era. In Europe and perhaps in Asia, it could create conditions similar to those that brought the Bolsheviks to power in Russia. Though any such vision must have dimmed when the Germans attacked and it seemed for a time that communism might be extirpated in Russia

itself, it may have revived as the tide of war turned. Certainly by 1944, if not earlier, Stalin was supposing that the postwar era might see Communists in power in parts of Eastern Europe. Then and in the succeeding year, he and his diplomats and military commanders lent strong support to Communist parties in Poland, Rumania, Bulgaria, and Yugoslavia.

Stalin showed signs of still being extremely cautious. His government did not exploit opportunities to promote Communist fortunes in Finland. It was slow to do so in Hungary, and it made no open objection to temporary cooperation by Communists in Czechoslovakia and Western Europe with bourgeois parties. In Asia, not only did Stalin refrain from giving direct aid to the Chinese Communists, he dealt with Chiang Kai-shek in such a way as to imply that he expected his success. While Stalin may have hoped that conditions would so evolve as to favor Communist prospects, he was evidently not eager for situations in which the Soviet Union might find itself backing Communist regimes embattled against counterrevolutionaries who might well have British and/or American support.

Looking several years ahead, however, Stalin may possibly have seen as an alternative to a repetition of events of the 1930s a situation in which Europe remained weak while the United States became distracted. Should history unfold so, Stalin would look out on foreign scenes exhibiting more attractive opportunities for extension of the Communist faith. In such circumstances, the Soviet Union might be able to aid revolutions abroad simply by seeming militarily strong. Without having to risk actual combat, it could insure fear, confusion, and division among bourgeois factions and nations.

Stalin's decisions on postwar forces could be construed as having this end in view. By emphasizing armor and motorized transport for ground forces while disguising the extent of demobilization, he could create an impression that the Red Army was capable of rapid action anywhere in Europe with mobile striking forces acting as a vanguard for hordes of infantry. The possession of a long-range air force could seem to give the Soviet Union a capability for deterring support of counterrevolution by the British and Americans. A modernized fleet and air defense forces with advanced fighters would minimize any appearance that the Soviet Union might itself be deterred from action by threat of strategic reprisal. If accurate long-range missiles could be developed, they could eventually substitute for the LRA and, if they had intercontinental range, serve as a visible threat even to the distant United States.

If Stalin's thinking was dominated by concern about foreign perceptions of Soviet military strength, some of his choices are puzzling. Deep cuts in ground force strength, for example, involved a large gamble on the effectiveness of the techniques by which the Red Army would attempt to deceive Western intelligence services; and the building of cruisers and destroyers of limited range added little to the appearance of either offensive or defensive strength. Still, it is not unlikely that estimates of probable appearances entered as much into Stalin's calculations as did estimates of the actual combat strength which the Five-Year Plan would yield.

Still another possibility is that Soviet defense policy mirrored some of Stalin's domestic concerns. At the end of the war, he faced immense uncertainties. Through all its past history, Communist Russia had seemed in peril, the possibility always imminent that powerful bourgeois states would once again sponsor counterrevolutionaries. This peril had formed a large part of the justification for dictatorship regimentation, deprivation, and deliberate resort to police terror by the party leadership. Now the peril was less, or at least had become more remote and theoretical. Though Stalin undoubtedly remained convinced that the methods of the past were still necessary if the goals of the Bolshevik revolution were to be attained, it must have seemed to him an open question whether the Russian people would submit to discipline as readily as in the years before the war. And restoration of the prewar regimen would be all the more difficult because the war itself had required him to relax certain controls, appeal to patriotism rather than party loyalty, permit advancement into the civil and military elites of people qualified more by talent than by ideology, and allow contact between Russians and Westerners.

In these circumstances, Stalin had to deal with the broad question of how scarce resources were to be parcelled out in the immediate future. In all regions of the U.S.S.R., especially those that were battle-scarred, local party leaders would be begging for the wherewithal to restore and increase production of farms and factories. Among them were men such as Nikita Khrushchev in the Ukraine and P. K. Ponomarenko in Byelorussia, who had networks of allies not only in their regions but in the party and government hierarchies in Moscow. To the extent that Stalin denied their demands and at the same time set them exacting goals, he might stimulate conspiracies. On the other hand, he could also expect many of the same

resources, especially skilled manpower, raw materials, transportation, communication, and construction equipment, to be sought by the military. Even though subject to party discipline and continually watched, the military remained in some degree separated from the party. As had been evident in the drastic purges just before the war, Stalin had special dread of conspiracy among men who controlled troops, guns, ships, and aircraft. Some moves by Stalin were almost certainly influenced by desire to prevent any individual from acquiring much concentrated power. The dissolution of the GOKO may have been one such act. Within the inner circle of his government, he temporarily demoted Malenkov while showing favor toward Zhdanov, and he allowed Zhdanov to conduct a new purge. divining and rooting out heresies in the party and among scientists, academicians, writers. and the like, and also to lead in creating the new international Cominform. This so-called "Zhdanovshchina," continued even after Zhdanov's death in August 1948. In the military establishment, Stalin removed from any place of prominence the wartime ground force hero, Marshal Georgi Zhukov. He not only removed but imprisoned the wartime Air Force commander, Marshal Novikov, and Minister of Aviation Industry Shakhurin, and he removed and demoted the Navy commander, Admiral N. G. Kuznetsov.

Some of these changes were doubtless solutions to individual problems. It was rumored that Novikov, the Air Force commander, was removed for taking too much private booty out of Germany. Another version had it that he somehow earned the personal enmity of Stalin's dissolute son, Vasily, who held general officer rank in the air force. Some testimony from aircraft designers and from Khrushchev suggests that Stalin judged the whole aviation establishment to have been badly run toward the end of the war and

that this accounted for his displeasure not only with Novikov and Shakhurin but also with Malenkov, who had been the GOKO member with that portfolio.[16]

It nevertheless seems likely that jealousy for his own status entered into some of these personnel shifts, and it is at least possible that the same motive affected Stalin's decisions on resource allocation. To divide funds among a number of Service elements, building up the separate interests of the air defense force, the LRA, the navy, the armored force, and the artillery, and returning the infantry and its generals to a status of equality, could have been seen by Stalin as serving domestic political as well as strategic and foreign policy ends.

And, of course, the hypothesis cannot be excluded that Stalin's decisions on defense policy are not to be explained by reconstructing any rationale. His actions during the Great Purge lend themselves best to a psychopathological analysis. By 1953 he was unquestionably more than half mad. The reasons for his choices in 1945-47 may have been those of a Nero or a Caligula.

Guided by an assumption that hostile relations with the West were inevitable and involving in large part merely a renewal of a long-standing campaign "to catch up with and surpass the United States" in technology, Soviet defense programs of the immediate postwar period clearly represented acceptance of the proposition that the Soviet-American relationship was competitive in all areas, including strategic weaponry. As Soviet defense programs manifested themselves prior to the Yugoslav defection and Berlin crisis of 1948, however, in themselves they provided as yet little provocation to the United States for a markedly stepped-up competition in armaments.

CHAPTER IV

THE FIRST AMERICAN BUILDUP, 1950-53

After the outbreak of the Korean conflict, the concept of a Soviet threat took firmer shape and American defense programs abruptly increased in scale. Annual spending for defense tripled. The number of nuclear weapons quadrupled and their destructive power increased from less than 10,000 KT in 1950 to more than 70,000 KT in 1953. Equally noteworthy, the number of nuclear weapon delivery systems also expanded greatly. As of mid-1950, the nuclear strike force consisted of more than 200 B-29s, B-50s, and B-36s, plus a handful of Navy aircraft. By 1953, it included more than 1,000 Air Force and Navy aircraft.[1] The strategic offensive nuclear weapon systems were already being supplemented by tactical nuclear and strategic defensive weapons, some of which were also designed to be armed with nuclear weapons. By then also the perception of the Soviet Union as the "implacable enemy" had gained wide acceptance in the United States.

War, Politics, and Budgets

On 25 June 1950, North Korean forces attacked South Korea. The United States asked for and obtained a U.N. resolution calling on the North Koreans to withdraw. Since the Soviet Union was boycotting U.N. Security Council sessions because of that body's refusal to seat Communist China in place of Nationalist China, the Soviet member could not veto the resolution. When the North Koreans continued to advance, President Truman ordered the commander of occupation forces in Japan, General of the Army Douglas A. MacArthur, to provide air and naval support to the South Koreans. A few days later, when collapse of South Korea's resistance seemed imminent, Truman directed MacArthur to send in American ground troops. Together, the

South Koreans and Americans finally succeeded in holding a perimeter around the port of Pusan.

The President, his advisers, most congressmen, and nearly all commentators interpreted the North Korean action as having been dictated by the Soviet Union. Though intelligence analysts soon concluded that Moscow's aim had been limited to reunifying Korea under a Communist government and that the Russians were surprised by the reaction of the United States and other countries, the common initial supposition persisted that Stalin staged the attack as a test on the assumption that the United States would register verbal protest and do nothing more and that its allies and clients in Europe and elsewhere would draw the moral that it was not to be counted upon. In official circles and outside them, this interpretation of Soviet motivation was accompanied by concern that Stalin might be planning other adventures—against Southeast Asia or the Middle East or Yugoslavia or Finland or even Western Europe--and that these would become easier if the United States committed its meager military forces in behalf of South Korea. British Prime Minister Clement L. Attlee expressed such concern.[2] When Truman concluded that the United States and the UN had to intervene in Korea, he also concluded that urgent preparation should be made for coping with possible aggression elsewhere.

In mid-July, Truman went before Congress to propose a national response far beyond the requirements of operations in Korea. In particular, he called for greatly increasing defense spending even though it would entail a deficit and new taxes. Reversing form completely, he instructed the Services to estimate what they would need to effect the

policy outlined in NSC-68* and to ask for the requisite money. Truman insisted that they give him answers in a matter of weeks.[3] By late July, the President had received from the Pentagon proposals for an initial buildup which would bring military manpower levels from below 1.5 million to above 2 million. Given a stated assumption that only 100,000 man-years needed to be allocated to the conflict in Korea, the increment was designed chiefly to strengthen the overall defense posture of the United States. The President asked for and got a supplemental defense appropriation of $11.7 billion.[4]

Additional spending proposals looking to the longer term began to emerge from the Services in early August. The Secretary of Defense was told that they might ultimately ask for another million men. By the beginning of September, the JCS had a comprehensive wish-list. In response to queries from the new Secretary and Deputy Secretary of Defense, General Marshall and Robert A. Lovett, the JCS made some modifications. Forwarded to the President and accepted by him, the JCS proposals became the basis in December 1950 for a second supplemental defense appropriation of $16.9 billion.[5] By the end of calendar year 1950, the Truman administration's defense budget for fiscal year 1951 had already tripled. In addition, its FY 1951 budget for military assistance to allies had grown from $1.2 billion to $5.2 billion.[6]

In Korea, MacArthur staged a daring amphibious landing at Inchon, on the west Korean coast, in September and thus threatened the North Koreans with encirclement. As the enemy broke and retreated, MacArthur, without objection from either Washington or the UN, sent his own pursuing

*For a discussion of NSC-68, see above, pp. 69-80.

forces deep into North Korea. In far northern Korea, however, MacArthur's units began to encounter Chinese "volunteers," massed Chinese armies, and were forced to fall back into South Korea in December.

In Washington, confidence in early success in Korea diminished. The Services had to divert to Korea aircraft and other resources which they had intended to deploy elsewhere. Unanticipated expenses accumulated. The President went to Congress in 1951 for yet a third supplemental appropriation, for $6.4 billion. In the aggregate, therefore, new defense obligational authority for fiscal year 1951 came to more than $48 billion.

In November 1950, midterm congressional elections reduced the number of Democrats but left the party in control of each House. The elections took place too early to be influenced by the Chinese intervention and the reversal of American fortunes in Korea, but Senator Joseph R. McCarthy's allegation of Communist influence in the government evidently had some effect on the election results.

Truman's own popularity plummeted. Because MacArthur had chronically ignored instructions and had come increasingly close to insubordination in protesting restraints on his operations against the North Koreans and Chinese, Truman concluded that he had no choice but to relieve MacArthur of his commands. This took place in April 1951. The immediate reactions included tumultuous welcomes for the returning general and cries for Truman's impeachment. When prolonged Senate hearings on MacArthur's relief produced evidence that Marshall and all the Chiefs of Staff had supported the President, the public temper cooled. Polls nevertheless recorded little improvement in the President's personal standing.

Truce negotiations with the North Koreans and Chinese, begun in the summer of 1951, seemed to lead nowhere, and hostilities continued along the 38th parallel. McCarthy and other senators and representatives captured headlines by means of hearings which produced sensational and usually unfounded testimony about Communists and Communist sympathizers in government alleged to be responsible not only for the "loss" of China but for a "no win" policy in Korea. Joined with some evidence of improper and even illegal conduct by a few Truman appointees and with unsettled economic conditions, the stalemate in Korea and the turbulence created by McCarthy and his adherents put the Administration increasingly in a defensive stance, incapable of making any headway toward accomplishing its domestic goals.

The Administration nevertheless continued successfully to lead Congress and the country toward greatly increased military preparedness. In large part, the leadership came from the Pentagon rather than the White House. Lovett told the Service Secretaries in November 1950 that he was exerting himself to prevent the President and the Bureau of the Budget from reinstituting ceilings. Within limits indicated by Congress, he was prepared to tell the Chiefs to set force goals as if the constraints were skilled manpower and modern weapons, not money. In public testimony on Capitol Hill he took the line that the FY 1952 budget, in contrast to those for previous years, was governed by "military needs" rather than by Treasury estimates of probable revenues.[7]

Truman accepted the guidance of Marshall and Lovett. The Budget Bureau ceased temporarily to have a large voice on defense issues. Scrutiny of Service requests fell more to the Defense Department Comptroller,

Wilfred J. McNeil. Although the Joint Chiefs of Staff went formally on record within the Pentagon as regarding even the enlarged defense budget as inadequate to provide for a victory in war, they defended it in public. It was seen not as Truman's budget but as that of Marshall, Lovett, and the JCS. For fiscal year 1952, it totaled $60.7 billion in new obligational authority.[8]

Congress voted appropriations less than $1 billion below the original Administration request; the reductions were in minor categories. Complaints concerning the size of the budget were more than offset by anxious queries as to whether the Defense Department had actually asked for enough. Senate debate was marked by an almost successful move to add $5 billion for aircraft procurement, just in case the Air Force and Navy had underestimated needs.[9] If put in constant 1972 dollars, the defense budget (TOA) for fiscal year 1952 came to $120.8 billion, almost equal to the $124 billion for fiscal year 1945, the last full fiscal year of World War II, and well above the two largest budgets for succeeding years, $98 billion for fiscal year 1953 and $97.9 billion for fiscal year 1968.[10]

Although Lovett succeeded Marshall as Secretary of Defense only in September 1951, he had been handling most budget management in the Pentagon as Deputy Secretary. In planning for fiscal year 1952, Lovett's strategy had been to capitalize on the temporary openhandedness of the President and Congress to obtain appropriations for long lead-time items that would not actually be in inventory for some years to come. As of July 1951, his staff estimated that of almost $28.6 billion available for aircraft and naval vessel procurement, only $7.5 billion would actually

be spent in fiscal year 1952. Assuming modest additional appropriations, the staff further estimated that funds available for these purposes would exceed actual outlays by $20.7 billion in fiscal year 1953, and $17 billion in fiscal year 1954.[11]

In view of this estimate, the truce negotiations in Korea, public grumbling about inflation, and indications that both Republican and Democratic politicians might try to stir public protest against defense spending, Lovett set a lower target for fiscal year 1953. Instead of $60 billion plus (in current dollars), he instructed the Services to plan on asking for less than $50 billion, indicating that his own preferred figure was in the neighborhood of $45 billion. The Bureau of the Budget proposed a ceiling of $41.2 billion. The JCS protested both figures, arguing that the result would be to delay by 2 years achievement of preparedness at even a minimally adequate level; but McNeil advised Lovett that the chiefs exaggerated the probable effects. Meanwhile, Lovett promised the President that he would stretch out actual spending and thus minimize inflationary effects and the drain on current Treasury receipts. He proposed that the President in return agree to a defense budget for fiscal year 1953 that would exceed $50 billion, and the President eventually acquiesced, sending to Congress a request for $52.4 billion in new obligational authority.[12]

Within the executive branch and on Capitol Hill, the funding proposals for fiscal year 1951 and fiscal year 1952 had been defended in terms of an alleged need to prepare for a "period of maximum danger." Intelligence estimates drawn up after the Soviet nuclear test of 1949 described 1954 as the year by which the Soviets could possess enough atomic bombs and long-range bombers to be able to conduct a nuclear offensive against the United

States. If so, the Soviets might be able to stage a successful surprise attack that would knock out SAC's bombers and the AEC's store of atomic bombs. In any case, they might assume that a threat to do this, coupled with a threat to destroy some American cities, would neutralize the U.S. strategic deterrent. Such reasoning underlay NSC-68's citing 1954 as the year when a "disastrous situation" could exist if the United States had not meanwhile added significantly to its own defenses and those of its allies.[13]

After the outbreak of the Korean conflict, the intelligence agencies reaffirmed these estimates of the Soviet threat. In the new circumstances, the JCS produced documents detailing what the United States should do so that, when 1954 arrived, the Soviets would see enough military power opposing their own to deter them from aggression. JCS plans became keyed to the concept that 1954 was the year for which to prepare. In December 1950, after the Chinese had intervened in Korea and after Lovett had encouraged ambitious budgeting for fiscal year 1952, the JCS proposed and won approval for a policy of trying to meet most of their original goals by mid-1952 and setting still higher goals for 1954. Subsequently, they took the position that 1953 might well prove to be the true period of testing. In answer to questions from Congress, however, Defense Department and military spokesmen tended to repeat that their consistent objective was to get ready for a moment of maximum danger in 1954.[14]

Forced to admit to the policy of stretching out expenditures and carrying over approximately $60 billion in still unexpended funds, Administration witnesses defending the FY 1953 budget found Congress less sympathetic than in the previous year. Both the House and the Senate

voted reductions. In contrast to the $52.4 billion asked by Truman, the final bill appropriated only $46.6 billion.[15] The upsurge in defense spending was about to level off.

Why had it occurred? And can it be characterized as reactive—prompted by actions on the Soviet side—or was it an instance of America's taking the initiative in competition with the Soviets?

Obviously, the expansion of the defense budget occurred because of the Korean War and attendant developments. Most outlays prior to June 1950 would probably have been made even if relations with Russia had been comparatively tranquil. The subsequent increments were largely seen as necessitated by a Soviet threat.

In all likelihood, there would have been some increment even in the absence of the Korean crisis. The authors of NSC-68 seemed en route to at least modest success in their campaign. Identifying as fundamental tasks for U.S. military forces defense of the Western Hemisphere and other essential areas, protection of a mobilization base, capacity to buy time through early offensive operations, and protection of lines of communication and bases, they had said in NSC-68 that the United States and its allies should urgently develop strength "superior for at least these tasks, both initially and throughout a war, to the forces that can be brought to bear by the Soviet Union and its allies."[16] While their argument rested on an appraisal of Soviet military forces as "far in excess of those necessary to defend its national territory," they did not contend that the United States should match specific Soviet military programs; instead they held that the ideology of the Soviets made them inherently aggressive and that the

United States, therefore, needed evident military superiority to deter their aggression.[17]

The North Korean attack on South Korea greatly weakened those elements in the executive branch likely to have posed most resistance to NSC-68. The Council of Economic Advisors, the Bureau of the Budget, and the Treasury could no longer argue successfully for giving precedence to a balanced budget, low taxes, and minimal inflation. After 25 June 1950, almost no one in Washington opposed the proposition that the United States should spend more for defense.

Not all advocacy of such a policy, however, followed the lines of NSC-68. In the State Department, consensus held that the Russians possessed the military capability for localized aggression or for general war and that, in the absence of clear evidence to the contrary, the United States should act on the assumption that they planned to use this capability whenever the odds were in their favor. Acheson advised Truman that additions to ready U.S. military forces "will be of some reassurance to our friends but will not deter our enemies; whereas what we do in the line of stepping up production will strike fear into our enemies, since it is in this field that our great capabilities and effectiveness lie."[18] While the basic appraisal of the Soviet Union may have been similar, the conception of what was called for differed markedly from that in NSC-68; for Acheson did not envision an effort to achieve and maintain general military superiority but rather an effort to keep highly visible the fact that the United States had a long lead over the Soviet Union in military potential.

In the Pentagon, both civilians and military men tended to focus on specific contingencies. The civilian Secretaries joined in a letter to the Secretary/of Defense on 1 August 1950. Perhaps in part to rationalize abandonment of efforts to keep tight budget ceilings, they said the Korean incident "revealed the new pattern of Soviet aggression." Characterizing the Soviet bloc as "monolithic" and saying that satellite units were, for practical purposes, elements of the Red Army, they identified 11 sites around the globe as vulnerable to Soviet "use of satellitic force," 7, including Berlin and Iran, as open to direct Soviet military probes, and 20 as susceptible to "internal Communistic coup d'etats." Their inclination and that of the JCS was to recommend not that the United States try to match Soviet power but that a careful review be made of U.S. potential commitments so that the nation would not be in the position of promising to defend areas it was not equipped to defend. At this juncture, the JCS—including the Air Force Chief of Staff/—were prepared to say that there was no "absolute weapon" and that atomic bombs were "essential to the security of the United States as adjuncts to military forces in being." Holding such a view, they argued for an effort to develop forces providing local superiority in places of vital interest together with M-Day strategic forces and the mobilization base for achieving victory in all-out war. Once they became aware that money was temporarily no obstacle, they emphasized the mobilization base, proposing programs that would enable a fully mobilized United States to overcome a fully mobilized Soviet bloc.[19]

These were distinctly different notions of how and perhaps even why the United States should spend more on defense--Acheson and Nitze emphasizing industrial mobilization and the Chiefs emphasizing forces in

being. The NSC process, plus need to explain the new defense policy to Congress and the public, might have forced a confrontation among these differing ideas, but in fact, NSC-73/4 of 25 August 1950 simply combined them. Using the logic of NSC-68 and that of Acheson and Pentagon planners, it declared:

> The United States should as rapidly as possible increase the build-up of its military and supporting strength in order to reach at the earliest possible time and maintain for as long as necessary a level of constant military readiness adequate to support U.S. foreign policy, to deter Soviet aggression, and to form the basis for fighting a global war should war prove unavoidable.

