THE BEST DEFENSE:

CHARTING THE FUTURE OF US SPACE STRATEGY AND POLICY

by

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Lieutenant Colonel Christopher A. "Boots" Coffelt is currently a student at the School of Advanced Air and Space Studies at Maxwell AFB, Alabama. Lieutenant Colonel Coffelt entered the Air Force in 1989 through the University of Colorado's Air Force ROTC program. Upon entry into the active duty force in October 1990, he attended the Air Force's Undergraduate Space Training at Lowry AFB, Colorado.

In 1991, Lieutenant Colonel Coffelt was assigned to Onizuka AFB, California where he served as a spacecraft launch commander and mission commander, leading launch/early-orbit and on-orbit operations for Defense Satellite Communication System III satellites, Defense Support Program missile warning satellites, Inertial Upper Stage booster spacecraft, NATO IV/SKYNET IV communications satellites, and Space Shuttle support operations.

In 1994, Lieutenant Colonel Coffelt was assigned to F.E. Warren AFB, Wyoming where he served as a Peacekeeper missile combat crew member and executive officer to the 90th Operations Group commander.

Upon his selection for the Air Force Intern Program in 1996, he was assigned to the Pentagon with duties as Air Staff action officer in the History Support Office and, later, as a political-military officer on the Secretary of Defense's Bosnia Task Force, developing DoD and USG policy on Bosnia.

In 1998, he returned to operations with an assignment to Malmstrom AFB, Montana where he performed missile combat crew duty and served as the senior ICBM flight commander/instructor in the 12th Missile Squadron. He was also selected as the commander, current operations flight in the 341st Operations Support Squadron, leading a flight of 45 missile officers and responsible for training the wing's 300 missile combat crew members for nuclear alert duty.

In 2001, he returned to the Pentagon with an assignment to the Space Superiority Panel (AF/XPPS) as a space/missile force programmer where he coordinated and oversaw budget activities for all Air Force space and nuclear deterrence programs. His duties included developing, reviewing, evaluating, and presenting funding options for SECAF/CSAF decisions on space programs totaling over $9 billion annually in building the Air Force Program Objective Memorandum (POM). Later, he also served as executive officer to the Deputy Chief of Staff, Plans and Programs.

Lieutenant Colonel Coffelt was then assigned to Maxwell AFB, Alabama in 2003 to attend Air Command and Staff College. Upon graduation, he was selected to attend the School of Advanced Air and Space Studies.

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Abstract

THE US IS AT A CROSSROADS WITH RESPECT TO SPACE. THE CHALLENGE THAT NOW PRESENTS ITSELF IS HOW TO CRAFT A STRATEGY THAT MAINTAINS THE UNITED STATES' ASYMMETRIC ADVANTAGE IN SPACE WHILE MOVING FROM THE CURRENT AGE OF UNCONTESTED ACCESS TO ONE WHERE ACCESS MUST BE ASSURED BY DELIBERATE ACTIONS. ALL MILITARY STRATEGIES ARE KEY TO THE OVERALL GRAND STRATEGY OF THE STATE, BUT THE US MILITARY STRATEGY FOR SPACE HOLDS A SPECIAL DEGREE OF INFLUENCE UPON THE OVERALL SUCCESS OF US GRAND STRATEGY. THIS SPECIAL DEGREE OF INFLUENCE DERIVES FROM THE CHARACTERISTIC OFFENSIVE OMNIPRESENCE OF ORBITAL PLATFORMS; JUST AS THE ADVENT OF INTERCONTINENTAL MISSILE DELIVERY SYSTEMS ESTABLISHED THE OFFENSIVE OMNIPRESENT THREAT OF NUCLEAR WEAPONS. AS SUCH, STRATEGISTS MUST TAKE SPECIAL CARE TO WEIGH NOT ONLY THE NECESSITIES OF THE MILITARY STRATEGY FOR SPACE, BUT ALSO THE BROADER IMPACT ON THE NATION'S GRAND STRATEGY.