This agreed-upon language figured in Administration testimony in support of the fiscal year 1951 and 1952 budgets.[20]

The differing points of view evident in the exchanges of 1950 persisted during the period when the Administration turned toward a stretch-out of spending and a leveling -off of allocations for defense. Between August and October 1951, various elements in the executive branch combined to draw up for the NSC a status report on the progress of the defense buildup. Finally integrated in NSC 114/2 of 12 October 1951, it explicitly reaffirmed the thesis of NSC-68 that the Soviet Union was engaged in "relentless pursuit" of world domination. The report declared that the danger of the Soviets probing any points of weakness had increased rather than diminished. It portrayed America's allies as even more in need than earlier of material and psychological support. At the same time, the report characterized the Soviets as having made more rapid progress than expected toward modernizing their ground and air forces and developing air defenses. The United States would have to spend more to develop a ready capability for winning a war.[21]

The more ominous appraisal of Soviet capabilities and intentions did not derive from new evidence. A special intelligence estimate prepared in anticipation of discussion of NSC-114/2 by the National Security Council stressed the extreme cautiousness shown by the Soviets since June 1950 and suggested that the observed strengthening of Soviet military capabilities was consistent with the hypothesis that the Soviets "fear growing U.S. military power and its projection into a series of overseas bases encircling the Soviet bloc." Statements in the estimate concerning the worsening political threat were supported by references to Soviet propaganda opposing Western rearmament and warnings that the Kremlin might decide to shift "to new and less obviously aggressive tactics, designed to lull the West into a false sense of security."[22] The general conception of the Soviet threat had taken firm shape in 1950. It did not depend on day-to-day observation or review of what the Soviets were doing but rather on a persistent view of the Soviet Union as a continuing menace to the United States.

In 1952, after Congress's harsh treatment of the Administration's FY 1953 budget and at a time when a changeover to Republican control of the White House and Congress seemed likely, the NSC once again conducted a review of basic national security policy. The result, NSC-135/3 of 25 September 1952, portrayed the Soviet Union exactly as had NSC-68 and NSC-114/2. It rephrased and rearranged but otherwise retained the mixed list of objectives which had been in NSC-73/4:

> . . . to develop and sustain for as long as may be necessary such over-all strength as will (a) continuously confront the Kremlin with the prospect that a Soviet attack would result in serious risk to the Soviet regime, and thus maximize the chance that general war will be indefinitely deterred, (b) provide the basis for winning a general war should it occur, (c) reduce the opportunities for local Soviet or satellite aggression and political warfare, (d) provide an effective counter to local aggression, if it occurs, in key peripheral areas, and (e) permit the exploitation of rifts between the USSR and other communist states and between the satellite regimes and the people they are oppressing. [23]

Increased defense spending continued thus to be keyed to all of the different missions identified when, in the language of NSC-73/4 updating that of NSC-68, the Soviet Union first came to be perceived as "the implacable enemy of the United States and the non-Communist world" bent upon "the degradation, weakening and ultimate destruction of the United States" and likely to seize immediately upon any opportunity for mischief.

This greatly increased spending was thus not represented as a necessary direct response to comparable action by the Soviets. The best estimate we can make in retrospect is that the Soviet Government had, in fact, increased its own defense outlays by about 25 percent during 1950 / and 14 percent in 1951. This corresponded reasonably closely with a publicly announced increase in allocations for defense, but Soviet budgets were only then beginning to be analyzed in the U.S. intelligence community, and the estimates or assessments distributed among high officials of the U.S. Government did not mention the apparent upturn in overall Soviet expenditures.[24]

This is not to say, of course, that the surge in American defense spending was uninfluenced by observation that the Russians were devoting

substantial resources to defense. The size of the Red Army, the sudden appearance of fleets of jet fighters and long-range bombers, and the evidence of intensive work on nuclear weapons figured in many briefs for buildup of the U.S. military establishment. The significant point is that the same data figured in comparable briefs presented unsuccessfully before the Korean War when the Administration maintained an arbitrary ceiling on defense expenditures. No evidence of any new spurt in Soviet outlays supported the reasoning for budgets of fiscal year 1951 and beyond. That Soviet outlays had remained relatively high ever since World War II may have been a necessary element in those American decisions, but it did not explain them.

Nor was this overall increase in U.S. spending wholly defensive, even if construed as a much belated response. To be sure, concern had already surfaced about the thinness of defenses against the Red Army in Europe and the Middle East, the frailty of some governments subject to Communist subversion, and the possible danger to the American homeland posed by a nuclear-armed Soviet long-range bomber force. The Korean affair indicated that the Soviets might be more adventurous than had earlier been supposed, especially when they could use "satellitic force" instead of their own. Even so, the level of threat was almost the same in the second half of 1950 as in the first half. By itself, the immediate threat cannot explain a sudden great increase in America's commitment of resources to defense, and it seems to have even less explanatory power when one observes the reasoning in NSC-114/2 that the threat was increasing because the Soviets were giving an appearance of being conciliatory.

If the tripling of the American defense budget is only partially to be explained as either imitation of Soviet behavior or a defensive response to Soviet provocation, is it to be characterized as in any significant degree an initiative by the United States? Was the American government seeking to assume a lead in an American-Soviet arms race?

It is possible to concoct an argument that the Administration sought primarily to solve certain domestic problems—that severe recession had set in and defense was in fact to help mend the economic indices. The men who advised Truman to put money in defense were for the most part the conservative members of his Administration who opposed the domestic welfare programs which offered alternative means of turning those indices around. Although the nation's siege of McCarthyism eventually ran its course, politicians in 1950 could have seen "billions for defense" as part of an answer to that problem. At the time, I.F. Stone, a left-wing American journalist, put forth the fanciful notion that the Administration had protracted the Korean conflict in order to repair its standing in the polls and overcome any public or congressional resistance to its predetermined policy of militarism.[25] Any speculation about domestic economic or political motives behind the 1950-53 rearmament push is, however, inference from circumstances, lacking support in the discoverable data, and indeed contradicted by evidence that the President's economic advisors were the last to give ground in the matter.

More to be taken seriously is a hypothesis that the sudden increase in allocation of resources to defense, destined to be virtually permanent,

was in significant part a product of fundamental, widely shared assumptions. The major policy documents of 1950-52 imputed to the Soviets not only a design to conquer the world for their own ideology but a basic unwillingness to tolerate a world in which the ideology espoused by the United States was dominant.

Prior to 25 June 1950, Truman, many of his advisors, and many leaders in Congress took it for granted that, with American economic aid and perhaps even without it, almost all other countries would tend to imitate the United States. Few, if any, would voluntarily imitate the Soviet Union, and the Soviet Government, recognizing the greatly superior power of the United States, would not dare to interfere with this, the natural course of history. Soviet sponsorship of North Korea's aggression was an affront and an indication that the previous assumption might have been in error. Also, as Acheson cautioned the President, it was an indication that induced "petrified fright" in Europeans who saw themselves as the first casualties incase of a serious Soviet miscalculation.[26] A substantial increase in defense spending would ensure that the Soviets and everyone else became fully aware of the omnipotence of the United States. The abrupt change in American behavior thus seems best described less as a response to specific external provocation than as a product of a set of rooted convictions concerning the character and motives of the Soviet state, the character and attributes of the United States, and the nature of a suitable world order.

Nuclear and Missile Technology

Technological developments influenced the ways in which the new funds were spent, for the period in which U.S. defense budgets grew threefold or more was also marked by major advances in nuclear weaponry, particularly documentation of the feasibility of fusion, and, to a lesser extent, advances in propulsion systems. Fission weapons began to become available in a variety of shapes and sizes; and long strides occurred in the development of missiles, both aerodynamic and ballistic, capable of being fitted with nuclear warheads.

Production of fissionable material was already increasing before the onset of the Korean conflict. By December 1950, the AEC was able to declare that uranium ore no longer constituted a limiting factor. Following years saw additional finds of ore in the Rockies and discovery of immensely rich veins in western Canada. Meanwhile the capacity of the AEC to process ore increased at an even greater rate. The new reactor at Hanford went into operation at the beginning of 1951. Before the year was out, proof had come in of the feasibility of fast breeder reactors capable of producing more fissionable material than they consumed. Even so, with the Joint Committee on Atomic Energy, the JCS, and the President all pressing for maximum output, the AEC adopted a program early in 1952 for increasing by 150 percent its production of U-235 and by 50 percent its production of plutonium. This program and the success of breeding permitted the AEC to declare by early 1953 that it could more than meet any demands that might be levied. By then, military staff papers were acknowledging that an era of nuclear plenty had arrived.[27]

The earlier promise of greater variety in warheads also became increasingly a reality [redacted] They also demonstrated the feasibility of boosting--injecting a large quantity of neutrons at exactly the moment when a weapon was disintegrating and thus increasing by as much as [redacted] its explosive yield. The first successful test occurred in May 1951. It was enough to prove the possibility of fission weapons far smaller in size than had been previously imagined.

Prior to mid-1950, the AEC had in actual production only bombs similar to those dropped on Japan. The implosion weapons were all 5 feet in diameter and 10 feet long and weighed at least 8,500 pounds. The gun-type "Little Boy" was less fat but also less efficient. Given not only their dimensions but all the special rigging required, they were weapons exclusively for large bombers. The AEC had in prospect a new implosion assembly, the Mark 5, which would be less than 4 feet in diameter and weigh only 3,000 pounds, and a Mark 8, a trimmed-down "Little Boy."[28]

Between mid-1950 and early 1953, the AEC perfected two additional implosion warheads. The Mark 7 was only 2½ feet in diameter and weighed 1,700 pounds. The Mark 18 (originally Mark 13) was to be 5 feet across but to weigh only 7,400 pounds and to carry a boosted device. It was designed as a hedge against the possibility that thermonuclear bombs could not be developed [redacted] Also, the AEC came out with two new gun-type weapons, the Mark 11, 14 inches in diameter and 3,600 pounds in weight, and later the Mark 9, suited for Army artillery, only 11 inches in diameter and weighing but 803 pounds.[29]

Further, the AEC proved able to produce a thermonuclear bomb. Though a fusion device was successfully tested in 1951, it was not suitable for use in a bomb, for one of the critical substances had to be kept constantly under near absolute zero refrigeration. During 1951-52, however, AEC scientists hit upon principles that permitted fabrication of a "dry" device. Tried out in the IVY test series of October-November 1952 as the MIKE shot, the device had a yield of 10 MT. From that moment on, it was apparent not only that thermonuclear warheads could be built but that they, too, could come in small sizes as well as large.[30]

For the most part, to be sure, these developments occurred in AEC laboratories and test facilities. It became certain that nuclear weapons could be produced in large quantities and in a variety of configurations, but this was a future certainty As of 30 June 1950, the United States had fewer than 300 nuclear weapons, in large and unwieldy mechanical assemblies. As of 30 June 1953, the stockpile of weapons would approach 1,200, and the available mechanical assemblies would have expanded to include significant numbers of smaller Mark 5s, Mark 7s, and gun-type Mark 8s and Mark 9s. Service planners, to be sure, would still be dealing with what they viewed as finite numbers of nuclear weapons. As late as 1953, fierce disputes erupted over Army proposals that the AEC develop an 8-inch diameter warhead for an artillery piece, with Air Force spokesmen protesting that fissionable material should be reserved for more efficient weapons.[31] If still conceived to be scarce, however, nuclear weapons were plainly much more abundant than earlier supposed.

As for nuclear propulsion systems for ships or aircraft, they seemed likely to materialize, but not until the mid-1950s at the earliest. Capt.

Hyman Rickover had managed to become at one and the same time the Navy's project officer for nuclear submarine development, the overseer of AEC work on marine nuclear propulsion, and a chief adviser to the Joint Committee on Atomic Energy. In April 1950, he had secured a firm commitment that the Navy would attempt to launch a nuclear submarine by 1955. A construction contract was let in 1951. The keel was laid in April 1952, with the President on hand to celebrate the event. At every stage, Rickover maintained relentless pressure to make the project a success.[32]

Work also went forward on a nuclear-powered, long-range bomber. Air Force interest dated back to the era of the Manhattan Project, and development of such a bomber had been assigned high priority by LeMay when in charge of Air Force R&D in 1946-47. Subsequently, it had been somewhat slighted on account of budgetary constraints and Air Force preoccupation with nuclear weapons development. It came vigorously to life after the opening of the Korean conflict. In 1951, contracts were let to General Electric and Lockheed. The project came to occupy more than 250 technicians, a larger contingent than involved in any other endeavor at Oak Ridge, and by 1952 engineers were predicting that a test engine would exist by 1954 and that a nuclear energy-powered aircraft would be in the air by the 1960s. Because high-level planners continued to regard sources of nuclear energy as scarce, however, the JCS declined to recommend to the AEC a formal military requirement for either nuclear powered aircraft or a nuclear propulsion plant for surface naval vessels.[33] They probably accorded such priority to the submarine propulsion project only because the President's commitment left them no choice.

In missilery, technical progress was a matter of steady advance rather than dramatic breakthroughs. Research and testing gradually eroded skepticism as to whether rockets could obtain much better range, accuracy, and payload than had the V-2 of World War II.

Before mid-1950, the Army had pursued missile research more diligently than the other Services. Concentrating on ballistic missiles, it had made considerable progress toward developing accurate surface-to-air weapons and had hopes for a surface-to-surface weapon with a range of as much as 1,000 miles. The Navy had trailed the Army, in large part because of jurisdictional disputes between its Bureau of Ordnance and Bureau of Aeronautics, the former viewing missiles as artillery and the latter viewing them as pilotless aircraft. By mid-1950, however, the Navy was well on its way to having operational surface-to-air missiles and one or more surface-to-surface aerodynamic (or cruise) missiles with a potential range of several hundred miles. The Air Force had shown less interest. Although several senior officers, including General Henry H. Arnold and General LeMay, had said after World War II that the future of airpower might well lie with missiles, research projects had fared badly when the Service adapted itself to the budgetary stringency of the early postwar years. As of mid-1950, it had in progress relatively slow-paced research and development on an air-to-surface missile--RASCAL--and on two aerodynamic surface-to-surface missiles--SNARK and NAVAHO--with potential intercontinental range.[34]

Promise of increased range and accuracy for missiles emerged almost concurrently with the development by the AEC of smaller and lighter weight fission bombs. Beginning in the second half of 1949, technicians and

planners in the Services turned serious attention to the possibility that missiles might be equipped with nuclear warheads. In the autumn of that year a committee headed by Lt. Gen. John E. Hull, USA, recommended that the Services and the AEC cooperate in mating the Mark 7 or Mark 8 warheads to 4 missiles then under design: the Army's 150-mile range HERMES A-3, the Navy's 500-600 mile-range aerodynamic REGULUS, an Air Force short-range air-to-surface missile (eventually to be the RASCAL), and an Air Force intercontinental cruise missile, the SNARK. In January 1950, the Secretary of Defense approved this recommendation.[35]

After the outbreak of the Korean War, each Service accelerated its own missile research and that of its contractors. Secretaries of Defense urged coordination of these efforts and set up committees or offices to effect such coordination. The Services went along, but individually, and collectively through the JCS, advised that each Service be allowed to pursue its own research, and that was, in fact, what happened.[36]

Between 1950 and 1953, the Army developed 3 surface-to-surface missiles with ranges between 12 and 150 miles--the CORPORAL, the HONEST JOHN, and the HERMES A-3--and a missile intended to have a range of up to 600 miles, the REDSTONE. It also began to deploy the surface-to-air NIKE-AJAX, by the end of 1953, and it started work on a shorter range, higher speed HAWK and a longer range (100 miles) NIKE-HERCULES.[37]

The Navy developed its 500-mile medium-range cruise missile, the REGULUS, to the point of actual deployment by 1954 on one surface ship and one specially converted submarine, and additional submarines and surface

ships thereafter. It also pursued work on two other medium-range systems, the RIGEL and TRITON, and it initiated production of the surface-to-air TERRIER and TALOS and an air-to-air SPARROW.[38]

The Air Force became more active, developing the 650-mile range(propulsion) MATADOR, which promised to be deployable by 1954, and pushing ahead research on its two long-range cruise missiles, the SNARK and the NAVAHO, a 250-mile range surface-to-air BOMARC, an air-to-air FALCON, and two air-to-surface missiles, the RASCAL and the QUAIL, the latter intended to function as a decoy.[39]

With the AEC promising lighter and more versatile warheads, the officers developing missiles worked to engineer them so that they could serve as nuclear delivery systems. As of 1952, such efforts involved not only the four listed by the Hull Committee (the HERMES A-3, REGULUS, RASCAL, and SNARK) but the Army's short-range CORPORAL and HONEST JOHN, the medium-range HERMES C-1, REDSTONE, RIGEL, and TRITON, and the long-range NAVAHO. Just at that point, Los Alamos gave notice that it could produce still smaller warheads ranging from 1 to 2 KT. Some general thought had already been given to the possible use of nuclear weapons for air defense, and work started at once to adapt the NIKE, TERRIER, and TALOS to carry nuclear warheads.[40]

The AEC's panoply of new weapons developed out of research already in progress before the outbreak of the Korean conflict. Substantial additional funding for AEC weapons programs had been provided as a result of the reaction of the President, the executive branch, and Congress to the 1949

Soviet nuclear test and to the possibility that the Soviets might develop a hydrogen bomb before the United States did. After June 1950, still more money poured in, permitting acceleration of work on a fusion device and large increases in production of ore, fissionable material, mechanical assemblies, and capsules. None of the technical developments seem to have been influenced by knowledge of Soviet nuclear research and development. AEC scientists and engineers were simply exploring obvious technological frontiers. While it seems probable that this progress would have been slower if active competition with the Soviets had not stimulated high levels of spending for defense, it is possible that the same advances in warhead design and yield would have occurred in comparatively short order had there been no such stimulus.

The same can be said of work on nuclear propulsion. The Korean conflict and the dramatic change in levels of defense spending probably accelerated progress toward a nuclear submarine and advanced the date when it became apparent that a nuclear-powered bomber would be extremely difficult to develop.

In the case of missiles, the impact of the intensified competition was also limited. Before the onset of the Korean War, the Research and Development Board and the staff of the Secretary of Defense had been urging a greater effort to develop missiles, and the Army and Navy had already stepped up their programs.[41] Other than speeding up the programs, the principal effect of the flow of new money was to awaken Air Force interest, but USAF missile programs did not become productive until after the Korean War. Budgeting between 1950 and 1953 affected the pace of American

missile programs but had little impact on their character or direction.

Nor were these programs much affected at this stage by direct Soviet competition, although Soviet work on missiles attracted some attention. Air Force intelligence circulated in 1950 an estimate that the Soviets might have an intercontinental-range subsonic aerodynamic missile as early as 1956.[42] Though analysts in other Services and in CIA did not agree with this particular forecast, they did begin increasingly to collect and call attention to evidence that the Russians were building upon German V-weapon technology and were testing rockets of increasing size and range. Even in 1953, however, neither planning papers concerned with U.S. continental defense nor military intelligence estimates underpinning JCS war plans placed emphasis on Soviet missile capabilities.[43]

Of course, American missile programs were, to some extent, shaped by the perceived threat. The initial priority given surface-to-air missiles must have been partially a defensive reaction to information about the buildup of the Soviet long-range air force. The Army's efforts to develop nuclear-armed HONEST JOHN, CORPORAL, HERMES, and REDSTONE missiles owed something to concern about the Soviet army's superior numbers. Certain features of U.S. missile programs would surely have been different if the total defense budget had not gone up and if American alarm about the Soviet Union had not been steadily on the rise. They might not, however, have been markedly different. The Navy's REGULUS program kept pace with the others even though the Navy did not learn until much later that there was a

competing Soviet program and even though there were neither actually nor in prospect very many Soviet surface vessels likely to serve as suitable targets.[44] To a large extent, U.S. missile programs, like U.S. nuclear weapons and nuclear propulsion programs, were propelled by a technological dynamic largely independent of the American-Soviet competition. One can imagine that most of these new weapons and propulsion systems would have come along, perhaps lagging a few years but otherwise having much the same characteristics, if there had been a less intense competition.

Force Levels and Force Plans

When the Korean War started, the first concern of the military establishment was to meet its demands while maintaining some semblance of power in other areas that might be threatened. This principle guided the first set of force augmentation proposals submitted to the Secretary of Defense by the JCS. The Army asked for an extra 150,000 men specifically for Korean operations. The Navy proposed activating an additional carrier, bringing some escort vessels and transports out of mothballs, and enlarging the Marine Corps. The Air Force described an increase from 48 to 58 wings as the minimum for maintaining defenses elsewhere and asked yet another 4 wings for Korea proper—a total of 62.[45] Pulled together hurriedly, these initial recommendations were not much different from those made when the original FY 1951 budget was in preparation.

At the time, planners in the Services continued to assume that the Red Army could go wherever it wanted, with the United States and its allies able to offer relatively little resistance. A revised emergency war plan, labeled SHAKEDOWN, endorsed by the JCS in mid-July 1950, resembled its predecessors in taking for granted the ability of the Soviets to march

through Western Europe, at least to the Pyrenees, and to make bases in the United Kingdom untenable. In addition, SHAKEDOWN envisioned serious though not crippling Soviet air strikes against the United States. The Air Force intelligence prediction that the Russians would have intercontinental missiles by the mid-1950s was part of a general estimate crediting the Soviet long-range air force with a current capability for surprise nuclear attack on some targets in the United States and a prospective capability by 1952 for staging such an attack on any continental U.S. target and by 1954 of carrying off massive raids.[46]

Having been surprised by events in Korea, the JCS and their planners felt obliged, as noted earlier, to make a realistic review of contingencies which might call for use of military force. On account of the actual or potential threat to the United States itself, they made an alteration in the basic assignment for SAC, ordering it to give first priority to destroying Soviet bomber bases and nuclear weapons storage depots.[47]

Next in priority came the European theater. Prior to the outbreak of the Korean conflict, it had been declared U.S. policy to help the British and Europeans build up adequate defense forces of their own. Military aid to North Atlantic Treaty allies had loomed large in the Administration's original FY 1951 budget. Its size had been one reason for the President's reducing allocations for U.S. forces, and Secretary of Defense Johnson had taken the position that, as the Europeans became militarily self-sufficient, the United States could cut back its own defense budget still more.[48] Other officials whose views were in any way reflected in NSC-68 felt, of course, that this policy involved grave risk, and after the beginning of the

Korean conflict such a view became that of the large majority, including the President. In August 1950, Truman invited the Pentagon to explore several proposals: The stationing of some U.S. troops in Europe additional to the small forces still performing occupation and related functions in West Germany, West Berlin, and Austria; formation of a supreme command with a combined staff, and an arrangement for some German rearmament. Thus encouraged, the JCS formally recommended dispatch to Europe of 4 infantry divisions, 1½ armored divisions, 8 tactical air groups, and appropriate naval support forces. They also advocated a German contribution and, to allay possible Allied concern, establishment of a supreme command with a U.S. general at its head.[49]

Though the State Department encountered some resistance in Europe, especially from the French, the NATO Council agreed in December 1950 to create a combined NATO force which which would be under an American supreme commander and might include German units. Truman promptly announced that General Eisenhower would return to active duty to take the post. He also announced that 4 U.S. infantry divisions would be part of the NATO force. Fierce debates broke out in public and Congress, with Senator Taft and former President Hoover not only attacking the policy of stationing troops in Europe but also questioning the President's constitutional right to take such action without explicit consent from Congress. The challenge, however, proved ineffectual. As a result, U.S. forces were so deployed as to make it a virtual certainty that if the Red Army marched on Europe the United States would be at war with the Soviet Union. In view of this prospect, the JCS charged the strategic air forces to undertake a retardation mission—

attacking advancing Soviet forces in order to delay their progress and facilitate the consolidation and reinforcement of U.S. and Allied defending units.