WHAT TYPE OF STRATEGY WOULD BEST ACHIEVE US SECURITY OBJECTIVES? SHOULD THE US ADOPT A LARGELY DEFENSIVE STRATEGY TO PROTECT ITS INTERESTS AND PRESERVE ITS ADVANTAGES OR DOES THE ADAGE "THE BEST DEFENSE IS A STRONG OFFENSE" HOLD TRUE FOR SPACE? THIS THESIS SEEKS TO INFORM MODERN-DAY SPACE STRATEGY DECISIONS THROUGH EXAMINATION OF HISTORICAL CASE STUDIES WHERE US STRATEGISTS AND DECISION MAKERS FACED SIMILAR HIGH STAKES NATIONAL SECURITY DECISIONS WITH UNCERTAIN OUTCOMES. ANALYSES OF THE DECISION MAKING PROCESSES AND THE RESULTING CONSEQUENCES GIVE INSIGHT INTO THESE IMPORTANT QUESTIONS AND MAY INFORM US ON THE POTENTIAL ROAD AHEAD FOR SPACE. THREE HISTORICAL CASES ILLUSTRATE THE DYNAMICS OF THE DECISION MAKING PROCESSES AS WELL AS THE ULTIMATE STRATEGIC CHOICES AND CONSEQUENCES. THESE CASES REVEAL HOW MILITARY SUPERIORITY STRATEGIES, FAITH IN, AND RELIANCE UPON TECHNOLOGY TO SOLVE COMPLEX NATIONAL SECURITY PROBLEMS, AND A STRONG PREFERENCE FOR OFFENSIVE SOLUTIONS AND POSITIVE ACTION TO SECURE US NATIONAL SECURITY CAN DRAMATICALLY PRODUCE THE OPPOSITE OF THEIR INTENDED EFFECT.

THE EVIDENCE INFERS THAT THE POTENTIAL EXISTS FOR THE US TO ADOPT A MILITARY STRATEGY FOR SPACE (AND ACQUIRE WEAPONS TO SUPPORT ITS FULFILLMENT) THAT UNDERMINES US GRAND STRATEGY AND DELIVERS LESS SECURITY. THE THESIS CONCLUDES THAT GIVEN THE CURRENT CONTEXT, THE US IS BETTER OFF PUSHING THE STATUS QUO IN SPACE WITHOUT PERTURBING STRATEGIC STABILITY, WHICH WILL HELP RETAIN THE POLITICAL, MILITARY, AND ECONOMIC ADVANTAGES IT HAS WORKED SO HARD TO ACHIEVE.

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Introduction

ALL MEN CAN SEE THESE TACTICS WHEREBY I CONQUER, BUT WHAT NONE CAN SEE IS THE STRATEGY OUT OF WHICH VICTORY IS EVOLVED.

— Sun Tzu

THE RACE IS NOT ALWAYS TO THE SWIFT, NOR THE BATTLE TO THE STRONG

— Ecclesiastes 9:11a

JOINT PUBLICATION 1-02, *DEPARTMENT OF DEFENSE DICTIONARY OF MILITARY AND ASSOCIATED TERMS,* DEFINES STRATEGY AS "THE ART AND SCIENCE OF DEVELOPING AND EMPLOYING INSTRUMENTS OF NATIONAL POWER IN A SYNCHRONIZED AND INTEGRATED FASHION TO ACHIEVE THEATER, NATIONAL, AND/OR MULTINATIONAL OBJECTIVES."[1] STRATEGY CAN ALSO BE CHARACTERIZED AS THE ART OF CRAFTING AND MAINTAINING A POSITION OF CONTINUOUS ADVANTAGE AND IS NEVER ABOUT THE FIRST MOVE, FIRST-ORDER EFFECT, OR SHORT-TERM GOAL.[2] IN FORMULATING STRATEGY, STRATEGISTS MUST CONSIDER ALL ELEMENTS OF NATIONAL POWER AND ALWAYS REMAIN FOCUSED ON THE LONG-TERM GOAL: HOW TO EXTEND AND MAXIMIZE THE ADVANTAGE FOR AS LONG AS POSSIBLE. STRATEGISTS MUST RESIST SEDUCTIVE, IMMEDIATELY VISIBLE GAINS AND SEEK TO UNDERSTAND THE LARGER STRATEGIC IMPLICATIONS OF THEIR DECISIONS. IN MANY CASES, THESE DECISIONS INVOLVE EXTREMELY HIGH STAKES AND UNCERTAIN OUTCOMES.

THE UNITED STATES MILITARY SPACE STRATEGY IS JUST SUCH A CASE AND THE US IS FAST APPROACHING A CRITICAL NATIONAL SECURITY DECISION POINT. IN CHARTING THE COURSE FOR SPACE, THE UNITED STATES MUST CAREFULLY WEIGH THE MILITARY ADVANTAGES AND DISADVANTAGES OF CERTAIN COURSES OF ACTION. HENCE, THE US MUST THINK BEYOND SHORT-TERM MILITARY GAINS, ANALYZE POTENTIAL

[1] Joint Publication (JP) 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 12 April 2001 (As Amended through 5 June 2003).
[2] Everett Carl Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (New York, New York: Frank Cass, 2005), 1-14.

COUNTERMEASURES, AND SELECT A STRATEGY THAT OFFERS THE BEST OPPORTUNITIES TO EXTEND THE US POSITION OF ADVANTAGE.

THE PROBLEM: CONTESTED SPACE

DUE IN LARGE PART TO ADVANTAGES IN TECHNOLOGY AND ECONOMIC STRENGTH, THE UNITED STATES HAS BEEN UNCHALLENGED IN SPACE AND LONG ENJOYED A *DE FACTO* CONTROL OF SPACE AND SPACE SUPERIORITY—BUT IT APPEARS THOSE DAYS ARE COMING TO A CLOSE.[3] THE US CAN NO LONGER ASSUME ITS SPACE ASSETS AND CAPABILITIES RESIDE IN A DISTANT SANCTUARY BEYOND AN ADVERSARY'S TECHNOLOGICAL AND OPERATIONAL REACH. THE TECHNOLOGY TO LAUNCH AND OPERATE SPACECRAFT, OR SIMPLY TO BUY SPACE SERVICES, IS RELATIVELY INEXPENSIVE AND MORE ACHIEVABLE THAN EVER BEFORE.[4] AS OPPORTUNITIES EMERGE FOR OTHER NATIONS TO EXPLOIT SPACE, THE US MUST BE PREPARED TO ACT TO SECURE ITS INTERESTS THERE.

SPACE PROVIDES FORCE ENHANCEMENT AND FORCE ENABLING FUNCTIONS THAT US GROUND, AIR, AND SEA FORCES HAVE COME TO RELY UPON. SPACE INTEGRATION AND RELIANCE HAVE INCREASED THE COMBAT CAPABILITY OF US FORCES AND SIMULTANEOUSLY CREATED NEW VULNERABILITIES THAT AN ADVERSARY COULD EXPLOIT. DENIAL OF CRITICAL POSITIONING DATA, WEATHER, COMMUNICATIONS, MISSILE WARNING, OR OTHER SPACE SERVICES WOULD SIGNIFICANTLY IMPACT US COMBAT OPERATIONS AND INCREASE THE RISK TO US FORCES. THE US AIR FORCE OPENLY ACKNOWLEDGES THAT THE "UNITED STATES IS THE PREEMINENT USER OF SPACE FOR MILITARY PURPOSES; HAS THE HIGHEST RELIANCE ON UNINTERRUPTED ACCESS TO SPACE; AND THIS DEPENDENCY IS EXPECTED TO GROW IN THE YEARS AHEAD."[5] AIR FORCE DOCTRINE UNDERSCORES THE IMPORTANCE OF TAKING POSITIVE MEASURES TO ENSURE THE US RETAINS UNINTERRUPTED ACCESS TO SPACE AND DESCRIBES WHAT IS REQUIRED TO ACHIEVE SPACE SUPERIORITY STATING, "WITHOUT CAPABILITIES TO ENSURE THE SURVIVABILITY AND OPERATIONAL UTILITY OF FRIENDLY SPACE FORCES AS WELL AS CAPABILITIES TO DENY THE ADVERSARY USE OF SPACE, SPACE SUPERIORITY CANNOT BE ACHIEVED."[6] INCREASINGLY, POTENTIAL ADVERSARIES HAVE BEGUN TO LEVERAGE SPACE CAPABILITY, PROVIDING THEM MANY OF THE SAME MILITARY ADVANTAGES THE US HAS LONG ENJOYED.[7]