Though destruction of Soviet offensive nuclear capabilities had first priority in terms of SAC's allocation of resources, the retardation mission was to take priority in timing. Although some Air Force officers objected that this converted SAC into almost a tactical air force at the beck and call of the NATO Supreme Commander, the JCS voted this change without Air Force dissent, but this did not resolve the issue.*[50]

The JCS were meanwhile voicing caution about the assumption of risk elsewhere. Asserting that the "military capabilities of the United States are not adequate to its current commitments and responsibilities," they recommended limiting operations in Korea (though not necessarily confining them to southern Korea, as Kennan urged); avoiding general war with Communist China even if the Chinese intervened in Korea or attacked Taiwan, Hong Kong, or French Indochina; attempting to make the British responsible for defending Iran, at least in the first instance; assisting Greece, Turkey, or Yugoslavia in the event of Soviet satellite attacks with such U.S. forces as could be made available "without jeopardizing United States security"; and preparing to react to attacks on Finland or Afghanistan with nothing more than "political and psychological measures."[51] Prior to June 1950, the JCS had advised against assuming any risk of war in Korea, and the President had twice formally expressed his agreement; they could hardly feel confident their advice would now be followed, especially since the outcome of NSC discussions was a decision

*See below, pp. 141-42.

that specific recommendations should go to the President only when contingencies actually arose.[52] A sense that U.S. forces might have to fight in any number of places constantly informed JCS assessments of the Soviet threat and the resources required to cope with it.

In the autumn of 1950, U.S. military leaders were conducting a limited war in Korea. They were committed to general war with the Soviet Union in the event of a Soviet attack on Western Europe, and, though having advised against accepting risk of war elsewhere, they were necessarily apprehensive about other contingencies. Also, they were aware of and concerned about the possible growth of Soviet strategic offensive forces. It was in these circumstances that they began to adapt to the transformation worked by the lifting of the budget ceiling and the replacement of Johnson by the team of Marshall and Lovett.

Only gradually did military planners develop specific proposals for the bonanza that had suddenly opened. JCS submissions in September and November 1950 revived essentially the force goals that had been developed during and immediately after World War II. All of the Services proposed major increases in manpower and combat units, to be reached by 30 June 1951. The Army prepared to go from 10 to 16 divisions; the Navy from 7 to 9 carriers and from 70 to 85 submarines; and the Air Force from 48 to 68 wings.[53] Somewhat larger goals were tentatively projected for fiscal year 1954.

These proposals of November 1950 had a short life. Among factors arguing for review and upward revision of goals were the Chinese intervention in Korea, the NATO Council endorsement of the NATO force concept, optimistic

reports from the AEC on progress toward smaller higher yield warheads, prodding from a civilian Director of Guided Missiles appointed by Marshall and Lovett, and, above all, Lovett's sense that the FY 1952 budget should provide as much of the funding as possible for the buildup toward the nation's ultimate force posture.*

In early December 1950, after the passage of only 3 weeks, the JCS changed their proposal, calling not only for achievement of the 1954 goals as soon as possible, and not later than by mid-1952, but also for enlarging the target numbers adopted only the month before. The Army asked for 18 divisions and additional support units, including 100 antiaircraft battalions. The Navy raised the projected numbers of attack carriers to 12, carrier air groups to 14, and submarines to 100. The Air Force proposed going to 95 wings--6 of heavy bombers, 20 of medium bombers, 8 of strategic reconnaissance, and 61 of tactical bomber, fighter, reconnaissance, and troop carrier aircraft.[54]

By the end of fiscal year 1951, the number of men under arms had more than doubled from a year before. The Army actually had 18 divisions and 100 antiaircraft battalions. The Navy had 12 attack carriers, 14 carrier air groups, and 88 submarines. The Air Force reached a strength of 87 wings, including 25 strategic, 27 tactical, 20 air defense, and 15 troop carriers.[55]

Having meanwhile obtained funding for procurement of new weaponry out as far as 5 years into the future, the Services entered fiscal year 1952, and the period of struggle over the FY 1953 budget, with ambitious goals. The Army sought an additional three divisions. Anticipating the changes in the fleet provided for in the FY 1952 authorization--175 new

*See above, pp. 109-10.

ships, including the first Forrestal carrier, and modernization of 291 others, the Navy proposed increasing its manning levels.[56] The Air Force put forward a plan for going from 95 to 138 wings—the exact number called for in Army Air Forces postwar plans prepared during World War II. Though the military and civilian leadership of the Air Force united in declaring this objective absolutely minimal, the other Services would not acquiesce. The JCS reported to the Secretary of Defense that they could not reach agreement. He insisted that they do so.[57]

The result in October 1951 was a set of recommendations which the JCS characterized as "designed to provide, at the least possible cost in manpower and national resources a maximum deterrent to enemy aggression and, in case war occurs, give the nation a reasonable assurance of victory." Identifying the major military tasks as (1) defense of the Western Hemisphere and other essential areas, particularly Europe, (2) providing a minimal mobilization base, and (3) conducting initial strategic offensive operations "to destroy vital elements of the Soviet war-making capacity and to check enemy offensive operations," the JCS explained that the nature of the operations of the three Services made their requirements different: "The Army and Navy have had to provide for building the maximum in sustaining power and mobilization potential . . . . The Air Force has necessarily reduced its sustaining power and mobilization potential in order to concentrate the maximum of resources on the combat forces required for the execution of D-Day tasks." These were identified as continental air defense, especially against atomic attack, the strategic air offensive, and retardation. This said, the JCS proposed an Army with 21 divisions

and 117 antiaircraft battalions, a Navy with 12 attack carriers and 110 submarines, and an Air Force with 126 combat wings plus 17 troop carrier groups. Combat wings allocated to the strategic offensive force numbered 57; 29 wings were for air defense; 40 were for tactical air.[58]

Though the National Security Council approved these objectives, the principle of stretching out expenditures postponed their attainment. The Services protested unsuccessfully. McNeil estimated that the Army would in fact reach its readiness goals by some time in 1954, that the Navy would get its ships more slowly but would actually get more new aircraft per month than previously planned, and that almost all 143 wings and groups of the Air Force would be fully equipped by mid-1955. Congress's severe cutting of the FY 1953 budget, however, placed before the military establishment the prospect of lengthy delays, perhaps even requiring fresh review of Service goals.[59]

As of the end of fiscal year 1952, the Army was up to 20 divisions and 110 antiaircraft battalions. The Navy deployed 12 heavy carriers with a third or more of its 16 carrier air groups composed of late model aircraft. It also had 110 submarines. The Air Force had 95 wings—37 strategic (including 3 fighter escort wings), 20 air defense, 23 tactical air, and 15 troop carrier. Moreover, the strategic force had begun to receive the all-jet B-47s, while the air defense force, now largely equipped with F-84s, counted as having achieved almost three-quarters of planned modernization.[60]

Looking toward fiscal year 1954, the JCS meanwhile restated the force goals that had appeared in their 1951 submission. In a subsequent document,

they also reiterated that fiscal restraints would prevent the Services from achieving these goals before 1956. Addressing the possibility that French Indochina might be conquered by Communist Viet Minh guerrillas (and advocating that the United States prevent it, even if the French pulled out), the JCS observed that currently programmed U.S. forces would not be adequate to deal with such a contingency. Otherwise, however, they maintained the same confident tone as in earlier memoranda in which they counseled the Administration to take "the calculated risk of the adoption of firm and bold courses of action in the political field without awaiting further build-up of the military strength of the free world."[61]

Although the FY 1954 budget prepared in the autumn and winter of 1952-53 accommodated Congress's revived pressure for economy and provided for a more extended stretch-out, the Truman administration's last full day in office, 19 January 1953, saw the Secretary of Defense and Secretary of State join in a valedictory recommendation that "build-up of U.S. forces to presently planned levels should be completed as rapidly as practicable."[62]

At the end of fiscal year 1953, after 3 full years of greatly increased defense spending, the United States had in actuality an Army with 20 divisions and 135 antiaircraft batteries; a navy with 19 attack carriers, 16 carrier air groups, and 110 submarines; and an Air Force of 106 wings, of which 41 were strategic, 26 air defense, 23 tactical, and 16 troop carrier.

Manpower in each Service, exclusive of the portion assignable to Korean operations, was just about double what it had been in June 1950. While the number of Army divisions had doubled, the number of antiaircraft

battalions had more than tripled. In the Navy, manpower and aircraft assigned to carriers was also roughly twice what it had been, while numbers in the submarine service were half again what they had been earlier. In the Air Force, the number of strategic wings had grown more than twofold; the number of air defense and tactical air wings had increased almost threefold.[63]

The Shift to Nuclear Firepower

Changes in the size of the American military forces were accompanied by even more noteworthy changes in the makeup and orientation of those forces. They acquired large quantities of new equipment, including jet aircraft, and they shifted, at least in planning, to heavy dependence on nuclear weapons not only for strategic offensive operations but for theater operations and even for home defense.

Army officers seem to have pushed strongly for greater reliance on nuclear weapons. They had prime responsibility for planning the defense of Europe. Before the Korean conflict, they had been concerned with the question of how a line could possibly be held against the 175 divisions* credited to the Soviet Army by U.S. Army intelligence. Aware that they had few units and that the European allies were devoting even less of GNP to defense than was the United States, they based emergency war plans on an assumption that Europe would be conquered and liberated, much as in World War II.[64] The rebuilding of the Army after June 1950, together with the creation of a NATO force and the commitment of U.S. divisions as part of that force, made this earlier assumption less tenable.

*See above, pp. 37,81-82.

The Brussels conference of December 1950 had produced agreement not only on establishment of the NATO force but on the proposition that the Western allies should field 54 active divisions on the European front. U.S. Army planners believed that this was the minimum necessary for any effort to hold a line against the Russians. Almost from the outset, however, it was evident that this goal could not be attained without the formation of a large number of West German units. The French displayed great reluctance to agree to rearming Germans. It was mid-1951 before a formula was devised for a European Defense Community. Even then, the French parliament could not be brought to endorse it. At Lisbon in February 1952, the NATO Council agreed to a lower goal of 50 active divisions. Even assuming that German units would take part, and taking account of the fact that Greece and Turkey had now been added to NATO, U.S. analysts nevertheless expressed doubt that NATO could muster more than 35 divisions to oppose a Soviet offensive.[65]

In these circumstances, Army planners cast about for alternatives. One option which they did not pursue was to review and scale down the estimated Soviet threat. Careful analysis of the evidence might have produced a significantly lower estimate of the Red Army's offensive strength--even conceivably one which would have made 35 active NATO divisions seem adequate for the first phase of a war. Practically speaking, this option was not available to U.S. Army planners. Army intelligence had generated the estimate of 175 divisions by analyzing human, communications, and signal intelligence in accordance with well accepted routines. With evidence of the functioning of a divisional headquarters, analysts assumed the existence of a full strength unit unless they had significant evidence to the contrary.[66]

For the sake of ensuring that commanders prepared for the worst that might confront them, such rules made eminent sense. It would have been extremely difficult for officers concerned with plans and operations to have asked for estimates based on less cautious procedures. Especially was this so since Army officers had made such insistent use of high estimates of the Red Army in arguments with NATO allies over the Lisbon force goals and in testimony before Congress on the assignment of American divisions to the NATO force.[67] Given prevailing opinions in the executive branch manifested in NSC papers, together with the climate created by Senator McCarthy, it was probably out of the question for any responsible leader in the military establishment to have begun suggesting that the Soviets were not as formidable as generally supposed.

With that possiblity precluded, Army planners were left with no obvious alternative to pessimism other than hope that technology might somehow be exploited to offset the presumed Soviet advantage in manpower, and the most likely candidate was nuclear weaponry.

In the crisis atmosphere of June-July 1950, the Army successfully pressed for assignment of the retardation mission to the strategic air forces. The JCS prescribed that the mission of destroying Soviet strategic nuclear capabilities should have first claim on SAC resources, but the retardation mission would take priority in time. Therefore, theater commanders were able to call on the strategic air forces to attack an advancing / Soviet unit or its base of support, and the air forces were to

respond even if it meant postponing a strike on Soviet bombers or nuclear storage depots.[68]

SAC resisted the assignment. A year and more of negotiation between the Army, Air Force headquarters, and SAC headquarters produced an agreement for SAC to contribute to retardation by attacking industrial targets and government control centers as well as known targets to retard Soviet advances.[69] Never approved by the JCS, this arrangement was superseded by an understanding between LeMay and Eisenhower in December 1951, according to which Eisenhower's air commander, Lt. Gen. Lauris Norstad, USAF, would develop a specific target list to be reviewed by SAC.[70]

The capabilities of SAC grew steadily during the Korean conflict. As of 1950, the limitations of the B-36 were fully recognized. SAC and the Air Materiel Command (AMC) were giving relatively leisurely study to possible modifications in models to be purchased in fiscal year 1952. With funds from the supplemental appropriations for fiscal year 1951, the numbers of modifications authorized were increased, and delivery of the remaining 200-odd planes was hurried up. SAC and AMC had also been studying the projected B-52, hoping that the contractor could somehow come up with a design giving the plane speed in excess of 500 knots and truly intercontinental range. Even though Boeing still could not quite meet the range specifications, Air Force headquarters decided to proceed toward procurement with deliveries to begin in 1954. A similar decision was made to proceed with the B-47. Although SAC had had little hand in

developing this all-jet medium bomber, LeMay had come to regard it as the best one likely to be available soon. He believed that SAC should eventually consist of long-range bombers based in the United States and not be dependent on uncertain and vulnerable foreign bases, but he had doubts about the B-52, and he was advised that nuclear-powered aircraft would not be available for at least 10 years. Assuming that an operational intercontinental missile was at least as uncertain and perhaps believing in any case that missiles might never replace the manned bombers, LeMay came to the conclusion that SAC would be reliant for a long time on forward-based medium bombers; the B-47 seemed to him the fastest such bomber capable of carrying a high-yield fission bomb or, if it should develop, a fusion bomb. In fact, he initiated work on a Pilotless B-47 for the latter mission and abandoned it only when convinced that B-52s could do the job.[71]

Boeing, which had both the B-47 and B-52 contracts, was pressed to speed production of B-47s. Although the first operational models, delivered in 1951, turned out to have serious performance flaws, LeMay successfully pressed for accelerated procurement of modified versions, and the planes began to flow into SAC's inventory. As of September 1951, the Air Force planned to acquire no fewer than 2,700 B-47s.[72] Meanwhile SAC also obtained new escort fighters. Although the B-52 was expected ordinarily to fly alone, the B-36 and B-47 were to be escorted if flying daylight missions. The plane programmed for the mission as of mid-1950 had been Republic's F-84. In the new circumstances, LeMay argued for a plane with longer range. The result was a comprehensive

redesign, yielding the F-84F, and this, too, was ordered in such quantity that SAC's inventory of these fighters would eventually approach 600.[73] And, of course, SAC acquired a large number of tankers and reconnaissance aircraft. As of 30 June 1950, SAC had fewer than 1,000 planes, only about 30 percent of which were post-World War II models. As of 30 June 1953, it had more than 1,800 planes (including tankers), more than half of which were new models.[74]

At the outset of the period of expansion, it seemed possible that SAC would soon have more planes than atomic bombs to carry in them. Partly for this reason, in May 1951 the JCS recommended that the AEC more than double its production capacity. In actuality, the AEC was more than able to meet demands generated by SAC's growth.

Even when it appeared otherwise, the Army had given evidence of wanting its requirements to be met by means additional to or other than SAC retardation operations. A study prepared for the Army by researchers at the California Institute of Technology offered some support for a thesis that a relatively small number of NATO divisions could halt the Red Army if they made large-scale use of precisely targeted, low-yield "tactical" nuclear weapons. Even before this study had been filed, the Air Force had taken anticipatory steps to meet an Army or NATO requirement of this type. It developed a plan for modifying F-84 fighters and twin-jet, short-range B-45 tactical bombers to carry Mark 5 or Mark 8 warheads and for ensuring that newer jet fighters and fighter-bombers would be designed to carry the projected Mark 7. By the winter of 1950-51, there had been extensive

study of tactical targets for nuclear weapons, and the commanding general of the Tactical Air Command (TAC) was pressing for large outlays to convert more B-45s even though a decision had already been made to phase out the plane. Although the recommendation was not accepted, TAC did receive authority for an ambitious indoctrination and training program. In the spring and summer of 1951, Air Force headquarters directed that TAC have a small operational nuclear force in Europe by the spring of 1952, assigned this project a priority just below that of equipping SAC for the strategic offensive mission, and notified LeMay that TAC would take over from SAC a portion of the retardation mission. Subsequently, a tactical nuclear force was developed for the Far East Command, and a plan was approved for TAC's establishing a tactical nuclear wing to be based in the United States and kept ready for forward deployment on call. In the meantime, TAC pressed successfully for control of development of and training in the use of medium-range MATADOR surface-to-surface missiles capable of carrying nuclear warheads. At one time, the Air Force envisioned having 19 squadrons of MATADORs, but it had to settle for an authorized level of 9 squadrons.[75]

During 1952, TAC and SAC were in competition to provide the Army with nuclear support, for LeMay had struck his bargain with Eisenhower and had also begun to requisition F-84Fs equipped to carry lightweight warheads. In fact, he soon preempted the majority of such aircraft.[76]

In early 1953, the JCS directed that plans be made for nuclear attack on three categories of targets: BRAVO (those that would affect the Soviet ability to wage a nuclear strategic offensive against the

Jnited States), DELTA (those affecting Soviet war production capacity), ınd ROMEO (those affecting the strength and speed of advance of Soviet ıilitary forces). In principle, SAC headquarters favored emphasizing DELTA targets, but in practice, SAC planners assumed responsibility for large numbers of the more precise targets in the BRAVO and ROMEO categories.[77] SAC thus remained the dominant nuclear force within the Air Force. On account of the response of TAC to the Army's support requirement for tactical nuclear air support and because of subsequent TAC-SAC competition, the Air Force emerged from the Korean War period with offensive force programs largely designed for delivery of nuclear weapons and with the traditional distinction between strategic and tactical forces blurred.

At the beginning of this period of expansion, the Navy had only a relatively small part of its force assigned to a nuclear mission. Despite the thorough defeat of the admirals who had challenged the B-36 program in 1949, some Navy leaders continued to criticize the thesis that a strategic bombing offensive could play a decisive part in a war.[78] At the same time, the Navy had continued to develop a capability for carrier-force strategic nuclear operations. As of mid-1950, it possessed 2 squadrons each with 9 planes, fitted for carrying Mark 4 bombs. Some months after the Korean War broke out, the Navy had non-nuclear components stored aboard [redacted] In the event of

part in preparing the JCS target list joined their Army colleagues in insisting that a significant proportion of the stockpile be reserved for retardation targets, and the CNO outdid the Chief of Staff of the Army in upholding such a position within the JCS.[81] The Navy alterations in specifications for Navy aircraft do not seem to have been adaptations designed to meet requirements of theater defense under conditions of enemy numerical superiority in ground forces. They seem instead to have stemmed from the Navy doctrine of maintaining the widest possible array of capabilities for the widest possible range of contingencies. Even so, by the end of 1952, it appeared as if the Navy, like the Air Force, was in process of transforming its offensive forces primarily for delivery of nuclear weapons.

The Army leaders were not content with their role. They tended to view nuclear air support as merely an expedient pending the development of nuclear-armed cannon and missiles under the direct control of ground force commanders. As noted earlier, the Army pressed forward work on an 8-inch gun and the HONEST JOHN, CORPORAL, HERMES, and REDSTONE missiles, and Army spokesmen argued successfully for diverting some fissionable material to appropriate gun-type warheads.

By 1952, Army leaders had come decidedly to the view that tactical nuclear weapons could rectify the balance in Europe. Taking this position, they acquiesced in reducing the force goal for NATO to 39 1/3 active divisions for the central front.[82] Actual Army forces were

still, of course, equipped and trained for warfare involving primarily conventional ordnance, and, with the Army in the lead, the JCS took pains to caution the Secretary of Defense that the United States should be prepared for a variety of possibilities, not merely for general nuclear war. Still, there was evidence of a great change from mid-1950 when the Chief of Staff of the Army and his colleagues had insisted that nuclear weapons were mere"adjuncts to military forces in being." The JCS now described as among the most important of needed forces in being "those . . . capable of making early and accurate delivery of atomic weapons to the enemy at the points where they will hurt him most." At the beginning of 1953, they characterized such weapons as "essential to the success of our strategic plans."[83] The U.S. military establishment seemed in process of becoming primarily a nuclear force.

Why? The change was clearly not imitative of a change on the Soviet side, for even the most dire estimates of prospective Soviet capabilities seemed to ignore the possibility that the Soviets might develop theater nuclear forces of their own. Intelligence analysts appear to have assumed unquestioningly that the Soviets would reserve their stockpile for bombs to be used by the long-range air force in a strategic offensive directed primarily against the continental United States.[84]

Was it chiefly a defensive reaction prompted by the Soviet Union's apparent maintenance of unnecessarily large ground forces together with evidence of unpredictable adventurousness on the part of the Soviet government? Another way of putting the question is to ask whether it

seems likely that the same developments would have taken place, perhaps over a longer period of time, if the Soviet / Army had been seen as a smaller, weaker force under the control of an essentially cautious government. Probably not, for in other circumstances prudent American military planners and their civilian superiors would surely have become alert at an earlier point to the problem inherent in the notion of protecting and preserving an area such as Europe while detonating nuclear weapons on, over, or near it. The actual or prospective nuclearization of the U.S. Air Force, Navy air force, and Army does seem to have been in large part a reaction to the force posture attributed to the Soviet Union.