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[3] US Air Force, Air Force Space Command (AFSPC) Strategic Master Plan (SMP) FY06 and Beyond, Peterson AFB, CO: Headquarters Air Force Space Command (AFSPC/XPXP), 1 October 2003, 23.
[4] US Congress, Report of the Commission to Assess United States National Security Space Management and Organization, 107th Cong., 11 January 2001, pursuant to Public Law 106-65, 9-12; hereafter cited as the Space Commission Report.
[5] Headquarters United States Air Force Public Affairs, memorandum, subject: Public Affairs Guidance (PAG) for Space Control, September 2003, 5.
[6] Air Force Doctrine Document (AFDD) 2-2, *Space Operations,* 27 November 2001, viii.
[7] Space Commission Report, 10-15.

THE CHALLENGE THAT NOW PRESENTS ITSELF IS HOW TO CRAFT A STRATEGY THAT MAINTAINS THE UNITED STATES' ASYMMETRIC ADVANTAGE IN SPACE WHILE MOVING FROM THE CURRENT AGE OF UNCONTESTED ACCESS TO ONE WHERE ACCESS IS ASSURED BY DELIBERATE ACTIONS. FOR THE US MILITARY, THE MOST LIKELY SOLUTION ENTAILS A STRATEGY TO PROTECT AND DEFEND THESE CAPABILITIES OR POTENTIALLY DENY AN ADVERSARY'S ACCESS TO THEM, OR SOME COMBINATION OF BOTH. IT IS ALSO CONCEIVABLE, HOWEVER, THAT THE US COULD SECURE ITS INTERESTS IN SPACE DIPLOMATICALLY THROUGH SOME TYPE OF COOPERATIVE, INTERNATIONAL ARRANGEMENT WHERE SPACE IS READILY AND RELIABLY ACCESSIBLE TO ALL WHO HAVE THE TECHNOLOGICAL AND ECONOMIC WHEREWITHAL TO EXPLOIT IT. THE STRATEGIC CHOICE NOW AT HAND PRESENTS A CRITICAL JUNCTURE. DIFFERENT ROADS AHEAD PORTEND DIFFERENT POSSIBLE OUTCOMES, BUT ALL FROM TODAY'S VANTAGE POINT ARE OBSCURED BY UNCERTAINTY.

OUTLINE OF THESIS

THIS THESIS SEEKS TO INFORM MODERN-DAY SPACE STRATEGY DECISIONS THROUGH THE EXAMINATION OF HISTORICAL CASE STUDIES WHERE US STRATEGISTS AND DECISION MAKERS FACED SIMILAR HIGH STAKES NATIONAL SECURITY DECISIONS WITH UNCERTAIN OUTCOMES. ANALYSES OF HOW THESE DECISIONS WERE MADE AND THE RESULTING CONSEQUENCES GIVES INSIGHT INTO THESE IMPORTANT QUESTIONS AND MAY INFORM US ON THE POTENTIAL ROAD AHEAD FOR SPACE.[8] THREE HISTORICAL CASES ARE PRESENTED TO ILLUSTRATE THE DYNAMICS OF THE DECISION MAKING PROCESSES AS WELL AS THE ULTIMATE STRATEGIC CHOICES. THROUGHOUT THESE CASES, THE EVIDENCE WILL SHOW THAT THE DEVELOPMENT OF WEAPON SYSTEMS AND CAPABILITIES IS NOT DRIVEN BY A TECHNOLOGICAL IMPERATIVE OR BY CHANCE. RATHER, THESE SYSTEMS AND STRATEGIES ARE ADOPTED BY POLITICAL EFFORT AND WILL, AND THAT THESE ARE CHOICES WELL WITHIN THE CONTROL OF DECISION MAKERS. CHAPTER 1 CONTAINS AN EXAMINATION OF THE DECISION TO PURSUE THE HYDROGEN BOMB AND AN OFFENSIVE NUCLEAR STRATEGY. CHAPTER 2 EXAMINES THE US DECISION TO MIRV MISSILES (PUTTING MULTIPLE NUCLEAR WARHEADS ON MISSILES). CHAPTER 3 EXPLORES THE DECISIONS SURROUNDING THE STRATEGIC DEFENSE INITIATIVE (SDI OR "STAR WARS") AND ITS IMPACT UPON THE NATION'S DEFENSE AND SECURITY. CHAPTER 4 CONTAINS AN INTEGRATION OF THE HISTORICAL CASE STUDY ANALYSES WITH RESPECT TO SPACE STRATEGY DECISIONS AND ARTICULATES HOW NUCLEAR STRATEGY DECISIONS ARE PARTICULARLY RELEVANT AND USEFUL FOR FRAMING THE ISSUES AND INFORMING DECISION MAKERS. THIS CHAPTER OUTLINES THE IMPLICATIONS FOR SPACE STRATEGY AS WELL AS PROVIDES RECOMMENDATIONS FOR FUTURE SPACE STRATEGY, AND IS FOLLOWED BY FINAL THOUGHTS IN THE CONCLUSION.