At the same time, it must be noted that this change also had as a necessary precondition the technological breakthroughs achieved by the AEC just when the threat of the Red Army aroused the most intense concern among American military leaders. If work on nuclear weapons had proceeded at a slower rate while work on missiles speeded up, the American military establishment would have probably deployed more missiles armed with TNT.

Still other factors affected the precise developments that occurred. Debates of the previous few years on defense spending had produced considerable evidence that budgeteers and Congressmen were sympathetic to spending money on nuclear weapons. The Joint Committee on Atomic Energy continually agitated for more reliance on such weapons. In August 1951, for example, it declared them to be "the natural armaments of numerically inferior but technologically superior people."[85] To some extent, competition between SAC and TAC speeded up and magnified the nuclearization

of the Air Force, and that competition was influenced, at least in part, by awareness of congressional attitudes that might affect long-term budget shares. The Navy's participation is partially explicable in similar terms.

After June 1950, the President abandoned his insistence that the AEC retain custody of nuclear weapons. He transferred a small number to the personal custody of the Chief of Staff of the Air Force in April 1951. Subsequently, in September 1952, he agreed that both non-nuclear and nuclear components could be turned over to the military and stored not only on carriers but at air bases abroad. The JCS welcomed the change as providing "a degree of operational flexibility and military readiness . . . heretofore considered/unattainable." [86] Had Truman not given indications from 1950 onward that he probably would not keep nuclear weapons forever out of the hands of military commanders, officers in the Army, the Navy, TAC, and perhaps even SAC might have placed much less emphasis on nuclearizing their forces.

The factors critical to the nuclearization of U.S. forces were, however, freeing-up of resources, a shared perception that there existed a threat calling for some display of military strength, and the ripening of a technology which could be adapted to this purpose.

Some individuals who might have questioned the wisdom of this choice did not do so because of their inclination to think in terms of the image effects rather than possible operational use of military forces. The military, most of whom did think more in utilitarian terms, were in the position of having to plan how to fulfill a commitment to defend any

or all of the frontiers of the "free world" against an enemy with numerical superiority and internal lines of communications. In the circumstances, especially given the fact that the new funds came so suddenly and that new financial restraints were imposed so soon afterward, it is not clear that the Services had an alternative to heavier dependence on nuclear weaponry.

This turn, however, produced two major effects. First of all, it made the United States much more clearly the military competitor of the Soviet Union. Earlier, the two states had been rival powers rather than rival military powers. Now, the United States was arming with the avowed object of demonstrating its capacity to defeat the Soviet Union if the Soviet Government should initiate a war. Secondly, it established nuclear firepower in American eyes as the primary gauge of competitive military strength.

CHAPTER V.

FROM THE "NEW LOOK" TO SPUTNIK

The Eisenhower Administration

On 20 January 1953 Dwight D. Eisenhower succeeded Harry S. Truman as President. A professional soldier, he had commanded Allied forces in Europe in World War II, served as Army Chief of Staff from 1945 to 1948, acted as Louis Johnson's chief advisor on the original FY 1951 budget, and held the post of NATO commander in 1951-52. He brought to the presidency considerable knowledge of the strategy and force posture that had evolved since World War II, some comprehension of newer technologies, personal acquaintance with many senior officers in the Services, and an understanding of--and no little cynicism about--the processes that produced the Services' force and funding requirements. Eisenhower also brought to the presidency two convictions that were often in sharp conflict with one another. First, he believed profoundly that the defense of Europe was vital to the security of the United States. He had little tolerance for those in his party who espoused the "Fortress America" concept. Second, he believed with at least equal fervor that total government spending had to be reduced; that lower taxes and a balanced budget were essential to the nation's long-term health; and that, as he often said, the United States would lose the Cold War if it had to develop a controlled economy in order to wage it.

Surrounding the President were some strong and outspoken men whom he respected not only for their judgment but for their past success in the private sector of the economy: Secretary of State John Foster Dulles, a Wall Street lawyer with formidable analytic and forensic gifts; Secretary of the Treasury George Humphrey, a forceful Ohio banker virtually obsessed by a conviction that the country faced doom if tax reductions and a balanced budget were not achieved quickly; and Secretary of Defense Charles E. Wilson and his Deputy, Roger M. Kyes, previously the chief executives of General Motors, the former a bluff, shrewd man with a reputation for getting maximum production out of his organization and the latter a manager known as a pitiless driver of men.

Encouraged by Humphrey, Eisenhower had the Budget Bureau direct all departments to do everything possible to bring the FY 1954 budget down to the level of expected tax revenues. In the Defense Department Wilson and Kyes had meanwhile discovered to their surprise that approximately $62 billion of previously appropriated funds would remain unexpended as of the end of fiscal year 1953. Kyes circulated a letter proposing that, regardless of additional appropriations, actual expenditures in fiscal year 1954 be kept below $41.2 billion. He made tentative allocations of 36 percent for the Army (continued Korean War costs included), 26 percent for the Navy, and 35 percent for the Air Force. For fiscal year 1955 he proposed that expenditures fall to $34.6 billion, 38 percent for the Army (assuming the Korean War still to be in progress), 26.5 percent for the Navy, and 33.5 percent for the Air Force.[1]

The Service responses in March were, to say the least, discouraging. The Army declared that such a limit would mean virtually abandoning Japan and reducing the NATO contribution to a token 2 divisions. The Navy said it could maintain current strength but would have to stop most construction and force modernization. The Air Force declared that it would have to reduce to a state of virtual ineffectiveness all elements except SAC. In particular, it would have to cut by more than half its promised tactical air contribution to NATO. These replies came in the form of letters from the Service Secretaries, who were all appointees of the new President. They were followed by a memorandum from the JCS asserting that such expenditure ceilings would entail unacceptable military risks. In face of such advice, even so tough and skeptical a man as Kyes felt obliged to back off. He and Wilson withdrew the projected ceilings, substituting a general injunction to the Services to keep spending within bounds.[2]

Turning instead to proposals for new appropriations, Wilson and Kyes tried to find items in the Truman-Lovett budget that could be reduced. Reviewing the huge carryover account and the Services' intended uses for their funds, they concluded that significant sums earmarked for Air Force aircraft procurement would probably not be used for years to come. They concluded, in fact, that only 120 of the Air Force's projected 143 wings could materialize by fiscal year 1956. Hence, they decided chiefly and related to remove $5 billion from the aircraft procurement category in the

proposed FY 1954 budget request for new funds and set 120 wings as the near-term target for the Air Force. By this means, by imposing new and lower personnel ceilings, by curtailing naval procurement (and even with the inclusion in the regular Defense budget of $2.0 billion which, under previous plans, would have been a FY 1954 supplemental appropriation for Army expenses in Korea), Wilson and Kyes were able to reduce what would have been a total Defense budget from $41.3 billion to a proposed $36.2 billion.[3]

The Administration action on Air Force funding provoked a strong reaction by the Air Force Chief of Staff, Gen. Hoyt S. Vandenberg. Reporters and columnists with Air Force sources publicized Vandenberg's fear that the Administration's zeal for economy would reduce the nation's airpower below acceptable levels. When the revised Defense budget went to Congress in May 1953, Democrats in both Houses assailed what they alleged to be the threatened impairment of America's nuclear deterrent. Hearings and floor debate concentrated almost exclusively on the question of whether the reduced allocation for the Air Force and the 120-wing goal would provide sufficient strategic airpower. The proposed budget survived amendments to restore some of the costs in the Air Force budget only after Eisenhower personally vouched for the military soundness of the Defense Department's recommendations. On the other items in the Defense budget, Congress strove to outdo the Administration in economizing and, in particular, cut the Army by 5 percent.[4]

Despite Vandenberg's public statements and the subsequent controversy, the defense program embodied in the revised budget remained substantially unchanged. The Administration conceded that it had been able only to make alterations of the budget at the margins. The "year of maximum danger" concept had already died. The Eisenhower administration simply advertised its death and extended a stretch-out already planned during the Truman administration. Neither Eisenhower nor Wilson nor Kyes denied this fact. They promised, however, that their "New Look" would result in substantially different recommendations for fiscal year 1955 and beyond.

For aid with this "New Look," the President appointed an entirely new panel of chiefs of staff. To replace his old comrade, General of the Army Omar N. Bradley, he named as Chairman of the JCS Adm. Arthur W. Radford, a naval aviator who had been deeply involved in the Navy campaign against the B-36 and who had subsequently been Commander-in-Chief, Pacific Command. In this appointment in particular, there seemed promise of a genuine "new look," not only because of Radford's past criticism of predominant reliance on strategic airpower but also because of his prior preoccupation with the Pacific and Asia as opposed to the Atlantic and Europe.

The President instructed the new Chiefs of Staff, in July 1953, to undertake a comprehensive and searching review of America's strategic needs. They received this directive, moreover, at a propitious time. Not only was work just beginning on the FY 1955 budget, but more importantly, the context for strategic planning had just been altered in significant ways.

The Soviet Union appeared to be entering a period of change. Stalin had died in March 1953, and the collective leadership that succeeded to power had surprised American Kremlinologists and intelligence analysts by beginning almost immediately to signal possible new departures in domestic and foreign policy--a shift of resources toward greater production of consumer goods and a move toward reviving negotiations on issues left over from the early postwar era.

Almost simultaneously, the Korean War came to an end. At the beginning of his Administration, Eisenhower's dealings with the holdover JCS had been dominated by the question of how to bring about such a result. The President had encouraged the Chiefs to recommend bold plans. In May, he had endorsed in principle their proposal to use nuclear weapons [redacted] even when he learned that they contemplated using 250 to 450 bombs. Indicating that he had not kept fully abreast of nuclear technology, he asked whether it was correct that 200 bombs might wipe out civilization. He was given reassurance that AEC scientists now believed it would take several thousand to produce such a calamity, though no one was certain. [5] The new Soviet regime rescued the President from having to test this uncertainty by acting as a go-between in revived negotiations for an armistice. In July 1953 terms were agreed upon with the Chinese and Koreans which had the effect of bringing armed conflict to a halt.

In these circumstances, the new JCS could at least attempt a fresh estimate of the Soviet threat and could consider future needs without

having to take account of an actual limited war still in progress. By the same token, they had to contemplate a future in which congressional and public enthusiasm for preparedness might well diminish in the absence of an ongoing war.

The new Chiefs started on their task by meeting together and, without the aid of staff officers, sketching their notions as to the force posture which the United States should strive to achieve and maintain. Acknowledging that their thoughts were provisional and subject to change as they examined matters in detail, Radford summarized the results on 27 August 1953, at a meeting of the National Security Council.[6]

The United States, said Radford, was militarily overextended. It was developing large strategic forces. At the same time, it maintained substantial general purpose forces in both Europe and Asia. It could not maintain such a position for an extended period, not only because of high costs, which strained the domestic economy, but because of excessive demands on the nation's pool of manpower. The existing position could not long be sustained without a peacetime draft at levels which the public might regard as unacceptable. Moreover, the overseas deployments of American forces made the United States dependent on host countries whose long-term cooperativeness was uncertain.

Reversing the position he had taken during the B-36 controversy, Radford now argued that the strategic forces were pivotal for American security. The threat of nuclear or thermonuclear attack on the Soviet Union was, he said, the principal means by which the United States

could deter not only a general war but localized probes like that in Korea. The strategic nuclear forces therefore deserved first claim on American resources.

Second in importance but closely allied, the admiral said, was continental defense. In part, this involved protection of the strategic forces so that they could strike a massive retaliatory blow even if the Soviets staged a surprise attack. In part, it involved conservation of a mobilization base so that other forces could be assembled for later stages of a war. (Radford had not swung altogether to the view that the first phase of a nuclear war would be the decisive phase.) Noting that the general subject of continental defense was under study by the NSC staff, Radford observed that it might well entail new defense programs in addition to those already under way.

In view of these priorities and of fiscal and manpower constraints, Radford continued, the United States had no choice except to cut back on general purpose forces. Numbers of military personnel should be reduced. Significantly smaller numbers of troops should be deployed in Europe, Japan, and Korea. Emphasis should be placed on the mobility of those forces retained. Also, it should be made clear to any potential enemy that if those forces were committed to battle, they would have and use nuclear firepower. The position of the United States would thus be one of dependence on a well-protected strategic nuclear force, supplemented by small highly mobile contingents of nuclear-armed general purpose forces.

While the new Chief of Staff of the Air Force, Gen. Nathan F. Twining, seconded Radford's statement, the other two Chiefs indicated reservations. Adm. Robert B. Carney, successor to Adm. William B. Fechteler as Chief of Naval Operations, cautioned that the proposed policy involved risks which might, on closer study, appear unacceptable. Observing that air forces could not stop a ground force attack, he urged "careful examination of the question whether we want to try to fight a war on the overseas periphery--as remote as possible from the continental U.S.--or greatly reduce this peripheral defense." Gen. Matthew B. Ridgway, the Chief of Staff of the Army, conceded doubt as to whether the United States could afford to make preparation for pursuing several different strategies, but, like Carney, he suggested that the current choice might be to build lines of defense overseas rather than at home. Further, he expressed doubt as to whether deterrence could be achieved by strategic weaponry and airpower alone.

By and large, the civilians at the NSC meeting found Radford's line of argument both persuasive and appealing. Despite Radford's caution that monetary savings might not materialize before FY 1955, if then, Humphrey expressed delight, terming Radford's report the best thing that had happened since inauguration day. Kyes also voiced approval. Though observing that actual withdrawal of forces from overseas stations might involve delicate diplomatic problems, Secretary of State Dulles joined in the approbation. The Executive Secretary of the NSC

summed up the reaction as favorable and said that he would now report to the President, who was then in Colorado on vacation.

In fact, Eisenhower received not only this report but also one given him in person by Secretary Dulles. Dulles reported to the NSC on 9 September that the President also reacted favorably but had serious misgivings about the political and psychological effects if American forces in Europe were prematurely reduced or withdrawn. Nevertheless, Eisenhower approved Radford's recommendation that the NSC staff take the report as a partial basis for drafting a set of general policy guidelines which the NSC could debate and possibly agree upon.[7]

The result was NSC 162/2, "Basic National Security Policy," which the NSC endorsed on 29 October 1953 and which the President approved the next day. Attempting to reconcile diverse perspectives, including those of Service staff officers who since August had had opportunity to exert more influence on the new members of the JCS, this paper made much less sharp recommendations for new departures in policy. While it asserted that American forces were overextended as currently deployed, it also observed that any immediate reductions were out of the question because of their possible effects on the morale of allies. The document called for diplomatic efforts to persuade these allies that their security would be best promoted if the United concentrated on having mobile general purpose forces and massive retaliatory strategic forces. NSC 162/2 said that the chief deterrent to Soviet aggression

against Western Europe was "...the manifest determination of the United States to use its atomic capability and massive retaliatory striking power..." It also called for emphasis on "an...integrated and effective continental defense system; ready forces of the United States and its allies suitably deployed and adequate to deter or initially to counter aggression, and to discharge required initial tasks in the event of a general war; and an adequate mobilization base; ...."

The chief new departure embodied in NSC 162/2 came in a paragraph which declared, "In the event of hostilities, the United States will consider nuclear weapons to be as available for use as other munitions." Both the text of the document and the minutes of NSC debate indicated, however, that this statement of policy was not so clear-cut as it appeared to be. Other sections of NSC 162/2 pointed out that America's allies had objections to any use of nuclear weapons and urged that at least some of them be consulted before actual use occurred.[8]

In sessions of the NSC, the President had declined to answer with a flat affirmative a question as to whether he would authorize use of nuclear weapons in event of a new flareup in Korea.[9] He and others appeared to accept the stated doctrine on the grounds that another large-scale limited war like that in Korea was highly unlikely; that any new war would result from a Soviet initiative; and that the Soviets would probably use nuclear weapons themselves. While the text of NSC 162/2 would be of assistance to military leaders who sought to persuade a President to authorize

nuclear bombardment, it did not quite guarantee that such authorization would be forthcoming.

The Administration's FY 1955 budget, completed in the aftermath of this policy review, reflected chiefly an acceleration of trends already in progress. When the new JCS developed specific proposals, with all the weight of past Service and joint staff work now bearing upon them, their force posture recommendations were almost exactly the same as those of their predecessors. At the instance of the NSC, Wilson and Kyes insisted on lower personnel ceilings. Even when the Chiefs accommodated themselves to this demand, they asked for almost $6 billion more than the President and his civilian advisers wanted to allow them. Eisenhower and Wilson finally imposed a "new look" in December with an order for still more substantial personnel cutbacks. The Army bore the brunt of the withdrawal of 2 divisions from Korea and their deactivation.[10]

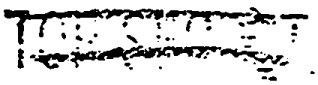
Because of the evident temper of Congress as well as altered strategic conceptions, the Administration subtracted least from the Air Force, which was allowed a 137-wing program, though on condition that it could have only 120 wings by the end of fiscal year 1955. Within this budget, SAC was to get nearly everything it asked for. While the Navy suffered reductions in both ships and manpower, it could continue building super carriers and actually increase its level of spending for carrier aircraft. The Army, however, was given a 17-division instead of a 20-division end-strength goal. The new appropriations for defense proposed

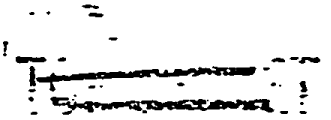
to Congress by the President totalled $31 billion--36 percent for the Air Force; 32 percent for the Navy; and less than 27 percent for the Army. Congress lopped off approximately $1 billion, mostly again at the expense of the Army.[11]

The President and most Administration spokesmen represented the FY 1955 budget as embodying a radically different strategy. Alluding guardedly to the altered doctrine on use of nuclear weapons, Eisenhower spoke of "the full exploitation of air power and modern weapons." In a celebrated speech before the Council on Foreign Relations, Secretary Dulles asserted that the United States would now "depend primarily upon a great capacity to retaliate, instantly, by means and at places of our choosing." He continued:

> Now the Department of Defense and the Joint Chiefs of Staff can shape our military establishment to fit what is <u>our</u> policy, instead of having to try to be ready to meet the enemy's many choices. This permits a selection of military means instead of a multiplication of means. As a result, it is now possible to get, and share, more basic security at less cost.

Wilson, Kyes, Radford, and Twining all argued on Capitol Hill that the Administration had found the proper formula for achieving long-term security at minimum cost. Though Carney and Ridgway voiced reservations, they did so in muted tones. Efforts by a handful of Representatives and Senators (notably, Hubert H. Humphrey of Minnesota and John F. Kennedy of Massachusetts) to provide more money for the Army were handily defeated. By and large, Congress and the country appeared to accept the "New Look" as, in fact, new and, in general, acceptable.





In fact, even with the severe reduction imposed by Eisenhower and his aides, the FY 1955 budget did not involve significant new departures. It placed primary reliance on strategic offensive nuclear forces. The cut in Army divisions from 20 to 17 followed from the impositions of reduced personnel ceilings required by budget constraints. The most that can be said is that the "New Look" budget stepped up the trend toward greater investment in nuclear forces and reduced investment in general purpose forces. This process gave the Air Force a distinct lead over the other Services

Despite the testimony that they gave, the Joint Chiefs of Staff and the Services were not content with the budget they defended or with the notion of accommodating themselves to ceilings based on Secretary Humphrey's principle that a balanced budget and lower taxes took precedence over defense. The JCS used every occasion to combat this principle and to argue that defense needs came first. Leaders of the Army and the Navy were both intent on somehow reclaiming larger shares of the budget, and many Air Force officers, despite the favored position of their Service, remained discontented with the spending limits imposed by the Administration. In all of the Services there was genuine feeling that the Administration was prepared to sacrifice security for the sake of economy, and that any opportunity should be seized if it offered promise of reversing these priorities. The

opportunities were to present themselves in the form of technological advances by the Soviets.

Challenges to the "New Look"

In the midst of its efforts to advertise the "New Look" as a formula for long-term security, the Eisenhower administration confronted a succession of international issues which raised questions about its force planning.

Early in 1954, soon after the President's budget message and Secretary of State Dulles's "massive retaliation" speech, a question arose as to whether or not the United States should employ military force in Southeast Asia in support of French efforts to retain control of Indochina. Ever since 1946 the French had been at war with the Viet Minh, a Communist-led force championing independence. Because it seemed essential to do so if the French were simultaneously to build up their military establishment at home and contribute to the collective defense of Europe, the American government had, without much enthusiasm, supplied money and arms for the campaigns in Indochina. Officials of the Truman administration, and Eisenhower as NATO commander, had meanwhile exhorted the French to grant the colony self-government and thus encourage a non-Communist nationalist movement. In response, the French had made grudging changes which were largely superficial. Viet Minh strength had steadily risen, and now the French seemed in danger of losing at least the entire northern

part of the colony. Major elements of the French Army were surrounded and under siege in the fortress of Dienbienphu. Although officials in Paris and French generals in Indochina voiced optimism about the ultimate outcome, they were suggesting as early as December 1953 that the United States lend overt aid at least in the form of air strikes against Viet Minh artillery positions.

Eisenhower's initial reaction was strongly adverse. He felt that any intervention would require ground troops, and he said that he was opposed in any and all circumstances to committing ground troops in mainland Southeast Asia. At this juncture, no one in the Administration other than JCS Chairman Radford spoke up even for providing air support. By the spring of 1954, however, it had become evident that the force at Dienbienphu was in a desperate condition. For a time, the JCS gave serious consideration to possible means for intervening, including use of nuclear weapons against Viet Minh strongholds. Secretary of State Dulles, who had originally taken the position that unilateral American intervention was out of the question, began instead to say that, if Dienbienphu fell, the consequences might be intolerable. All of Southeast Asia might be taken by Communists, and the United States might be seen as having shown lack of will. Vice President Richard M. Nixon leaned toward action of some kind. The President himself remained opposed to unilateral intervention.[12]

There was, however, no decision for intervention. The JCS remained divided, with Army Chief of Staff Matthew B. Ridgway particularly vehement in arguing that air support alone would be inadequate. Congressional leaders indicated that they could support intervention only if the French conceded independence to the colony and if the United States acted in concert with other allies besides France. Neither of these conditions could be fulfilled before May 7 when Dienbienphu surrendered.

In subsequent diplomatic negotiations, Indochina was partitioned, with the French departing, the Communists assuming control of North Vietnam, and independent non-Communist regimes taking form in South Vietnam, Cambodia, and Laos. In September 1954 a treaty was signed at Manila, binding the United States, Britain, Australia, New Zealand, the Philippines, Pakistan, and Thailand as members of the Southeast Asia Treaty Organization to concert measures for defense of Southeast Asia. In contrast to the North Atlantic Treaty, this pact was vague as to the actual mutual defense obligations of the signers. It was vaguer still with regard to what they would do to defend the nonsignatory governments of South Vietnam, Cambodia, and Laos. Nevertheless, this treaty committed the United States in indefinite fashion to concern itself should there be an attack upon or a serious effort to subvert non-Communist regimes in Southeast Asia.