[8] Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision-Makers* (New York, New York: The Free Press, 1986), xi-xxii, 31-33, 132-133.

CHAPTER 1

THE H-BOMB DECISION

THIS CHAPTER EXAMINES THE ISSUES AND ARGUMENTS THAT CULMINATED IN PRESIDENT TRUMAN'S DECISION TO PROCEED WITH THE DEVELOPMENT AND DEPLOYMENT OF THE HYDROGEN BOMB IN 1950 AND ASSESSES THE LONG-TERM STRATEGIC IMPACT OF THAT DECISION. THE H-BOMB DECISION ILLUSTRATES THAT POLITICAL WILL, EFFORT, AND RESOURCES REMAIN RESPONSIBLE FOR BRINGING ABOUT SUCH NEW WEAPONS, AND DEBUNKS THE IDEA THAT SOME SORT OF "TECHNOLOGICAL IMPERATIVE (IS) AT WORK—THAT IS, IF A WEAPON CAN BE MADE IT WILL BE MADE."[9] THE DECISION TO PURSUE THIS HIGHLY OFFENSIVE CAPABILITY WAS NOT THE RESULT OF THE INEVITABILITY OF TECHNOLOGICAL PROGRESS, RATHER, IT WAS THE PERSISTENT EFFORTS OF A SMALL GROUP OF EAGER SCIENTISTS THAT FOSTERED DECISION MAKERS' BELIEFS THAT TECHNOLOGY AND MILITARY CAPABILITY ALONE COULD PROVIDE SOLUTIONS TO COMPLEX NATIONAL SECURITY PROBLEMS. IT WAS A DELIBERATE CHOICE TO RELY ON AN OFFENSIVE MILITARY STRATEGY AS THE BEST DEFENSE FOR THE UNITED STATES. BUT THIS CHOICE INCURRED UNINTENDED CONSEQUENCES THAT WERE CONTRARY TO, AND UNDERMINED THE LARGER NATIONAL STRATEGY.

BACKGROUND

THE DECISION TO EMPLOY THE FIRST ATOMIC BOMB OVER HIROSHIMA, JAPAN ON 6 AUGUST 1945 OPENED THE NUCLEAR AGE, BUT WAS ONLY ONE OF SEVERAL HIGH STAKES DECISIONS IN THE UNITED STATES' NUCLEAR HISTORY. THE MANHATTAN PROJECT, LED BY GENERAL LESLIE GROVES, WAS CHARTERED TO DEVELOP THE ATOMIC BOMB, BUT ALSO GAVE RISE TO ANOTHER WATERSHED STRATEGIC DECISION.[10] THAT SAME YEAR, THE PROGRAM'S DISCOVERY OF THE THEORETIC "POSSIBILITY OF MOVING FROM URANIUM TO HYDROGEN, FROM FISSION TO FUSION, FROM KILOTONS TO MEGATONS" ALSO SET IN MOTION THE DECISION PATH FOR DEVELOPMENT OF THE HYDROGEN OR SUPER-BOMB.[11] THE GREATLY INCREASED DESTRUCTIVE POWER OF THE SUPER-BOMB, OR "SUPER" AS IT CAME TO BE CALLED, PRESENTED US DECISION MAKERS WITH AN ENTIRELY NEW DILEMMA. ON THE SURFACE, IT MIGHT APPEAR THAT PRESIDENT TRUMAN'S DECISION WAS NO DIFFERENT THAN ROOSEVELT'S DECISION SOME EIGHT YEARS EARLIER TO PURSUE THE ATOMIC BOMB. HOWEVER, THE CONTEXTS SURROUNDING THESE TWO DECISIONS ARE DISTINCTLY DIFFERENT AND VERY IMPORTANT TO NOTE.

THE CRITICAL DIFFERENCE BETWEEN THE TWO IS THAT DECISIONS TO PURSUE, DEVELOP, AND EVENTUALLY EMPLOY THE ATOMIC BOMB WERE ALL MADE DURING WARTIME. IN CONTRAST, THE UNITED

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[9] Jonathan B. Stein, *From H-Bomb to Star Wars: The Politics of Strategic Decision Making* (Lexington, Massachusetts: Lexington Books, 1984), 3.
[10] Stein, 5-6.
[11] McGeorge Bundy, *Danger and Survival: Choices About the Bomb in the First Fifty Years* (New York, New York: Random House, 1988), 190.

STATES' DEBATE OVER AND DECISION TO PURSUE DEVELOPMENT OF THE SUPER OCCURRED DURING PEACETIME. IT WAS DURING THE FOUR-YEAR PERIOD FOLLOWING HIROSHIMA, WHEN THE US HAD A MONOPOLY ON NUCLEAR WEAPONS, THAT THE DECISION ON WHETHER OR NOT TO DEVELOP THE SUPER WAS DEBATED. AS SUCH, US DECISION MAKERS FACED A VERY DIFFERENT KIND OF DECISION IN LATE 1949, THAT IS, HOW MUCH OFFENSIVE POTENTIAL DOES A STATE SEEK WHILE AT PEACE?

WHEN THE SOVIET UNION SUCCESSFULLY DETONATED THEIR FIRST ATOMIC DEVICE IN AUGUST 1949, EQUALING AMERICA'S NUCLEAR CAPABILITY, THE EVENT SPARKED THE DEBATE WITHIN THE US GOVERNMENT OVER WHETHER OR NOT TO PURSUE THE SUPER.[12] THE SUPER OFFERED AN EXPONENTIALLY GREATER OFFENSIVE CAPABILITY THAN ATOMIC WEAPONS AND MANY BELIEVED ITS DEVELOPMENT WAS CRITICAL TO THE NATIONAL SECURITY OF THE UNITED STATES. IN THE MONTHS THAT FOLLOWED THE SOVIET'S SUCCESSFUL TEST, MUCH OF THE SUPPORT FOR DEVELOPING THE SUPER ORIGINATED FROM A SMALL GROUP OF ENTHUSIASTIC SCIENTISTS WHO PUSHED THE ISSUE INTO THE UNITED STATES GOVERNMENT'S POLICY ARENA IN THE HOPES OF SECURING THE PRESIDENT'S APPROVAL TO PROCEED WITH THE DEVELOPMENT OF THE SUPER. THIS GROUP SOUGHT OUT SUPPORT FOR THE SUPER IN MILITARY, CONGRESSIONAL, AND FOREIGN POLICY CIRCLES, AND BROUGHT THE ISSUE TO THE FOREFRONT OF THE AMERICAN POLITICAL AGENDA—BUT PRESIDENT TRUMAN'S INSISTENCE ON SECRECY KEPT THE DEBATE CONFINED SOLELY TO A SMALL GROUP OF GOVERNMENT OFFICIALS AND OUT OF THE PUBLIC REALM.[13]

SCIENTISTS

EDWARD TELLER, KNOWN AS THE FATHER OF THE H-BOMB, ERNEST LAWRENCE, AND LEWIS STRAUSS DID NOT BELIEVE THAT INCREASES IN THE ATOMIC STOCKPILE ALONE WOULD BE ENOUGH TO DETER THE SOVIETS, AND FAVORED IMMEDIATE DEVELOPMENT OF THE MUCH MORE DESTRUCTIVE SUPER.[14] TELLER WAS THE ONLY SCIENTIST WITHIN THE MANHATTAN PROJECT IN 1942 ASSIGNED TO RESEARCH THE SUPER. AS SUCH, HE "HAD BEEN THE LEADING SCIENTIFIC ENTHUSIAST FOR THE SUPER SINCE 1942…AND…HAD HOPED THAT IT WOULD BE PURSUED WITH HIGH PRIORITY AFTER THE WAR."[15] THE MEN ALL KNEW GAINING APPROVAL TO DEVELOP THE SUPER LAY SOLELY UNDER THE AUTHORITY OF THE PRESIDENT OF THE UNITED STATES, HARRY S. TRUMAN. WITH TELLER'S CREDIBILITY, LAWRENCE AND STRAUSS SET OUT TO BRING THE ISSUE TO THE FOREFRONT OF THE US GOVERNMENT'S AGENDA AND BUILD SUPPORT FOR THE SUPER BY FINDING OR RECRUITING BACKERS WITHIN THE HIGHEST LEVELS