Not long afterward, the United States accepted a more precise engagement to defend the Chinese Nationalist government on Taiwan. Before, during, and after the presidential campaign of 1952, various

political figures, mostly in the Republican party, had assailed the Truman administration for taking the stand that the United States would patrol the Taiwan Straits to prevent either Chinese government from attacking the other. There was much talk about "unleashing" Chiang Kai-shek to reclaim the mainland. The Eisenhower administration early announced that its objective would be only to prevent the Communists from attacking the Nationalists. Partly further to gratify the admirers of Chiang in the United States, partly to exert influence so that Chiang would embark on no foolhardy adventures, partly to secure a base, and partly to guarantee Taiwan's aid in the event of war, the Administration took the added step of negotiating with the Nationalists a mutual defense treaty.

At the end of 1954, when treaty discussions were in the final stages, the Communist Chinese began to shell various offshore islands garrisoned by Nationalists. While the Nationalists relinquished the Tachens in the northern sector of the Taiwan Straits, they declined to give up the Quemoy and Matsu islands in Amoy harbor. Communist bombardment of these islands intensified after the American-Nationalist mutual defense treaty came into effect, and the Administration faced the question of what, if anything, to do should the Communists attempt to invade and seize these Nationalist outposts. The question remained unresolved. The President and Secretary of State declared that their course would depend on whether or not they interpreted the Communist action as preliminary to an attack on Taiwan itself. Military planners

meanwhile considered options for possible naval and air action, including nuclear strikes against targets on the Chinese mainland. The Communists, however, made no attempt to seize the islands and in time cut back on the scale of their artillery bombardment. [13]

Neither in Indochina nor in the Taiwan Straits did the United States resort to military action. There was thus no practical test of how well American forces could have performed. The fact that in both instances JCS thinking included an airborne delivery of nuclear weapons might have suggested, however, that the nation's force posture was not particularly tailored to such contingencies.

Other events of the period further highlighted the fact that American forces could not be designed for all situations that were realistically foreseeable. Concern had arisen in 1953 lest the premier of Iran, Mohammed Mossadeq, ally with Communists and make his oil-rich country a voluntary satellite of Moscow. In retrospect, the likelihood of such an alliance or of such a result, even if the alliance did take form, appears to have been exaggerated. In any event, [redacted] contributed to Mossadeq's overthrow and the installation of a resolutely anti-Communist government. In 1954, [redacted] overturned a government in Guatemala which was thought prepared to let the country become a base for Communist subversive activity in the Americas. In neither instance did overt military intervention ever become a subject for serious planning.

If [redacted] however, as it might have in Iran, the Administration would have had to consider what appropriate military action it could take with forces that were becoming more heavily nuclearized.

Major problems also faced the United States in determining what might be an adequate and effective mixture of forces for contingencies in Europe. 1953 passed with France still failing to agree to creation of the proposed European Defense Community, and this despite Secretary Dulles's open warning that, if EDC did not materialize, the United States would have to make an "agonizing reappraisal" of its commitment to defend Europe. In 1954 the French parliament rejected the plan. For a time, officials in Washington debated whether to formulate plans that counted France a neutral rather than an ally. The French, however, brought themselves to accept a somewhat different scheme which had the practical effect of permitting 12 West German divisions to be formed as part of the NATO defense force.

This development brought with it some promise that the original goal of NATO might be attained, i.e., to make Europe defensible against an attack by the Red Army. Increasingly, however, the American contingent was taking a shape that made it less suited for such a purpose. On the one hand, strategists in Washington were openly talking of the NATO force as a "trip wire" or "plate glass wall," the function of which was not to hold a line but merely, by being attacked, to trigger a strategic

nuclear offensive against the Soviet homeland. On the other hand, American commanders, including those with NATO hats, were making arrangements for wholesale tactical use of nuclear weapons, creating a vision of a campaign that could leave much of Europe a radioactive desert.

The European allies made known to Washington their concern about these tendencies. Secretary Dulles reported their desire for assurances that the President would not authorize use of nuclear weapons without their consent. When the American government responded that it respected their wishes but could not so completely constrain itself, the allies began to press for arrangements which would ensure that they had a voice and, if possible, veto over any use of nuclear weapons. In Washington, there was a tendency to interpret these initiatives as indicating that the allies were becoming reconciled to the idea that nuclear weapons would be used, and this interpretation was not wholly without foundation, for many British and European military officers did gravitate to the view that no distinction should be made between conventional and nuclear ordnance. By and large, however, leaders in the NATO capitals were seeking some means of preventing use of nuclear weapons within the European theater. As they became more and more nuclearized, American ground, air, and naval forces thus became less and less suited for the kind of war which Allied leaders preferred to fight if the Russians actually attacked.

For this and many other reasons, increasing friction developed between the United States and some of its NATO partners—the British, the Belgians, the Dutch, and especially the French. In each case, it was exacerbated by open American criticism of European colonialism and by American dealings outside of Europe with factions and governments hostile to the imperial policies of European states. The extent of strain was to become fully manifest in 1956, when the United States wooed an Egyptian government that had seized the Suez Canal, the French and British and Israelis surprised Washington by suddenly staging a military attack on Egypt, and the United States compelled them to halt by forcing a cease-fire resolution through the United Nations.

Through the preceding years, the relationship between the United States and its European allies had gradually undergone a profound change. In the period of the Marshall Plan and the North Atlantic Treaty and even the early Korean War through 1951 and 1952, the American government had acted as a backer of Western Europe, offering, in effect, to do what it could to help the Europeans achieve what they wanted to achieve--recovery, security, etc. Sometime in the early 1950s, the United States became instead a leader, cajoling, exhorting, even and/bullying the Europeans to do what the American government conceived to be in their best interest and, more broadly, in the best interest of the "free world"—spend more on defense, achieve a greater degree

of unity, both military and economic, come to terms with nationalism in the less developed world, and take part in containing communism, wherever it threatened to expand.

By the mid-1950s, the United States had assumed an altered and much larger role in world affairs. With varying degrees of explicitness, it had assumed commitments in all parts of the globe, and it was confronting the presumed Communist bloc as leader and protector of virtually all states and territories not already under Communist governments.

That the United States had taken on such a role and that its military forces might not be adequate or well-suited for the wide variety of contingencies this role could entail seems somewhat more obvious in retrospect than at the time, but it did not go unnoticed by contemporaries.

Some senior Army officers began to question not only the general trends in defense policy but those within their own Service. Having been MacArthur's successor in Korea, General Ridgway had recent experience of a war in which the nuclear arsenal was not used. He had found the accuracy of tactical bombing in support of ground troops such as to raise questions about whose forces would have been destroyed if nuclear weapons had been used, and strategic bombing, in the form of raids on North Korean dams and hydroelectric plants, though admittedly waged with conventional ordnance and in

an industrially backward country, had not seemed impressively effective. Hardly had Ridgway come back to Washington as Chief of Staff in July 1953 when he confronted the problem of Indochina. In contrast to his colleagues in the JCS and some of his own staff, he remained wholly unconvinced that airpower and nuclear weaponry could prove decisive in a theater which, after all, bore some resemblance to the one in which he had just fought a war. He was equally unconvinced that available weaponry was suitable for the task of holding the Chinese offshore islands, and he sensed from discussions with Europeans some of the problems latent in ground force planning that assumed nuclear fire support.[14]

All the while, Ridgway was experiencing the pressures for economy which, given the rationale for the "New Look," pinched the Army more severely than the other Services. He was compelled to accept the 20-percent cut in programmed manpower for fiscal year 1955. In the last stages of preparing the FY 1956 budget, he was told that there would have to be another cut of almost equal size and that Army end-strength in manpower would be fixed in the neighborhood of one million. Though Eisenhower allowed him to appear in person before the NSC in December 1954 to protest these cuts, his words had no effect.[15]

When Ridgway went to Capitol Hill in the early part of 1955 to testify on the Army budget, he came close to voicing protest not only against the specific manpower reductions but against the whole theory that the policies of the United States could be adequately supported

by armed forces shaped to the "New Look." His actual language was sufficiently guarded to protect against a charge of launching a "generals' revolt," but his meaning could be understood. Probably, too, there occurred private exchanges between Army officers and potentially sympathetic Representatives and Senators. The thesis implicit in Ridgway's testimony was picked up by a few of the latter in speeches on the floor. The only tangible result, however, was congressional action adding to the manpower of the Marine Corps and the capability of the Navy to land troops on a hostile shore.[16]

Ridgway was not wholly alone in the Administration. Another Army officer, Brig. Gen. Charles Bonesteel, III, served as a representative of the Secretary of Defense on various NSC boards. In October 1954, he circulated to others in the Office of the Secretary of Defense a memorandum raising the basic question of whether wisdom and prudence did not dictate a force posture that would give the President the option of fighting a war without resort to nuclear weapons. His colleagues told him sharply that the matter had been decided and that the nation simply could not afford such an option.[17]

Before retiring as Chief of Staff at the end of June 1955, Ridgway wrote a long letter to the Secretary of Defense, protesting the drift of U.S. defense policy.[18] This, too, produced no effect By the time the FY 1957 budget went to Congress in early 1956, Ridgway had retired. As a private citizen, he became an outspoken critic, writing magazine

articles and a book attacking the "New Look," the priority assigned to strategic forces, and the degree of reliance on nuclear weaponry. His successor as Chief of Staff, Gen. Maxwell Taylor, meanwhile testified to similar effect on Capitol Hill. He went so far as to lay out some specifics of Army staff thinking as to a more suitable force posture—an increase from 17 to 28 divisions, a substantial increase in stocks of conventional ordnance and artillery, including guided missiles, and increases in airlift and sealift capability. Although Ridgway and Taylor both made the point that even a war in Europe need not necessarily entail all-out nuclear exchange, neither man voiced doubt about prevailing notions on the size of the Red Army or quarreled with the concept of relying on nuclear firepower in Europe to compensate for inferiority in numbers. The basis of their plea was chiefly an argument that the armed forces should be designed for a variety of contingencies, among which all-out nuclear war was only one.[19]

Ridgway, Taylor, and other Army officers taking their line found some sympathizers in Congress and among the attentive public. Despite Eisenhower's own popularity, the Democratic opposition had won control of Congress in the 1954 elections. Democrats were eagerly in search of issues for the congressional and presidential election of 1956. Moreover, large numbers of journalists, columnists, academics, and others interested in international affairs were opposed not only to the Republican leadership in Congress and members of the Cabinet but to the President

himself. Attacks on his defense policy from officers in his own Service should have seemed made to order for the purposes of partisan Democrats and other opponents of the Administration.

The issues raised by Army officers did not, however, receive the attention they might have received, for Air Force officers simultaneously broached other issues which had greater appeal for politicians and members of the public. These were the issues for which the catchwords were, first, "bomber gap" and, somewhat later, "missile gap."

The "Bomber Gap"

Up to 1949 the Government had devoted little study to possible Soviet nuclear capabilities. There was general recognition that the question was important. When the Central Intelligence Group was established by the President in 1946, it had a specific mandate to investigate foreign development of nuclear weapons. Lacking capability to do so, this group in 1947 transferred the task to the Army Air Forces. In 1948 the newly independent Air Force asked for $40-45 million with which to develop a surveillance network. In the spring of 1949 the JCS labeled the endeavor one of "major" but not "critical" importance, and the Defense Department Research and Development Board planned to allocate less than $20 million for the purpose. Before a decision was made, air sampling turned up indications of the Soviet test of August 1949. Thereafter, the Air Force received almost everything it asked for the purpose and by the end of 1953 had more than 100 stations around the globe, collecting

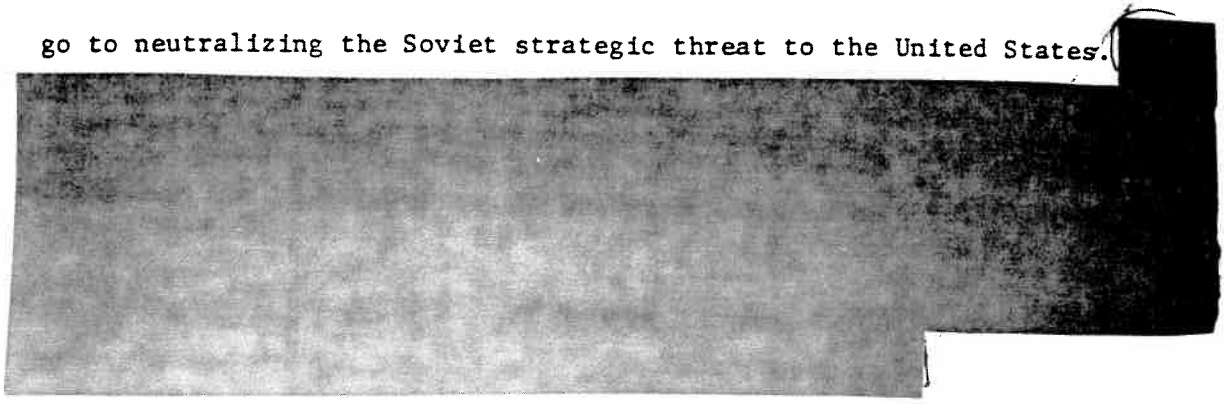
data of various kinds which permitted relatively confident judgments not only on the occurrence of each Soviet test but on its approximate location, the position of the burst, and the yield of the weapon.

Once knowledge about the Soviet nuclear program came to be urgently sought, importance also became attached to information about Soviet production of fissionable material. In January 1950 the JCS pronounced this a "primary" intelligence objective. In the aftermath of the surprise attack on Korea, concern about a possible "nuclear Pearl Harbor" also came to be widely voiced. In response, the JCS set as a high priority objective for the intelligence services the acquisition of information about Soviet strategic delivery systems.

Although the Army had a role in continental air defense, it was the Air Force that undertook this high priority intelligence mission. [redacted] were mined for evidence concerning Soviet aircraft production and the characteristics, movements, and location of Soviet bombers. Germans, especially engineers, returning from the Soviet Union were interrogated on these subjects. In addition, of course, information was sought about Soviet strategic defensive systems. By 1953 Air Force Intelligence was beginning to accumulate material relating to Soviet research on missiles, including not only surface-to-air but surface-to-surface weapons.[20]

Air Force Intelligence and a relatively autonomous intelligence organization at SAC headquarters had an independent interest in data

on the Soviet Union to be used for targeting purposes. The new emergency war plan adopted just after the opening of the Korean conflict had specified that first priority in an American strategic offensive should go to neutralizing the Soviet strategic threat to the United States.



The targets division of Air Force Intelligence contained officers and civilians who favored counterforce targeting as opposed to area bombing. They made strenuous efforts to locate airfields and other suitable targets, and they, too, were relatively successful. One of the civilians testified that the division had by May 1953 identified targets for 2000 atomic bombs.[22]

To supplement information from these sources, the Air Force made some efforts at aerial reconnaissance. The precise extent of these efforts is unclear. One veteran Air Force intelligence officer asserts that a secret program of overflights was authorized by LeMay and the Chief of Staff, with approval from the Secretary of Defense and the President. He says that several hundred reconnaissance missions were flown over Soviet territory in the early 1950s. No documentary evidence of such a program has come to light. General LeMay, when questioned, mentioned only one episode in which reconnaissance aircraft were mixed with others in a scramble

over Vladivostok. No other person interviewed on this subject recalled seeing in the early 1950s aerial photographs which were clearly neither from German files nor results of slant photography by U.S. or British planes flying along Soviet or East European borders, nor did anyone recollect sensing that any SAC or Air Force intelligence officers possessed information not available to other fully cleared members of the intelligence community.[23] Further, although the Soviets loudly protested flights near their borders and shot down several Air Force and Navy planes alleged to have trespassed on the edges of their air space, they did not make more sweeping charges.

An East German book on Western aerial espionage, possibly inspired by the Soviet KGB, mentions only incidents that were subjects of protest at the time.[24] One has to conclude that, if the United States conducted large-scale aerial reconnaissance over the Soviet Union in the early 1950s, it enjoyed extraordinary and continuing success in preserving the secrecy of the operation.

Air Force Intelligence did, however, lead the nascent intelligence community in collecting and analyzing information about Soviet military capabilities. Though the CIA had a Scientific and Technical Group which assembled data on Soviet nuclear physics research, it was generally understood when the intelligence community took form after 1947 that assessment of Soviet military strength would be done by the armed Services. Nevertheless, a significant independent capability for estimating Soviet

military forces developed within CIA. In its Office of Science and Technology, some analysts became experts on the Soviet aircraft industry. In some instances, they were technicians who had previously worked for American aircraft companies. One of their basic techniques was to study the operations of those companies and then to piece together fragments of intelligence for the Soviet Union on the assumption that there were basic similarities. At the same time, economic analysts in CIA's Office of Research and Reports developed data about resource constraints affecting Soviet defense production--raw materials, transportation, machine tools, skilled manpower, etc. John Foster Dulles's brother, Allen Dulles, who became Director of Central Intelligence in 1953, insisted, however, on preserving the rule that military estimates should come from the Services. Since the Air Force was the most keenly interested Service in Soviet strategic forces, this meant that the Air Force had the lead role in preparing estimates of those forces.[25]

Given the new budget stringency, Air Force officers had incentives for erring, if at all, on the high side rather than the low side. It is reported that a study undertaken in 1953, code-named ARCTIC YOKE concluded that the Soviet long range air force could use its Arctic bases only 6 weeks in the fall and 6 weeks in the spring and, even if the Soviets staged an attack during one of these two periods, not more than 1 percent of their bombers would get through. A decision

is said to have been made in Air Force headquarters to suppress the results of this study.[26]

In the early 1950s, the air attaché in Moscow had begun reporting indications that the Soviets were not satisfied with the TU-4 (Bull), the copy of the B-29 which was the standard bomber in the long range air force. The attaché sent back a photograph of a Bull modified to be powered by turboprop engines. In 1953 he sent another photograph which was too fuzzy to be of much use. Only much later did interpreters in Washington appreciate that it showed a prototype of a wholly new all-jet 4-engine bomber, the Mya-4 (Bison).[27]

Through the winter of 1953-54 most American officials and outside students of military affairs assumed that the Soviets lagged well behind the United States in design and production of long-range aircraft. They were aware of Soviet success in developing jet fighters, especially the MIG-15, which had performed well in Korea, and they had learned late in 1953 of an all-jet medium bomber, the TU-16 (Badger), which had reached the stage of flight testing. Most intelligence officers assumed that the Soviets would probably develop a relatively slow long-range bomber akin to the B-36. Even though the results of the Air Force ARCTIC YOKE study were not widely known and even though the authors of National Intelligence Estimates estimated that the Soviets could get up to 850 Bulls over targets in the United States if they flew them from all conceivable forward bases and if they either

dispatched the planes on one-way missions or equipped them for refueling, few analysts actually thought that the Soviets had or soon would have a real capability for large-scale intercontinental strategic warfare.[28]

The chief warning came from the Air Force, whose Chief or Staff informed an NSC meeting in February 1954 that the Soviets might be developing a bomber with characteristics somewhere between the B-47 and B-52. Citing the difficulties which American manufacturers had encountered in producing such an advanced plane, the President commented that he thought such a development unlikely.[29]

Then in April 1954 the Soviets put on display a model of their new Bison. The Director of Central Intelligence had to concede the Soviets were making more rapid progress in bombers than most intelligence officers had anticipated. The JCS circulated a memorandum saying that this new evidence concerning the potential Soviet strategic threat argued for an upward revision in the American defense budget. Outside of the Air Force, however, most intelligence officers believed the Bison to be still in the prototype stage and years away from actual series production.[30]

On May Day, 1955,the Soviets put in the air over Moscow not only several Bisons but also several models of the large turboprop TU-95 (Bear), which had not theretofore been sighted at all. This "fly-by" seemed to indicate that the Soviet Union was now engaged in full production of new, long-range bombers. While the Bison was thought by American aircraft specialists to lack the range for unrefueled intercontinental missions, the Bear was judged to be a genuine intercontinental bomber.

There developed a controversy between Air Force Intelligence and the CIA over numbers of Bisons and Bears which the Soviets were likely to produce. Air Force analysts took the view that the Soviets could force the pace of production, as in fact they had done with Bulls. Citing problems encountered by American manufacturers, constraints on factory space, and other claims on Soviet resources, CIA analysts predicted lower levels of output, particularly of the Bear. Because of Allen Dulles's view that the military Services should lead in evaluating intelligence, National Intelligence Estimates after May 1955 incorporated the Air Force forecast that, within 3 years, the Soviet Union would have 350 Bisons and 250 Bears and could launch a surprise attack in which 380 of these bombers, minus combat losses, would reach targets in the United States. (In actuality, the numbers in 1958 were to be 50 and 105.)[31]

Despite Allen Dulles's attitude, doubts about these numbers felt by CIA analysts were communicated to other people in the government. Faced with urgings from the Air Force that B-52 procurement be accelerated and other spending approved to strengthen SAC, Secretary of Defense Wilson responded that he did not believe a real Soviet strategic threat would materialize before 1960 at the earliest. Consistent with the principles of the "New Look," Wilson allocated to the Air Force much the largest share of the proposed FY 1957 budget (46 percent); but he insisted that the budget total not exceed $35 billion.[32]

In the circumstances, and with the President firmly backing Wilson, Air Force officers decided to make an appeal to Congress and the public.

LeMay felt passionately that the United States should maintain a long lead in strategic offensive forces, and the Administration had already angered him by slowing down procurement of B-52s and trimming allocations to SAC in order to transfer resources to missile research and continental defense. Many Air Force officers shared his attitudes. Others saw in possible congressional and public alarm over the Soviet threat a means for increasing the total Service budget with benefit to other elements besides SAC.

Journalists, such as the brothers Joseph and Stewart Alsop, with sources high in the Air Force, began to write of a prospective "bomber gap"--an approaching period when the Soviet Union would have more intercontinental bombers than the United States. This theme was taken up by some academics. It was then played with force by Air Force witnesses, including LeMay, during congressional hearings on the FY 1957 budget early in 1956.

To Democratic politicians and others disposed to criticize the Administration, allegations of a "bomber gap" had much more appeal than did the issues raised by Ridgway, Taylor, and other Army officers. The public could more easily understand and respond to warnings that its safety was in danger. The obvious remedies entailed more production and more jobs and not unpalatable recourses such as reinstitution of conscription.

In debate in the House, a few members called for amendments to increase general purpose forces, but more was heard of need to

increase allocation for strategic bombers. In the Senate, the latter was almost the only theme sounded. Senator Stuart Symington, a former Secretary of the Air Force and an aspirant for the Democratic presidential nomination, assumed the lead, and others ambitious for higher office echoed his words. The Senate agreed to create a special committee under Symington's chairmanship to investigate the state of American airpower. Predictably, its Democratic majority reported that the Administration was being dangerously niggardly toward SAC.[33]

The House and Senate ended up voting $900 million more for the Air Force than the Administration had requested--$800 million for procuring aircraft, particularly B-52s, and $100 million for research and development, chiefly for missiles. Nothing was added to the budget for the Army or Navy. Indeed, $100 million was cut from the Army budget and $50 million from the Navy budget.

The Army persisted for a time in questioning the doctrine underlying force posture plans. On 24 May 1956, General Taylor went to the White House to make, in effect, a final appeal to the President. He argued that by 1960 the Soviet Union would have enough thermonuclear bombs to create a condition of mutual deterrence. Looking toward such a condition, he pleaded, the United States should prepare for a war to be fought with conventional ordnance. Eisenhower, however, gave him no encouragement. At the outset of any war with the United States, he insisted, the Soviets would use nuclear and thermonuclear weapons for a surprise attack, and the United States would have to retaliate. He discounted the possibility of any lesser war, saying that he could not envision a case in which the

United States would commit more than a few battalions of ground troops. Even in such a case, Eisenhower said, he assumed that tactical nuclear weapons would be used. Taylor was told to reconcile himself to the fact that the Army no longer had a leading role in war planning.[34]

One buttress for Taylor's position collapsed soon afterward. Since most of the NATO governments found it politically impossible even to fulfill their existing commitments to the standing force, let alone increase them, and since the American government made acceptance of its doctrines a virtual precondition for military and economic aid, the NATO defense ministers agreed in principle both to the "plate glass wall" conception of the NATO standing force and to planning based on an assumption that tactical nuclear weapons would be employed.

In the circumstances, leaders in the Army altered their tactics. They ceased to raise questions about use of nuclear weapons. Indeed, Taylor proclaimed that American divisions would henceforth have a "pentomic" organization, with nuclear artillery integral to each. The only issue which Army officers continued to press concerned possible preparation for small-scale wars outside of Europe.

During all this time, naval officers took little or no part in the debate. Within the Service, the trend in thinking was somewhat like that in the Army. Indeed, Navy planning seemed to concentrate less and less on the contingency of a nuclear war with the Soviet Union. In July 1955 the Service officially abandoned the principle that all or almost all carrier aircraft should be fitted to deliver nuclear weapons. The Chief of Naval Operations limited to six the types of

fighters to be so equipped. The surface Navy's capability for nuclear warfare was still to be substantial, based on a projected total of more than 800 A4D, AD. A3D, and F3H fighter bombers, but the carrier fleet was to be prepared primarily for missions other than strategic bombing and was to be prepared also to fight wars in which there was no resort to nuclear weapons. The assumption at the upper level of the Navy was that, if the Service's role in strategic warfare expanded, it would be through growth of the nuclear submarine force and development of submarine-launched ballistic missiles.[35]

The Navy stayed out of the debates of 1955-56 because naval officers had no incentive to be openly critical of the Administration's force posture plans. The budget trimming associated with the "New Look" did not affect the Service's primary interests. The construction of supercarriers and the modernization of Midway- and Essex-class carriers was not to be interrupted. New types of carrier aircraft were to be acquired just about as soon as they could be produced. Nuclear submarine construction was to proceed on schedule, and there were to be adequate funds for research on missiles. Reductions in funds and personnel could be absorbed chiefly through cutting back on the amphibious fleet, trooplift capability, and antisubmarine warfare forces, none of primary concern to the Service's leaders. Remembering the results of the admirals' revolt, moreover, naval officers felt a positive incentive to avoid entering into renewed doctrinal debate with the Air Force. Hence, the Navy did almost nothing to promote questioning of the strategy to which the Administration and the Congress appeared to be committed.

The mold remained fixed. For fiscal year 1958, the Administration proposed new appropriations of $36.1 billion, but Eisenhower and Treasury Secretary Humphrey said publicly that they thought this total included some fat. Thus encouraged, Congress made reductions that brought the total to $33.7 billion. Nearly all the trimming came at the expense of nonnuclear general purpose forces.

With the Navy silent, the Army had been unable effectively to challenge the policy of placing chief reliance on strategic nuclear forces. Within the Administration, in Congress, and among the informed public during 1955-57, the allegation of a "bomber gap" focused congressional or public debate on the relative standing of the United States and the Soviet Union in strategic nuclear offensive forces. It turned attention away from the question of whether predominant emphasis on such forces produced a defense posture suited to the foreign policies to which the United States had become committed. Meanwhile, missile technology continued to progress, bringing ever closer a day when the United States might face obliteration, regardless of the level of its own capabilities for destroying other societies.

The Advent of Strategic Offensive Missiles[36]

When the Eisenhower administration took office, the research on guided missiles funded after June 1950 was beginning to promise fruit. The Navy was on the verge of actually deploying the 500-mile range, aerodynamic REGULUS on board a submarine. The Army was well along in work on the 200-mile-range REDSTONE, a highly mobile surface-to-surface missile. The Air Force had in progress a MATADOR cruise missile

of about the same range, the aerodynamic RASCAL designed for air launch, and three intercontinental missiles: the subsonic SNARK and supersonic NAVAHO, both aerodynamic, and the ballistic ATLAS. Among Air Force officers directing missile research, the three were regarded as sequential--the SNARK to come on line in 1953, the NAVAHO to succeed it around 1959, and the ATLAS to materialize in the mid-1960s. Tests of SNARK prototypes in 1952 had, however, had mixed results. The potential delivery date for operational missiles had slipped to late 1955 and was still moving. The NAVAHO program was also having trouble, and the ATLAS was still at an early stage of design.

Prospects for any long-range missile remained doubtful. In 1945, an Army Air Forces Scientific Advisory Group under the chairmanship of Dr. Theodore von Karman had questioned whether an intercontinental ballistic missile would ever prove feasible. Though many specific doubts of that earlier period had since been allayed, there were still no guidance systems able to ensure high accuracy even to missiles of shorter range. While the AEC had demonstrated ability to produce fission warheads which could be married to missiles, it seemed to be a long way from producing appropriate thermonuclear warheads, the explosive power of which could compensate for shortcomings in accuracy. The missiles of aerodynamic design were limited in speed. While ballistic missiles could travel at very high speeds, it seemed questionable that any warhead they carried could actually go into space and return to the atmosphere without being destroyed by friction and heat. A committee headed by Dr. Clark Millikan of the California Institute of Technology

reviewed the evidence during 1952 and concluded that very-long-range missiles were feasible but that they should be expected to achieve accuracies measurable in miles rather than feet and that no ambitious development effort should be undertaken until many technical problems had been overcome.

Although missile programs still involved relatively small sums, they naturally came under scrutiny during the period of the "New Look." Partly for budgetary reasons, partly because of Air Force objections to possible competition with its own missions, the Army was told by the Secretary of Defense that it could not adapt REGULUS missiles to its purposes. Apparently after discussion of programs at an Armed Forces Policy Council meeting and some pressure from OSD, the Air Force cut its guided missile programs from $485.5 million to $385.4 million for fiscal year 1953 and revised its fiscal year 1954 program--downward to $271.8 million.[37]

No doubt there existed among some Air Force elements doubt about the future role of guided missiles. The leaders in the Service were pilots, naturally skeptical about unmanned aircraft. Because of fear that a manned bomber could not drop a thermonuclear device and get away safely, the heads of SAC and the Air Research and Development Command had embarked on a serious effort to develop drones for such missions. As soon as they learned that their fear was baseless, however, they had abandoned that enterprise.[38] When paring the budget for fiscal year 1953 and fiscal year 1954, the heads of the Service were prepared to eliminate the SNARK altogether rather than pursue attempts to improve its faulty guidance system.

Among missiles earmarked for continued investment were ones complementary to bombers--the air-launched RASCAL and a new air-launched CROSSBOW specially designed to strike against enemy radar. Given the more than 250 men assigned to the project at Oak Ridge, the nuclear-powered manned bomber seemed still to have a high development priority in competition with surface-based missiles.[39]

Just as the "New Look," combined with lack of high-level interest in the Air Force, seemed likely to stall missile programs, however, two important technological developments intervened. The first had actually occurred in 1952. Dr. H. Julian Allen of the Ames Laboratory of the National Advisory Committee on Aeronautics came up with the "blunt nose" principle which offered hope of solving the reentry problem for warheads on high-flying ballistic missiles. Secondly, and with more immediate impact, the AEC demonstrated in a series of tests in early 1954, code-named CASTLE, [redacted] thermonuclear devices and concluded that one small enough, light enough, and sturdy enough to be fitted into the nosecone of a long-range missile could be developed.[40]

Coincidentally, intelligence reports indicated that the Soviets had ambitious missile development programs. As early as 1948, Germans repatriated from Russia nad told of Soviet work based on captured records and personnel from Peenemunde. By the early 1950s, both Air Force Intelligence and the CIA had begun systematically to assemble much evidence. The level of effort in both agencies was still well below that for gathering and analyzing evidence on Soviet bomber

programs,but a few individuals, such as Robert Komer at CIA, had begun to argue that Soviet advances in missilery deserved greater concern. In August 1953 the attention of the highest officials in the government was engaged by Malenkov's boast that the Soviet Union had tested a hydrogen bomb. Air Force Intelligence and CIA tests subsequently confirmed that the Soviets had detonated a thermonuclear device. A National Intelligence Estimate distributed to members of the NSC in February 1954 assigned to the Soviets a capability for [redacted]

Earlier, in 1953, during an extended interdepartmental review of missile programs directed by Secretary of Defense Wilson, the Air Force decided to undertake its own evaluation of its requirements and efforts. The Special Assistant to the Secretary of the Air Force for Research and Development, Trevor Gardner, established on 31 October 1953 a Strategic Missiles Evaluation Committee (known as the Teapot Committee) with John von Neumann as chairman. Anticipating what the results of the CASTLE tests would be, the Committee found in its final report on 10 February 1954 that accuracy requirements for long-range missiles could be substantially relaxed. The Circular Error Probable (CEP) could be extended from 1,500 feet to as much as 3 miles. The Committee drew on a RAND report to the Air Force, written by Bruno Augenstein and dated 8 February, which offered an identical recommendation.

Forecasting the eventual eclipse of the manned bomber as the mainstay of the U.S. strategic offensive force, the von Neumann committee urged that all long-range missile programs be put into high gear. They portrayed the SNARK as having possible uses during the twilight of the manned bomber era, serving as a decoy or a defense

suppression device or being wired so that it could be shepherded toward its destination by a bomber which could then dispatch it to an exact target from several hundred miles distance--used, in other words, as a "stand off" weapon. The committee recommended that the NAVAHO be developed initially as a missile of less than intercontinental range so that it could be put into operation before the end of the decade. It advised that IREMs also be developed within the same period. With regard to the ATLAS project, its emphatic recommendation was that the Air Force assign its best officers to a well-funded, well-organized crash program, following the systems approach pioneered by the RAND Corporation, to achieve an operational ICBM by the beginning of the 1960s.

The Teapot committee not only laid out an extremely ambitious development program, it also identified some of the central problems to be anticipated in the missile era. One was the problem of decision time. Since enemy ICBMs could reach their targets in a matter of minutes, the question arose as to how much time could be allowed for ordering and carrying out a retaliatory attack. If the U.S. Government waited too long, its retaliatory forces might be destroyed. This possibility raised in turn a question as to how much should be expended to reduce the vulnerability of the U.S. missile force and further questions as to how a President was to ensure his own survival and continued capability for communicating with and controlling U.S. strategic forces, what were to be the targets for these forces--Soviet cities and industrial centers or Soviet ICBMs or both--and, coming

full circle, whether, in a crisis, the United States should strike first in order to limit the damage which the enemy could inflict. Recommending merely that decision time, vulnerability, and yield be considerations in the systems approach to ICBM development, the von Neumann committee report offered no clear solution to these doctrinal issues, but it did note their existence.[42]

Perhaps persuaded by the Teapot committee, perhaps just influenced by the same factors, especially the actual success [redacted] during the CASTLE test series, the top civilian and military leaders in the Air Force agreed in May 1954 to give the ATLAS highest priority among the Service development projects. That this did not yet represent a complete change in view is indicated by the fact that comparable priority was not given to the SNARK or the NAVAHO, which were further along, and that, because the ATLAS was still at such an early stage, the immediate costs of the decision were not large. For FY 1955, the total funding for the project was to be only $20.7 million, less than the sum that might be freed by suspending further development of the SNARK. An even stronger indication is that in the same month LeMay told the Joint Committee on Atomic Energy that the nuclear-powered bomber had top priority for SAC, and the Air Force committed $15.5 million for a laboratory in Connecticut designed to do research on engines for such a bomber. In December 1954 and January 1955 the Air Council reviewed the nuclear-powered bomber project and endorsed it in its entirety, including a new requirement for supersonic dash.[43] As of that date, the Air Force seemed destined to put most of its money for strategic offensive forces for the 1960s into a new type of manned bomber.

Nevertheless, the papers assigning priority to the ATLAS had been signed by the Secretary and the Chief of Staff of the Air Force. Various offices in the Service took action. Eventually, Brig. Gen. Bernard A. Schriever was put in charge of a Western Development Division of the Air Research and Development Command. He had wide powers. Following the recommendation of the Teapot committee, he enlisted analysts from RAND and elsewhere and commenced an energetic attack on all the interrelated development problems. On the Washington end, he had zealous backing from Gardner.

When the Teapot committee was at work, one question pursued by both Gardner and von Neumann concerned the state of comparable Soviet programs. The original draft of its report had said "most of the members of this Committee, on the basis of the available evidence, believe that the Russians are probably significantly ahead of us in long-range ballistic missiles." They finally said that available intelligence permitted no positive estimate but that there was evidence of some Soviet activity which would have an intercontinental missile as its goal. Gardner complained to the Assistant Secretary of Defense for R&D that he and the committee had received several intelligence estimates pointing to a Soviet lead in strategic missilery but they were "substantially different." With blessing from the Chairman of the JCS, an effort commenced to obtain a coordinated evaluation of the evidence. While the work was in progress, communications intelligence, supplemented by a reconnaissance overflight, yielded firm evidence that the Soviets not only had a missile test range at Kapustin Yar in the

Black Sea region but were preparing for tests of missiles with ranges up to 900 miles. A National Intelligence Estimate completed in October 1954 credited the Soviets with a large-scale development program likely to yield a 900-mile ballistic missile between 1955 and 1957, a 1,300-mile IRBM by 1957 to 1959, and an ICBM perhaps by 1960, more probably around 1963. This last item was featured in January 1955 in the annual NSC document on basic national security policy, along with a general admonition that the U.S. ICBM program "should approximate this timetable."[44]

Largely as a result of the concern about continental defense, the President had meanwhile appointed a committee to advise him on "the country's technological capabilities to meet some of its current problems." Called the Technological Capabilities Panel, it was headed by President James R. Killian, Jr., of M.I.T. With a broader mandate than that of the von Neumann committee and with the President rather than a Service secretary as its patron, Killian's committee reviewed the actual and potential missile programs of all the Services[45] and made its report on 14 February 1955.

This committee, too, expressed grave concern about the possibility that the Soviets would produce an ICBM before the United States did. Its possession by the Soviets would in any case nullify the geographical advantage historically enjoyed by the United States, said the panel. If the United States were unable to match "threat for threat," its allies in Europe and elsewhere could be subjected to intolerable pressure.

From identical reasoning, Killian's group argued that IRBMs also deserved attention. Soviet IRBMs could menace Europe and, if based in

Siberia and China, be targeted also against Japan, Okinawa, the Philippines, and Alaska. If the United States had no matching capability, the Soviet Government could use its apparent advantage as a basis for potentially successful extortion threats. Since it seemed clear that the United States could not have an ICBM before the Soviets had an IRBM and since the technological problems facing IRBM development, though by no means small, were less formidable than those facing Schriever, the panel argued for an urgent effort to produce and deploy IRBMs before the end of the decade. Acknowledging basing and targeting issues, the panel urged work on a sea-based as well as/a land-based IRBM.

With accelerated procurement of the B-52 and other aircraft ensured in response to the "bomber gap" agitation and with the nuclear-powered bomber not yet at a stage needing large-scale funding, the Air Force showed no hesitation in accepting this high-level endorsement of its ICBM effort. Already planning to develop a successor to its MATADOR missile, it had little difficulty accommodating the notion of adding an IRBM program. With a longer range REDSTONE already in view, the Army similarly reacted favorably to the Killian committee proposal. Though the Navy had a small number of fleet ballistic missile enthusiasts, some of whom had had a hand in the Killian panel's recommendation for a sea-based IRBM, the Service's top leaders were wary of becoming committed to a weapon system that might revive/a roles-and-missions conflict with the Air Force and, worse yet,

might pull money away from aircraft carriers or nuclear submarines. They agreed only to cooperate with the Army on an IRBM potentially adaptable for deployment at sea. Because of the large ultimate cost implications, the Secretary of Defense and his aides exhibited more reservations about the Killian panel's recommendations. In the end, however, they agreed to an endorsement, qualified only by a strong statement that most of what the panel advocated was not readily provided for in currently funded programs.[46]

Though the President doubted that usable long-range ballistic missiles could materialize within the next decade and felt that competing Service efforts would waste money, he was not proof against a consensus among members of the NSC, backed, as they were, by the Joint Committee on Atomic Energy. On 30 June 1955, Senators Clinton P. Anderson and Henry M. Jackson had sent a letter to the President expressing their fears that the Soviets were winning the ballistic missile race and suggesting the assignment of the highest national priority to the U.S. ballistic program. The Director of Central Intelligence had briefed the NSC on 28 July 1955, just after the President's return from the Geneva summit meeting with Khrushchev. Dulles may have repeated what appeared in a memorandum he had written just before that meeting--that "the Soviets almost certainly recognize that even when their nuclear capabilities approach those of the United States, the dangers inherent in full-scale nuclear war to the Communist system will not be appreciably reduced." Probably also, however, he reported the alarm felt among members of a committee he had recently assembled to study Soviet missile programs. Assuming erroneously that the missiles could come from plants currently producing airframes and that their shells would be stainless steel instead of

aluminum, the committee set potential Soviet missile output at a high figure; and it had before it newly obtained evidence that a 3,500-mile test range was going in at Tyuratam. Dulles presumably shared this intelligence with the NSC.[47]

Perhaps some members of the Joint Committee on Atomic Energy also had such information. In any case, Senator Henry M. Jackson, speaking for the military applications subcommittee of that committee, chose the next day, 29 July 1955, to advise members of the NSC that the subcommittee feared the Soviets would beat the United States to both the IRBM and the ICBM and that it believed the ICBM should be "the single most important project in our entire defense program." On 8 September, when the NSC had before it both the Killian panel report and the Defense Department response, its members agreed that there would be "the gravest repercussions on the national security and on the cohesion of the free world, should the USSR achieve an operational capability with the ICBM substantially in advance of the U.S."; that, "in view of known Soviet progress in this field, the development by the U.S. of an operational capability with the ICBM is a matter of great urgency"; and that ICBM R&D should have "the highest priority above all others." In regard to the IRBM, the group temporized, asking the State Department to report its judgment of the potential effect of the Soviets acquiring such a weapon system ahead of the United States. The Vice President presided over this session. When the President reviewed the recommendations however, he indicated his acceptance.[48]

The President reconciled himself also to endorsing IRBM development. All Services strongly advocated the IRBM, arguing, as had the Killian panel, that it would offset a Soviet ICBM if that particular race happened to be lost. The Navy's new Chief of Naval Operations, Adm. Arleigh Burke, was far more interested than his predecessor in the Navy's having a ballistic missile. John Foster Dulles answered the open question by telling the President that the effects of a Soviet IRBM would equal those of a Soviet ICBM. On 3 June 1955, Secretary Wilson had concurred with the need for an IRBM and informed NSC that he would have specific recommendations ready by 1 December. After interservice debates, Wilson accepted on 8 November a Radford-proposed compromise calling for development by the Air Force of what became THOR and jointly by the Army and Navy of what became JUPITER. On 1 December the President accorded the IRBMs an R&D priority rating equal to that assigned the ICBM on 8 September.[21] [49]

Secretary of Defense Wilson set up special committees to oversee the various projects. The Army's REDSTONE rapidly evolved into a 1,500-mile JUPITER. The Air Force's 1,500-mile THOR followed close behind. Advised by a scientific panel that both solid fuels and lightweight thermonuclear warheads would be available in the not-distant future, Admiral Burke elected to separate the Navy's effort from that of the Army; in December 1956 he set up a Special Projects Office to manage systematic development of what would materialize as the POLARIS. Obligations for IRBM and ICBM programs went from $515 million in fiscal year 1956 to $1,365 million in fiscal year 1957.[50]

The pressure for early results affected interim resolution of the strategic-doctrinal issues touched upon by the von Neumann committee. CEP requirements were relaxed to permit standard errors of up to 2 miles. This was necessary, one Defense official explained, because "our

objective is the development at the earliest possible date of militarily usable weapons which will retain our lead in the race for technological weapon supremacy." Such error allowances implied, however, that the missiles would be aimed at large population centers. Assuming any serious effort by the Soviets to protect their strategic offensive missiles, U.S. missiles could not realistically be targeted against them. The notion of developing missiles for a "counterforce" strategy as opposed to a "countervalue"* strategy, ventilated publicly by Richard Leghorn and Theodore Walkowicz in 1954 and later championed within the Air Force by, among others, Brig. Gen. Noel Parrish, could not apply to weapons of such uncertain accuracy.[51]

Coincidentally, the Secretary of the Air Force and certain elements at the AEC were promoting the development of very-high-yield warheads -- up to 60 MT. It is possible that the objective was to equip ICBMs for counterforce missions even if they had high CEPs, but the available record does not say. In any case, the pilots in the Air Force showed little enthusiasm for warheads clearly too powerful for delivery by manned bombers, and the President ultimately vetoed development of high-yield warheads because of concern about radioactive fallout from atmospheric tests.[52]

Although Schriever's analysts attached high importance to making the ATLAS safe against a Soviet first strike and thus capable of serving as a genuine retaliatory force, pressures of time compelled the Western Development Division to plan initial deployments of missiles bunched in unhardened sites, subject to wholesale

*Countervalue referred to urban targets.

destruction if an enemy thermonuclear device exploded within 9 miles. In the circumstances, attention went to ensuring that the missile could be fired in a hurry--a point of emphasis that, in any case, comported well with the tradition of instant readiness that LeMay had built up within SAC. Though Schriever's analysts specifically rejected the concept that ICBMs should be set to launch upon warning of an enemy attack or even to launch upon attack, arguing that such hair-trigger responsiveness could be perilous in case of false intelligence or a breakdown in communications, the initial system was so designed that it allowed almost no option.