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[12] Bundy, 197.
[13] John W. Kingdon, *Agendas, Alternatives, and Public Policies*, 2nd ed. (New York, New York: Longman, 2003), 21-26.
[14] Lewis L. Strauss, *Men and Decisions* (Garden City, New York: Doubleday & Company, 1962), 216-217, 223; Bundy, 204, 206, 309. Note: the Atomic Energy Commission took over from General Groves in the beginning of 1947 (Bundy, 202).
[15] Herbert F. York, *The Advisors: Oppenheimer, Teller, and the Superbomb* (San Francisco, California: W.H. Freeman and Company, 1976), 62-63; Bundy, 205.

OF THE MILITARY, CONGRESS, AND THE EXECUTIVE BRANCH OF THE US GOVERNMENT, EVEN GOING SO FAR AS TO DIRECTLY PETITION THE PRESIDENT.[16]

STRAUSS WAS AN ACCOMPLISHED SCIENTIST, ALSO SERVED AS A COMMISSIONER ON THE FIVE-MAN ATOMIC ENERGY COMMISSION (AEC), AND FIRMLY BELIEVED THE SUPER WAS NECESSARY FOR UNITED STATES NATIONAL SECURITY. HE FELT SO STRONGLY ABOUT THE NEED FOR THE UNITED STATES TO PURSUE THE SUPER THAT HE WROTE A MEMO TO HIS FELLOW AEC COMMISSIONERS ON 5 OCTOBER 1949 OUTLINING HIS BELIEF THAT INCREASES IN THE ATOMIC STOCKPILE WERE NOT A SUFFICIENT RESPONSE TO THE SOVIET TEST.[17] STRAUSS PROPOSED "THAT WE SHOULD NOW MAKE AN INTENSIVE EFFORT TO GET AHEAD WITH THE SUPER," NOTING THAT ONLY AN EFFORT AKIN TO "THAT WHICH PRODUCED THE FIRST ATOMIC WEAPON" WOULD ENABLE THE US TO "STAY AHEAD" OF THE SOVIETS.[18] DESPITE THE FACT THAT STRAUSS HAD THE ABILITY TO INFLUENCE THE SUPER DECISION VIA HIS POSITION ON THE AEC, HE EXECUTED AN END-AROUND THE COMMITTEE THAT SAME DAY IN AN ATTEMPT TO DIRECTLY INFLUENCE THE PRESIDENT. STRAUSS VISITED AN OLD FRIEND NAMED SIDNEY W. SOUERS WHO SERVED AS THE EXECUTIVE SECRETARY OF THE NATIONAL SECURITY COUNCIL AND WAS A CLOSE ADVISOR TO TRUMAN ON FOREIGN POLICY AND NATIONAL SECURITY MATTERS.[19] DURING THE MEETING, SOUERS URGED STRAUSS TO ENERGIZE THE COMMISSION TO SEND A REPORT FORWARD TO THE PRESIDENT, AND PROMISED TO SPEAK TO THE PRESIDENT ABOUT THE ISSUE AND INFORM HIM THAT MORE INFORMATION WOULD BE FORTHCOMING FROM THE ADMINISTRATION. THE GROUP KEPT THE PRESSURE ON WITH A FOLLOW-UP VISIT TO SOUERS BY LAWRENCE. LAWRENCE MET WITH SOUERS FIVE DAYS LATER ON OCTOBER 10TH TO FURTHER DISCUSS THE ISSUE, AND LET SOUERS KNOW THAT BOTH HE AND TELLER FULLY SUPPORTED INTENSIVE EFFORTS TO DEVELOP THE SUPER AND ARTICULATED THE CRITICAL NATIONAL SECURITY NEED FOR THIS WEAPON. THAT SAME DAY, LAWRENCE ALSO ELICITED SUPPORT FROM A KEY MEMBER OF THE UNITED STATES CONGRESS.[20]