Planning documents prescribed alternatives. Looking toward the achievement of smaller and smaller CEPs, they anticipated eventual counterforce targeting. They also anticipated decreasing vulnerability by use of silos or mobile platforms. Subsequently, as appropriate technology materialized, all these possibilities were to be revived and reviewed. Interim solutions for complex problems, however, have a way of lasting. The assignment to ICBMs of an assured destruction mission, together with an inference that the missile might be launched under attack if not upon warning, were to be solutions persisting long after the time pressures of the 1950s had relaxed.

By 1957 in any event, the THOR, JUPITER, and ATLAS systems were all ready for tests. The President retained his reservations. In the summer of 1956 he expressed doubt about authorizing procurement of more than a token number of these early missiles. In February

1957, he told the British Minister of Defense, Durcan Sandys, that "too many people attach too much importance to the use of guided missiles." According to Ray Cline, then head of the Directorate of Intelligence for CIA, Eisenhower expressed surprise when told in May 1957 that the Soviets seemed on the verge of testing a missile with a range in excess of 5000 miles even though the U.S. Air Force was also on the verge of such a test. In August 1957, Eisenhower nevertheless continued to press the Defense Department to cut back its planned expenditures for missiles.[53] Then came the Soviet Sputnik shots.

So far as ICBM development was concerned, the Sputnik shots merely demonstrated that the Soviets were just about even with the United States. They tested their SS-6 successfully in August 1957. A U.S. ATLAS-A failed a test during the same month. A second test in September was also a failure, but a third, in December, was a complete success. And the ATLAS-A, despite all its primitive features, was a more advanced system than the lashed-together SS-6. Still, the Sputniks produced shock among Americans because they demonstrated that the United States had allowed itself to be matched in a major line of strategic weapons technology. Since the possibility of such a Soviet success had not been ignored, the question that arises is why the United States had not pursued this line of technology sooner and more vigorously, exploiting the still enormous gap between its research and production capabilities and those of the Soviets.

As already suggested, the basic answer may be that long-range missilery did not initially have strong enough champions within the U.S. Government. Army artillerymen who were interested in and confident about the weaponry could not secure prime responsibility for the mission. The bomber pilots who did have the mission were unenthusiastic about pilotless aircraft and not easily awakened to a view that the future of their Service might lie not with any type of aircraft but with giant-size bullets. It took zealous entrepreneurship on the part of people like Talbott, Gardner, and Burke, and organizational innovation in forms such as Schriever's Western Development Division and the Navy's Special Projects Office to get intensive work going on long-range missiles. The United States did not have a powerful artillery tradition and interest comparable to Russia's.

Continental Defense[54]

The beginning of the Eisenhower administration coincided not only with the commencement of the missile era but also with the end of the long period in which the continental United States had been virtually invulnerable to enemy attack.

That long-range bombers and nuclear weapons would spell the end of America's safety had been ritually noted in the Finletter and Brewster reports* and almost all documents of the late 1940s dealing broadly with airpower or U.S. national security.

Within the military establishment, the potential threat had received some attention. The Air Force and Army had wrangled over the continental air defense mission, with the Air Force winning the primary assignment as a result of the Key West debates of March 1948

*See above, pp. 26-29.

but with the Army still left in control of antiaircraft artillery. The practical outcome was side by side growth of an Air Force Air Defense Command* and a continent-wide Army Anti-Aircraft Command. Although the Korean War period had been marked by periodic alerts in both commands, combined with operational deployments which suggested genuine concern about possible sneak air attacks on U.S. nuclear production facilities, the two had not signed an agreement outlining bases for cooperation until April 1952, when the war was almost in its third year.

The Air Force and Army did each contain elements which took seriously the task of preparing defenses against bomber attack. The Air Defense Command had sought to acquire all-weather jet interceptors capable of coping with jet bombers. Not offered any entirely suitable design during the period when funds were flowing freely, the ADC had settled for acquiring large numbers of successive models of the F-86, F-89, and F-94 and accepting for future delivery the planes which were to be designated F-101, F-102, and F-106.

The idea of a Distant Early Warning (DEW) Line in the northern reaches of Alaska and Canada had been revived, with Air Force consultants in Project Charles, supplemented in 1952 by a Summer Study Group, counselling that all technical problems could be solved. And a start had been made by the Air Force on air defense missilery. The BOMARC, a 250-mile-range high-altitude surface-to-air missile had successfully passed its first tests in September 1952.

*For a brief period, 1 September 1949-1 January 1951, part of the Continental Air Command.

The Army had given high priority to the NIKE-1 air defense missile even during the period of budgetary stringency. During the Korean War, work had been speeded up, and missiles were actually being delivered by the month of Eisenhower's inauguration. The Army had also begun installation of its own radar for target tracking and gun or missile control--the AN/FSG-1, known as the "Missile Master." And the Air Force and Army were engaged in research on the potential problem of defense against ballistic missiles. On the whole, however, although the bomber threat and the more distant missile threat had engaged the attention primarily in the Air Force and Army commands with air defense assignments, they had not as yet become central problems for the Service Chiefs of Staff, let alone for their civilian superiors or for the Truman White House.

Not until the last months of the Truman administration did the subject of continental defense appear on the agenda of an NSC meeting. In late December 1952, President Truman somewhat reluctantly endorsed for his successor a recommendation for constructing the DEW Line. In a valedictory paper, NSC 141, Truman and the NSC also left to Eisenhower a warning that by the mid-1950s nuclear armed Soviet bombers could wreak critical damage in the United States unless planned expenditures of $3.2 billion for fiscal year 1953 and fiscal year 1954 were supplemented by another $8.5 billion.[55]

This NSC paper made the point that the success of U.S. policy hinged on a threat to use nuclear weapons in the event of a general

war. To the extent that the Soviets were able to menace the continental United States with their own nuclear weapons, the U.S. threat would become less credible, particularly if the Soviets were to produce thermonuclear weapons. The conclusion drawn was the need for "the allocation of large additional resources to continental defense and civil defense." Although the body of the paper gave equal or greater importance to maintaining U.S. capability for "an atomic counterattack of a size unacceptable to the Soviets" in face of their "increasing atomic capabilities and air defense," it proposed additions to the budget, primarily for improving defense of urban and industrial areas in the continental United States. Of the items priced, $6.5 billion consisted of interceptors, antiaircraft guns, missiles, and anti-submarine forces; $1.5 billion consisted of radar and associated computers and long-range sound surveillance for submarine detection (LOFAR). The costs of the DEW Line were on top of these. The case for expenditures on civil defense was made in terms of an estimate of 22 million casualties in case of a surprise attack; only half as many, with two-thirds of them possibly surviving, if a civil defense organization and a moderate shelter program were in existence. The potential costs were appraised vaguely at between $2 billion and $10 billion.

Such recommendations obviously ran contrary to the wishes of the new Administration, bent as it was on reducing federal expenditures. On the other hand, it could scarcely deny the existence of the problem which NSC 141 identified.

During the first few months of Eisenhower's tenure, the problem repeatedly surfaced. In May, for example, the NSC discussed whether or not the President should release information on the devastating power of thermonuclear weaponry demonstrated in the Eniwetok tests of October/November 1952. Scientists Vannevar Bush and J.Robert Oppenheimer, present for this discussion, took occasion to describe the possible effects of Soviet nuclear or thermonuclear attack. Bush said that added air defense would not provide 100-percent protection but would "deter or postpone attack." Delay, he said, could bring grave danger--of, among other things, "a greater Munich." Even Treasury Secretary Humphrey, despite his preoccupation with cutting the budget, was troubled by the discussion. He spoke of "the terrible facts presented to the Council."[56]

In June 1953, the NSC heard a report from Lt. Gen. Idwal H. Edwards, USAF, whom Truman had commissioned to prepare a net assessment of damage the United States and the Soviet Union could do to one another in the event of nuclear war. Though the committee's damage and casualty estimates were not in low numbers, Edwards took occasion to express doubts about the quality of Soviet aircraft and to say that, in his judgment, no Soviet surprise attack would occur in the foreseeable future except as "an act of desperation." Eisenhower, deep in his effort to identify a line of policy permitting budgetary economies, indicated agreement with much of what Edwards said. He even questioned the utility of the DEW Line, saying that the Soviets were most likely to fly across the Bering Strait. Foreshadowing what would eventually be his own formula for the continental defense problem, he did, however,

express concern about the potential vulnerability of SAC bases and the question of whether and how they could have two hours warning of an approaching attack.[57]

In July 1953, what brought the subject back before the NSC was a report from a committee Eisenhower had appointed, headed by his old Army comrade, Lt. Gen. Harold R. Bull, to examine the program recommendations of NSC 141 as they had been amplified for the Defense Department in a report from M.J. Kelly, the President of Bell Laboratories. Unlike Edwards, Bull adopted and defended an estimate that the Soviets had "a growing capability to deliver a devastating attack on the United States." In the background was a recent report from CIA that the Soviets might already have developed a bomber of true intercontinental range. Characterizing existing continental defenses as entailing "unacceptable risk to our nation's survival," Bull's committee advocated spending money for early warning systems and interceptors even if they served only to provide protection for the near term and became obsolete when long-range missiles appeared. The committee did not, however, recommend exact sums, and the core of its argument was rather more in line with Eisenhower's expressed views than with views appearing in NSC 141. While saying little about civil defense, it stressed that U.S. "offensive capability is a most significant deterrent to Soviet atomic attack upon the continental United States." This capability, it continued "must be maintained not only for gaining our war objectives, but for its marked deterrent value in protecting our homeland."[58]

In the late summer and early autumn of 1953, as the New Look took shape, continental defense inevitably drew attention. At the very NSC session where the Deputy Director of Central Intelligence reported Soviet success in developing a thermonuclear device and confessed that it had occurred a year ahead of the most pessimistic CIA estimate, Secretary of the Treasury Humphrey disclosed his view that continental defense could represent a money-saving alternative to existing overseas commitments. At a later NSC meeting--well after the 1954 Indochina crisis--he was to ask, "since we will eventually get pushed out of certain areas, would we not be better off if we withdrew from those places like Indo-China before we were actually pushed out?" In August 1953, he had said that the United States could either add continental defense to its burdens or as Radford had put it, cut down on what we were doing elsewhere and jack up our continental defense.[59]

From the standpoint of the dominant elements in the Services, the choice seemed more one between continental defense and offensive forces, including ready general purpose forces, and maintenance of a mobilization base for a large-scale, prolonged war. To the Secretary of Defense, they argued that the Soviet thermonuclear test and the Bull report made a case for additional funding, not for transfers within budgets already tightly squeezed. Before the NSC in September 1953, Radford contended that the Soviet threat was easily exaggerated and thus seen to necessitate impossible outlays for continental defense. The JCS, he said, thought it unwise to accord a preclusive priority to defense measures as against offensive measures.[60]

Programmatically, the Services had little new to offer. The JCS proposed to the Secretary of Defense in November 1953 construction of the Mid-Canada Line--a belt of radar stations halfway to the projected DEW Line; continued study of the feasibility of that line; 6 radar picketships for seaward extension of the Mid-Canada Line; airborne early warning planes plus offshore "Texas Towers" and radar ships to cover the ocean approaches to the continental United States; gap filler radar; LOFAR: a semi-automatic ground control system (SAGE) for interceptors; modest additions, perhaps 100 to 200 planes a year, to the active interceptor force; and antiaircraft and NIKE battalions. Still battling against cuts in ground force manpower, the Army was reluctant to seem to ask supplements for continental defense. Hence, the JCS submission merely specified 100 such battalions as a minimum and 150 as a maximum, and it said nothing about possible acceleration of defensive missile programs.[61]

The OSD staff estimated in late November the costs for continental defense as $2.9 billion for fiscal year 1954 and $3.5 billion to $3.9 billion for each succeeding year through 1958. Subsequently, the Director of the Budget maintained that allocation for continental defense had to be increased even while defense expenditure as a whole had to come down by no less than $6 billion. Despite objections from the Army and Navy, McNeil indicated at the 16 December meeting of the National Security Council that allocations of $4.3 billion to $4.5 billion, instead of only $3.5 billion might be required for "continental defense." Whether OSD was serious in advancing these figures is questionable since 2 months later the final allocation in the FY 1955 budget was for $3.2 billion. Although the differential between the figure finally agreed upon and that suggested in

mid-December was substantial, it is more important to note that the Administration did propose a modest increase in spending over the preceding year's $2.9 billion. This decision moreover stood in sharp contrast to the large drop in total defense expenditures from $43 billion in fiscal year 1954 to $37.6 billion in 1955. Still the message for the Services was clear-- they could not use continental defense requirements to gain concessions on the budget as a whole.[62]

Eisenhower's own preference had been restated during the NSC meeting which saw adoption of the New Look in October 1953. He said his policy was "to keep the minimum respectable posture of defense while emphasizing our retaliatory offensive striking power." At the time, however, he did not acknowledge that such a policy in itself offered little promise of limiting damage to the United States in the actual event of war. He went on to say, "Nobody. . .could possibly deduce from such a statement that we propose to abandon the defense of, say, New York City."[63]

Continuing to question the specific warning and protection systems bracketed under continental defense, the President commissioned yet another study, this by Dillon Anderson who would eventually succeed Cutler as his national security assistant. On the basis of fresh estimates from CIA crediting the Soviets with growing strategic offensive capabilities but saying that they were unlikely to force a general war during the next 3 to 4 years, Anderson's report in February 1954 divided continental defense programs into three categories. First, were those to be completed with "all practicable speed:" The Mid-Canada Line and its seaward extensions; the warning net for U.S. coasts; antiaircraft battalions and interceptors equipped with missiles rather than guns. The report emphasized that it might be possible to achieve higher kill ratios with fewer planes if they were better armed. The second category consisted of programs to be completed over a 2-year period: DEW line preparations, SAGE, gap filler radar, LOFAR, and various

steps preparatory to developing active civil defense and urban evacuation programs. The third, least urgent category consisted of stockpiling for civil defense and actual initiation of measures to reduce the vulnerability of cities. As Anderson reckoned them, the essential costs for first-priority programs would be only $2.7 billion to $2.8 billion for / 1954 fiscal year and / 1955 fiscal year. With the President presiding, the NSC approved the report.[64]

Dispute nevertheless continued. As the Administration's policy had evolved, civil defense had received little attention, and emphasis had increasingly gone to short-term projects employing existing technology rather than to more long-term programs dependent in part on accelerated R&D. Along with the reduction in general purpose forces quietly protested by Ridgway and less quietly protested by Democratic Senators, both of these points were noted publicly by members of Congress and journalists when the FY 1955 budget went to Capitol Hill. A subcommittee of the Senate Armed Services Committee undertook an investigation centered on the application of new technology to continental defense problems of the near and not-so-near future. It was headed by Leverett Saltonstall of Massachusetts, many of whose constituents earned their living in advanced lines of defense R&D and production. It employed as chief consultant Robert Sprague, Chairman of the Board of Sprague Electric in Saltonstall's home state, a close associate of scientists and engineers who had been involved in Project Charles and the Summer Study Group, and soon to be one of the founders of the MITRE Corporation.

Neither in the executive branch nor in Congress nor among the public did civil defense find an effective champion. The head of the Federal Civil Defense Administration, former Governor Val Peterson of Nebraska, was not a heavyweight among Eisenhower's counselors. Arthur Flemming, in charge of the Office of Defense Mobilization, had more influence but expended little of it for this particular cause. No one came forth to argue for higher priority for stockpiling, evacuation, or shelter programs.

Nor did anyone seriously level the charge that Eisenhower had feared-- that the Administration planned to abandon the defense of New York City. Especially after the "bomber gap" was publicized, concern was widely voiced about the potential threat to U.S. urban areas. Within the defense establishment there circulated, almost coincidentally, a RAND study estimating that active air defense for major U.S. cities would cost $30 billion to $60 billion for the period 1954-60 and, even so, would ensure no more than bare survival.[65] Though the precise figures might be challenged, the conclusions were inescapable that it would be very expensive and that some bombs would still reach their targets.

Critics in any way sympathetic with the Administration's efforts to balance the budget found it difficult not to narrow their focus to the question simply of how to protect the retaliatory forces. Sprague easily adopted such a focus. From the outset, he was making inquiries about the vulnerability of SAC bases. The other line of questioning he pursued had

to do with the potentialities of nuclear-armed air-to-air rockets. To the Saltonstall subcommittee he recommended a higher level of effort, but chiefly along lines laid out in the Anderson report.[66]

The Administration was sufficiently pleased and relieved to ask Sprague to continue his work as a consultant in the executive branch, preparing a report for the NSC. The invitation was issued in mid-May 1954, only a month since the decision not to reinforce the French at Dienbienphu, and only 2 weeks since the "bomber gap" prospect had surfaced. On 29 April 1954, Allen Dulles had briefed the NSC on the appearance of the new Soviet Mya-4 bomber, the Bison, cautioning that past estimates might have to be revised and the time for adapting to a greater Soviet threat markedly shortened. Even earlier, the President had expressed dismay at learning that the new U.S. B-52 could outrun existing U.S. interceptors.[67] With Eisenhower smarting in any case on account of charges that he was sacrificing security for the sake of economy, the Administration was in a frame of mind to accept from Sprague advice that at least a little more be done for continental defense.

In early June, the NSC heard from the JCS Joint Advanced Study Committee an assertion that the Soviets would have achieved such power by 1957 that they could mount a surprise attack which would do massive damage to the United States. Also on this occasion Radford issued his warning about a possible Soviet thermonuclear-armed intercontinental missile materializing by 1958.[68]

When the tentative guidelines for the basic national security policy for fiscal year 1956 were reviewed by the NSC early in the summer of 1954, Cutler noted that the staff was divided over the choices of taking "whatever measures were necessary" or "all practicable measures." Commenting that the first position was "rooted in the erroneous assumption that you could have an absolute defense of our retaliatory capability," the President expressed decided preference for the second phrasing. On the other hand, he was far from siding with Secretary Humphrey in insistence that first priority go to keeping the budget down. At a meeting in late May, he had said to Humphrey: "...when we have reached the irreducible minimum which we need to safeguard the national security, we must all be ready to carry the fight to the politicians in order to prevent further reductions. We can never under any circumstances say that we cannot defend our country." He even mentioned new taxes as a possibility. At this June meeting, he admitted to Humphrey: "Obviously,...our earlier estimates of Soviet capabilities were faulty. Accordingly, we will need to step up our military capabilities in certain specific areas, though not across the board."[69]

The President persisted in this view. The NSC Planning Board unanimously recommended a U.S. policy "that (a) it was essential for the U.S. to maintain the striking force necessary to deal massive nuclear retaliation to the U.S.S.R. and (b) that it was essential for the U.S. to take all practicable measures to protect their retaliatory capacity against any foreseeable Soviet attack." Eisenhower registered no

objection; nor did he protest Sprague's recommendations for urgent new work on warning nets and nuclear armed air-to-air ordnance. Hearing subsequently from Assistant Secretary of Defense Donald Quarles an offhand estimate that stepping up the development of early warning systems and antiaircraft rockets would cost about $1 billion, the President said he would be prepared to recommend a supplemental appropriation if it were really needed. On 5 August, he formally approved as his policy an NSC declaration that the United States should "accelerate" continental defense programs "to the fullest extent deemed feasible and operationally desirable and give to these programs very high priority...." [70]

Subsequently, the President showed no inclination either to back away from this decision or to go further. In September 1953, after absorbing news that the Soviets had a thermonuclear device, he had broached with his advisers the possibility of preventive attack: "It looked to him ... as though the hour of decision were at hand, and that we should presently have to face the question of whether or not we would have to throw everything at once against the enemy." He explained "that he had raised this terrible question because there was no sense in our now merely shuddering at the enemy's capability. We must determine our own course of action in light of this capability." [71] No serious debate ensued. In the autumn of 1954, however, Radford represented the JCS as seeing force in arguments for preventive war. Referring to the unfavorable outcome in Indochina and new evidence of unrest in Africa, the admiral characterized the Soviets as pushing ahead even while the United States possessed nuclear superiority. The Chiefs believed,

he said, that the Kremlin "some time or other... will elect to force the issue. Accordingly, the JCS had concluded that the U.S. had only a limited period of time in which to reach an accommodation with the Communists." If issues were forced in the near future, he continued, and the results were "either a limited or a full-scale war, the outcome for the U.S., prior to Soviet achievement of atomic plenty, would be successful." Once the Soviets achieved nuclear parity, he warned, the JCS "could no longer guarantee a successful outcome...." With all his civilian advisors protesting the concept of a preventive war, Eisenhower dismissed Radford's arguments. He said he thought "our national security policies are now well-stated." [72]

Getting to practical details, Eisenhower issued his directives that military manpower be trimmed -- the directives that preceded Ridgway's retirement and the congressional debates of 1955. He explained to the NSC, "the resultant savings could then be expended on the program for continental defense." [73]

At times, Eisenhower could show signs of modifying the rationale he had adopted,[74] but as a rule, his recorded comments were compatible with the language in formal NSC documents such as that of January 1955. involving basic national security policy (NSC 5501). It had become the Administration's policy to anticipate and prepare for a condition characterized as "mutual

deterrence." The United States was to remain in the perilously ambivalent position of acknowledging the likelihood of mutual destruction in the event of general war while at the same time demonstrating both readiness to accept such a war as an alternative to "acquiescing in Communist aggression" and "determination to prevail if general war eventuates."[75] The function of continental defense, as it had evolved, was primarily to ensure that U.S. strategic offensive forces survived a surprise attack so that destruction of the enemy would still be assured.

The Killian report of February 1955 addressed itself to the adequacy of actual and projected air defenses and found them seriously wanting.[76] Though rejecting many of the criticisms, the military establishment ended up agreeing that there was need for better defense against low level attack and that air defense weapons should generally be equipped with nuclear warheads.[77] Subsequent NSC papers concerned with continental defense seemed to take it for granted that the policy had been set and that forces were in place or going into place adequate to protect SAC's second strike capability.[78]

In the actual FY 1956 defense budget, the effects of high-level policy decisions were visible chiefly in provisions for larger sums for R&D and interceptor and radar procurement and a specification that the Army, in spite of its protests against manpower cuts, would increase the number of NIKE battalions.

Actual Service programs vibrated even less to changes ordained in the NSC. The Services had continued to wrangle about their respective missions. In January 1954, the Joint Strategic Plans Committee of the JCS was directed to prepare a plan for a joint air defense command. In August, it was announced that a Continental Air Defense Command (CONAD) would be established in Colorado Springs as a unified command directly under the JCS. In September, the JCS hammered out an agreement over development of and operational responsibilities for missiles which still left unanswered pressing questions about surface-to-air missiles. In effect, it allowed continuation of two entirely different air defense systems.[79] The Secretary of Defense approved the JCS agreement in November.

In May 1956, an emissary of the Secretary of Defense described CONAD as hardly functioning as a joint command, with the Services ill-informed of one another's capabilities and with several technical problems concerning USAF interceptors and missiles in need of resolution.[80] By September CONAD had finally separated itself from the Air Defense Command, and its commander had engineered a tentative agreement to collocate Air Force and Army warning and ground control radar. A year later, in September 1957, just before Sputnik, the United States and Canada established a new international command--the North American Air Defense Command (NORAD)--with Canadians

formally assuming a role. Actual command arrangements suggested that neither the Air Force nor the Army saw the problem of continental defense as having anything like the urgency attributed to it in NSC papers.

The air defense interceptors actually deployed through calendar year 1956 were for the most part the F-86s and F-94s noted in 1954 as lacking the speed and climb to catch Soviet jet bombers.[81] Mass production of the new F-101 was delayed for a long time as a result of the Defense Department's shift to a "fly before you buy" procurement policy designed to save money. The F-102 and F-102A had design problems. The first nuclear-armed air defense plane, an F-89J, was not actually in the air until almost the beginning of 1957. Large-scale procurement of a redesigned F-104, supposedly able to overtake a Bison, promised to occur sometime in the missile era.

Warning and ground control radar units did show effects of prodding from on high, for agreements were reached with Canada in 1956 to construct the DEW Line. The Atlantic portion of it, including the seaward extension, actually came into operation by mid-1957. By the end of the same year, the Mid-Canada Line was also functioning. On the coasts, the first Texas Tower began scanning in May 1956. Others followed, and radar picket ships went on station. The Air Force's SAGE system began to operate in 1958, by which time early warning squadrons had been operating for several years.

NIKE-1 missiles were rapidly deployed. By late 1955, more than half of all the Army's antiaircraft battalions were equipped with them. By 1957, there were 61 NIKE battalions mounting more than 5,000 weapons. These missiles had sufficient range to hit high-flying jet bombers, but only if fired promptly and accurately. The chances of their achieving high kill rates were judged small. A new, longer range NIKE-B underwent tests in 1955 and 1956, but it was not to be employed until 1958 or later. A nuclear warhead for the air defense missile, urgently requested by the Army in 1954, remained under development by the AEC.

If not informed about the uncertainties at Colorado Springs, Soviet Intelligence analysts might have concluded that the United States had put in place the organization and equipment for active air defense but, either because it rated the threat as slight or because it was awaiting new technology, it was taking its time about putting up defenses against bombers comparable to those which PVO Strany had erected in Russia.

In all the to-do about high-level policy, relatively little had been said about the approaching problem of enemy ballistic missiles. The NSC document embodying Eisenhower's acceleration of continental defense merely repeated the CIA warning of October 1954 that the Soviets could have an ICBM by the early 1960s and added, "There is no known defense against such missiles at this time."[82]

The Killian report, however, dealt in detail with the ICBM threat and the absence of preparation for defense against it. The report recommended urgent development of a Ballistic Missile Early Warning System (BMEWS) and research on antimissile systems. In their reclama,

the Services accepted both as R&D missions. Subsequent NSC papers on continental defense stressed these as research needs to be "urgently pursued".[83]

Within the Army, a possible antimissile missile was in fact a subject receiving intensive thought. In early 1955, Bell Laboratories had concluded that an ABM was probably feasible. Work had started with a view toward having an actual system by 1965. During the course of the year, the Secretary of Defense received advice from the Technical Advisory Panel on Aeronautics to give the project higher level supervision and more funds. In December he did allocate $4 million for the purpose from his own R&D reserves.

An Ad Hoc Group on Anti-ICBM set up in the Department of Defense delivered a report in mid-1956, identifying very-long-range target acquisition radar as one requirement on which research should be most urgently pressed. The Group's view was that this technical problem was pivotal and had to be solved in more than interim fashion. Encouraged by the Assistant Secretary of Defense for Research and Engineering, the Army developed a plan aimed at producing an operational ABM (called NIKE-ZEUS), including all requisite radar, as early as 1962. The Secretary of Defense would not, however, fund a crash program. The Air Force had concluded as early as January 1957 that an ABM would be too expensive.[84] The Army, however, assigned the project increasingly higher priority.

In view of evident Soviet progress in improving and lengthening the range of ballistic missiles, the President, in May 1957, commissioned

yet another study on continental defense, this from a panel headed by H. Rowan Gaither. Completed just after the Sputnik shots, it drew a dark picture of a nation hopelessly lacking any active or passive defense for its cities and industrial areas, dependent for safety on the threat posed by strategic forces which could be neutralized by an enemy surprise attack.[85]

The Gaither panel recommended promptly reducing the vulnerability of SAC by resort to continuous alert, dispersal of bases, additional radar warning nets, and emplacement of NIKE-Bs around SAC bases. Secondly, the panel urged increasing U.S. offensive striking power -- quadrupling the IRBMs and increasing more than 7 times the ICBMs projected for SAC (60 to 240 and 80 to 600); getting IRBMs into place abroad by 1958; putting ICBMs into hardened silos; and forging ahead on POLARIS. For damage limitation, the panel recommended development of area defense against ICBMs "at the earliest possible date." It then counselled a large-scale fallout shelter program as likely to save more lives than any comparably priced measure for passive defense. The costs were estimated to be $4.8 billion in the first year and an additional $11.9 billion over the succeeding 5 years.

Irked by spending recommendations which he regarded as unrealistic and outraged that Gaither and others on the panel briefed journalists before turning in their report, Eisenhower criticized the panel publicly. He threw it to the JCS just at budget-squeezing time and thereby extracted almost line-by-line repudiation of its argument.[86] The principal outcome

was a new emphasis on ballistic missile defense in the NSC papers on basic national security policy. It now rated description as of the "highest national priority."[87]

As with offensive missilery, the inescapable question is why the United States did not compete more dynamically. Since it was deemed almost a certainty that the Soviets would eventually have long-range jet bombers and since their development of intercontinental missiles was confidently forecast early in the 1950s, why did the United States not mass its enormous technical and other resources to provide protection for its bases of operation, industrial plant, and population?

The answer is surely in part the same answer as to the comparable question concerning offensive missiles. No organization able to lever the U.S. Government into action had a strong interest in air or missile defense. In the Air Force, the Air Defense Command and its affiliates had nothing like the standing of SAC or TAC. In the Army, the Chief of Ordnance carried weight, but the Army felt truly under siege with its central elements -- infantry, armor, field artillery, and engineers -- in jeopardy. The civilian agencies which might have pressed a case for area defense or civil defense could scarcely even win invitation to meetings where the essential resource allocation issues were discussed.

This was a function in part of inheritance -- the absence of executive congressional networks such as those to which SAC and TAC and the carrier pilots belonged; in part of the weakness of public constituencies which might have forced a different approach. In spite

of headlines about Soviet bombs and bombers, the general public did not exhibit strong fears until after Sputnik, and special publics concerned with continental defense did not exist. The fallout shelter industry was not the aircraft industry, nor were the advocates of area defense sufficiently convincing to create a powerful and effective constituency to support their recommendations. It was no accident that the United States government did not establish a counterpart to the Soviet air defense service, PVO Strany.

To explain why the U.S. strategic defensive doctrine came to focus so nearly exclusively on safeguarding the offensive forces requires mention of additional factors--the Eisenhower administration's zeal for balancing the budget and a belief that the nation's defenses could cope with the Soviet aerial threat. Any other concept of continental defense would obviously have involved outlays far higher than the $1 billion off-the-cuff figure which Quarles named for providing additional protection for SAC. The piper could not have been paid simply by cutting a few hundred thousand men out of the ground forces. The result was not only to postpone until the aftermath of Sputnik serious review of alternative conceptions of continental defense; it also added to the momentum in favor of a general strategy oriented toward what would later be termed "mutual assured destruction."

"Atoms for Peace" and "Open Skies"

Faced with likelihood that both superpowers would soon possess abundant thermonuclear weapons coupled to intercontinental delivery systems, the United States could have chosen one of two policies. One was to

attempt to relegate both nuclear and thermonuclear weapons to a status comparable to that of poison gas, building operational military forces with a clear assumption that use of such weapons was extremely unlikely, and in consequence investing primarily in general purpose armed forces / with non-nuclear ordnance. The alternative was to make preparation for fighting a nuclear war and emerging from it a victor, at least in the sense of suffering less damage than the opponent. This would have entailed strategic offensive forces designed, positioned, and subject to control arrangements such that they could destroy a maximum amount of an enemy's strategic offensive forces before they could get into action. It also would have entailed active and passive measures for continental defense. The Eisenhower administration judged each of these alternative policies intolerably expensive.

A third possibility was to attempt to negotiate with the Soviet arrangements which might restrain competition.

In the immediate aftermath of World War II, the Truman administration had sought not only political understandings but also agreements aimed at preventing development or use of nuclear weapons. The latter effort had taken form in the so-called Baruch Plan. After the Soviets rejected this plan, Truman and his advisors judged it not worthwhile to expend much time or energy on other such efforts.

In acknowledgement that the United States was building up strategic nuclear offensive forces as an offset to Soviet general purpose forces, State Department negotiators did contrive to back away from the position

of advocating simply a ban on nuclear weapons. In the UN, discussion of arms limitation, both conventional and nuclear, was entrusted to a single committee. The American delegates maintained insistence on "progressive and continuing disclosure and verification" as a sine qua non for limitation of any type, and, in company with their British and French colleagues, put forward proposals for numerical limitations on the armed forces of all major powers.[88] On the whole, however, those were the results of efforts by technicians, arousing only casual interest at the highest levels of government. NSC 141, the compendium of advice from Truman, Acheson, Lovett, and Harriman to their successors rarely mentioned negotiation.

In the early days of the Eisenhower administration, the subject came before the NSC. A panel of consultants had suggested that the United States stop advocating arms limitation in the UN, given the fact that it was simultaneously pressing all its allies to build up their armed forces. Dulles indicated that he thought the U.S. stance useful for propaganda purposes. Vice President Nixon, say the minutes, "inquired whether it might not be possible to make some kind of sensational offer on the disarmament side, which the Soviets would of course not accept, and which would therefore put them on the spot."[89] For the moment at least, nothing came of either the consultants' proposal or Nixon's suggestion.

With the death of Stalin in March 1953, discussion naturally turned to the question of whether the new Soviet regime might be more tractable. Eisenhower himself expressed doubt. He said that he thought Stalin had

never been a dictator, that he had always answered to a committee of his peers, and that, in fact, he had probably been one of the less militant figures in the group. Though none of the President's advisors seconded this analysis, they did not recommend that Stalin's departure be made an occasion for American initiatives. Subsequently, Secretary Dulles interpreted Soviet renewal of its so-called peace offensive as evidence that the Kremlin was feeling pressure from the West and simultaneously seeing evidence of domestic discontent. The moral he drew was that the United States should not let up unless and until the Soviets showed signs of a basic change in policy. The President endorsed this conclusion.[90]

"The Chances of Peace", a speech delivered by Eisenhower a month after Stalin's death, included a brief section on the subject of arms limitation.[91] For practical purposes, it summarized a position identical with that of the Truman administration. Over the course of the rest of the year, as the "New Look" took shape, the principal line of inquiry within the Administration ran in the direction originally suggested by Nixon. While Eisenhower and Secretary Dulles in their dealing with foreign governments felt some need to counter Soviet propaganda, they hesitated to take any initiative which might compromise American guarantees to European and other allies, possibly thus injuring chances for French entry into the proposed European Defense Community. Though Dulles might have been content to do nothing, the President's advisor on psychological warfare, C.D. Jackson, took it upon himself to find a formula

which satisfied the various constraints. The outcome was a proposal approved by the President's advisors and incorporated in a speech delivered by him on 8 December 1953. With the label "Atoms for Peace," it called for contributions of nuclear materials by the United States, the United Kingdom, and the Soviet Union to an international atomic energy authority which would work on peaceful uses of atomic energy. As the President subsequently conceded, the plan, even if fully implemented, would have had only faint effects in the strategic military balance.[92]

During 1954, the Administration began to give more serious attention to negotiating possibilities. This may have been simply a result of increasing recognition that other options were intolerably expensive and that increased expenditure on security was not purchasing correspondingly increased peace of mind. The President wrote to D.D. Jackson that, in his view, the United States would gain if nuclear weapons were simply abolished; ". . . we never had any of this hysterical fear of any nation until atomic weapons appeared upon the scene and we knew that others had solved the secret."[93]

Though Secretary Dulles continued to insist that there should be no relaxation of pressure on the Soviets, he had by mid-1954 taken interest in a moratorium on further testing of thermonuclear weapons. In part, no doubt, he was concerned about effects on European opinion at a time when arrangements for a German contribution to NATO remained uncertain and intelligence analyses told of increasing neutralism in France and Britain, and he backed off quickly, once his staff advanced the point that the United States could

compromise itself if it allowed any distinction to be drawn between nuclear and non-nuclear weaponry. Though without prodding his aides to pursue any particular line, Eisenhower made it plain that his views were similar to those expressed earlier by C.D. Jackson. He said "that if he knew any way to abolish atomic weapons which would ensure the certainty that they would be abolished, he would be the very first to endorse it, regardless of any general disarmament. With its great resources," he said, "the U.S. could certainly whip the USSR in any kind of war, whether atomic weapons were available or not." [94]

As the second half of 1954 saw the Soviets moving toward rapprochement with the Yugoslavs, making gestures to West Europeans, seeming to shift in the UN toward a much more flexible posture on arms limitation, and not letting up in propaganda attacks against German rearmament and American "militarism," feeling grew in some sectors of the American government in favor of at least an exploratory negotiating effort. NSC 5501, the summary of basic national security policy approved by the NSC early in 1955, identified the Soviet "'peace offensive' as their most effective present tactic for dividing the free world and isolating the U.S. from its allies." The text characterized it as very unlikely but not impossible that "the Soviet leaders might be led by the fear of nuclear destruction to accept an effective system of armaments control, with whatever changes would thereby be required in their present practices and concepts." In a footnote, the JCS took exception to even this guarded language, saying that it overstressed the possible significance of apparent shifts in Soviet

propaganda. During an NSC meeting before adoption of the policy, Cutler noted that the JCS and the State Department disagreed about negotiating with the Soviet Union, with the latter holding "that we should actively use negotiation in pursuing our strategy," while the JCS were "very skeptical" unless there was an about-face in the Soviet attitude.[95]

With intensification of the Soviet peace offensive, accompanied by mounting international concern over radioactive fallout resulting from nuclear weapons tests, State Department officials saw reason for presenting their case more forcefully. Calling attention to the near passage by the House of Commons of a resolution in favor of a test-ban and to India's sponsorship in the U.N. of a similar resolution, Gerard Smith, Secretary Dulles's Special Assistant for Atomic Affairs, asked for reconsideration of the 1954 decision not to propose a moratorium on the testing of thermonuclear devices. Deputy Under Secretary of State Robert Murphy suggested that the United States might propose such a moratorium to cover a period of time in which it planned no testing with a view simply to putting the Soviets on the spot. The CIA provided reinforcement in the form of an NIE of April 1955 saying that the Soviets probably did not have a deliverable thermonuclear weapon and would not get one without tests.[96]

The JCS and upper-level officials of Defense and the AEC, however, remained determined opponents of a test moratorium. As put succinctly by General Bonesteel, the representative of the Secretary of Defense on the NSC Planning Board, the Pentagon-AEC view was "that testing is essential for weapons development and rapid weapons development is essential for keeping ahead of the Russians." Apparently sharing this opinion,

the President in June 1955 ruled once again against an effort to obtain any type of test ban.[97]

The President had, however, agreed to meet at Geneva in July 1955 with the heads of government of the United Kingdom, France, and the Soviet Union. It was difficult for him to go with nothing to propose in the realm of arms limitation, especially since the Soviets were not only championing a ban on testing and abolition of all nuclear weapons, but in May had altered their posture concerning verification, suggesting cautiously that they might accept the stationing of observers at certain fixed points within their territory.[98] Preparation of advice for the President produced fierce debate between Defense and State, principally over the possibility of discussing with the Soviets limitations on armaments in Europe alone.[99] Potentially more divisive issues relating to limitations on U.S. and Soviet nuclear and thermonuclear weaponry / were confided to a special group presided over by former Governor Harold Stassen of Minnesota, who had previously been in charge of U.S. foreign aid programs and was now a Special Assistant to the President.

Out of Stassen's group came the single initiative which Eisenhower was to take at Geneva, labeled "Open Skies." It was a proposal that the United States and the Soviet Union first exchange detailed information about their respective military establishments and then agree to open their airspace for unlimited aerial reconnaissance offering reassurance against any secret military buildup or preparations for surprise attack. Scarcely

discussed by the principal staff aides preparing for the conference, this plan was probably viewed as unlikely to be accepted and useful, therefore, only for propaganda. When presented, it was in fact ill-received by the Soviet delegates. Now advocates of the scheme originally introduced by their adversaries, the Soviets had come to Geneva proposing overall numerical limitations on the armed forces of the major powers, destruction and abolition of nuclear weapons once reductions to these limits were well underway, and in the interim a ban on testing and exchange of pledges against any first use of nuclear weaponry. Upon receiving Eisenhower's proposal, Khrushchev said his reaction was "100 percent negative." It would have no effect, he said, except to feed the intelligence services. It would produce no reduction of armaments. [100]

After the conference, Secretary Dulles and the President agreed that they had found among the Russians "unconcealed anxiety" for relaxation of tension. They attributed it to internal problems complicated by the heavy burden of defense expenditures, and they were convinced that the United States should take advantage of this intuition and test Soviet willingness to conclude meaningful agreements. [101]

In the realm of arms control, however, little happened. Representatives of State, Defense, and other agencies continued to bicker. Stassen labored on, but in the midst of staff disputes mirroring those in the bureaucracy at large.

In February 1956, the President recorded in his diary a strong desire to find some means of inching toward arms limitations sufficiently verifiable

to improve confidence. Rejecting the Soviet approach, which was once more engaging interest in the U.S. State Department, he observed, however, that he did not want to get into any "numbers racket." In March, in its review of the 1956 version of the basic national security policy, the NSC directed "that intensive efforts should be continued on all aspects of the problem of devising a safeguarded system of disarmament." [102]

In the autumn of 1956, a special State-Defense-AEC committee was attempting to hammer out a new U.S. position. The State Department had become a champion of a proposal for a 1-year moratorium on all tests of weapons over 100 KT, its argument being that any Soviet violation could be automatically detectable. In the Pentagon, however, both civilians and military men opposed any such moratorium, arguing that it would inhibit U.S. weapons programs, prevent acquisition of knowledge about high-yield weapons such as the Soviets had been testing, and would, in fact, not be verifiable. With the President's 1956 challenger, Adlai Stevenson, making an issue of radioactive fallout and calling for a test-ban, the Administration temporized by announcing that it had such a ban under consideration and by having the U.S. Ambassador to the U.N. not ritually reintroduce old arms control proposals but instead say that he would offer something new at a later date. [103]

After Eisenhower's reelection, the new U.S. plan actually put forward differed only in detail from plans previously advanced. By the spring of 1957, however, Stassen and his staff had pulled together a document incorporating the "Atoms for Peace" and "Open Skies" formulae. Based on conversations with Soviet diplomats, Stassen believed the Kremlin

likely to be receptive to proposals for phased introduction of zonal arms limitations accords to be verified by aerial reconnaissance. His document outlined several possibilities. The one generally thought to be most feasible involved the Arctic region. A series of meetings at the White House on 25 May 1957, involving the President, the Secretary of State, Stassen, the Chairman of the JCS, the Director of Central Intelligence, and others, yielded at last, approval of an approach to negotiation with the Soviets. Preparations for actually carrying forward such negotiations were in progress when Sputnik went up. [104]

Meanwhile, the State Department had revised its advocacy of a U.S.-sponsored test moratorium. Probably aware that one ally, Japan, was about to demand such a moratorium in the U.N., and certainly aware that the AEC planned an exhaustive review of tests for the autumn and winter of 1957-58, the Defense Department and the JCS concurred to the extent of endorsing a proposal for an 18-month moratorium subject to rigid verification procedures. [105]

Though the "Atoms for Peace" and "Open Skies" proposals and the projected Stassen package had elements of novelty, none reflected enterprise comparable to that contemporaneously exhibited in, for example, the nuclearization of theater forces and the development of marine nuclear propulsion. In fact, after the initiative represented by the original Baruch Plan of 1946, the negotiating posture of the United States may be characterized as defensive. "Atoms for Peace," "Open Skies," and the Stassen package were all minimal responses to pressures largely created by Soviet initiatives in diplomacy and propaganda. A disposition to "use negotiation

in pursuing ... strategy" was confined to certain representatives of the State Department. More generally, negotiation seemed to be viewed as necessarily involving some sacrifice of defensive strength, not as potentially a means of adding to it.

The years from 1953 to 1957 were ones in which American officials knew with a certainty that the United States might soon face danger of annihilation. They were also years of extraordinary technological progress both in nuclear weaponry and in missilery. In retrospect, it seems evident that the strategy and accompanying force posture developed by the United States before and during the Korean War became increasingly less realistic. Committed to defend allies around the globe, it continued to rely primarily on a threat to drop nuclear and thermonuclear bombs on the Soviet homeland. At the same time, it acknowledged that the day was not far off when this threat would be neutralized. Yet the Eisenhower administration for practical purposes maintained exactly the position of it predecessor. Indeed, the end of 1957 saw the emphasis stronger than ever on strategic nuclear offensive forces, with general purpose forces at a diminished level, damage limitation programs virtually nonexistent, and possibilities for negotiation being discussed but not explored. Key figures in the government were all unshakeably wedded to beliefs about the Soviets and American-Soviet political competition similar to those which had infused NSC papers of the Truman period. At the same time, they were dedicated to spending less money on defense. All in all, the budgets, forces, deployments, and policies of the United States during this

period were products less of direct interaction with the Soviet Union than of tension in the United States between dread of Communism on the one hand and dread of deficit spending on the other.