CONGRESS

WHEN LAWRENCE MET WITH SENATOR BRIEN MCMAHON EARLIER THAT DAY, HE FOUND ANOTHER ALLY AND KEY PROPONENT FOR THE SUPER.[21] MCMAHON WAS THE CHAIRMAN OF THE JOINT COMMITTEE ON ATOMIC ENERGY (JCAE) AND THE "SENATE'S FOREMOST AUTHORITY ON ATOMIC

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[16] Strauss, 217-230.
[17] Strauss, 216.
[18] Strauss, 217.
[19] Bundy, 204.
[20] Kingdon, 122-123, 143-144, 179-183. Kingdon characterizes these types of individuals as "policy entrepreneurs." These advocates for certain proposals can be influential businessmen, scientists, prominent academics, experts, etc., with a "willingness to invest their resources—time, energy, reputation, and sometimes money—in the hope of a future return. That return might come to them in the form of policies of which they approve, satisfaction from participation, or even personal aggrandizement in the form of job security or career promotion."
[21] Atomic Energy Commission, *In the Matter of J. Robert Oppenheimer: Transcript of Hearing before Personnel Security Board and Texts of Principal Documents and Letters* (Cambridge, Massachusetts: The MIT Press, 1970), 714-715, 777.

ENERGY."[22] HE SHARED THE SCIENTISTS' CONVICTIONS ABOUT THE URGENT NEED TO DEVELOP THE SUPER TO COUNTER THE SOVIETS, AND EVEN ADVOCATED THIS POSITION IN LETTERS HE SENT DIRECTLY TO THE PRESIDENT. IN ONE SUCH LETTER, MCMAHON STRESSED THE MILITARY UTILITY OF THE SUPER SAYING "IF…THE SUPER REPRESENTS A WHOLLY NEW ORDER OF DESTRUCTIVE MAGNITUDE—AS I THINK IT OBVIOUSLY DOES—THEN ITS MILITARY ROLE WOULD SEEM TO BE DECISIVE."[23] KEY CONGRESSIONAL SUPPORT IDENTIFIED, LAWRENCE SET OUT TO SECURE THE MILITARY'S SUPPORT TWO DAYS LATER.

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LAWRENCE MET WITH MAJOR GENERAL KENNETH NICHOLS ON OCTOBER 12TH WITH THE OBJECTIVE OF GETTING THE JOINT CHIEFS TO STATE A REQUIREMENT FOR THE SUPER.[24] NICHOLS WAS "THE SENIOR MILITARY EXPERT ON NUCLEAR WEAPONS," HAD BEEN GENERAL GROVES' DEPUTY IN THE MANHATTAN PROJECT, AND HAD ACCESS TO THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF, GENERAL OMAR BRADLEY.[25] NICHOLS IMMEDIATELY AGREED WITH THE SCIENTISTS' ASSESSMENT AND NEED FOR THE SUPER, AND BRIEFED GENERAL BRADLEY.[26] IN HIS AUTOBIOGRAPHY, BRADLEY RECALLS THE EVENTS AND THE PROPOSAL BY:

> COMMISSIONER STRAUSS AND NUCLEAR PHYSICIST EDWARD TELLER AND OTHER HAWKS IN THE SCIENTIFIC COMMUNITY THAT THE UNITED STATES MAKE A "QUANTUM JUMP" IN NUCLEAR WEAPONRY, BY EMBARKING ON A PROGRAM TO BUILD A THERMONUCLEAR OR "HYDROGEN BOMB," WHICH MIGHT YIELD 1,000 TIMES THE POWER OF THE NAGASAKI BOMB…NO ONE WAS QUITE SURE THAT IT WOULD WORK OR COULD BE DONE, BUT STRAUSS, TELLER AND OTHERS WERE VERY ANXIOUS TO GIVE IT A TRY.[27]

AS EVIDENCED HERE, A SMALL GROUP OF SCIENTISTS WERE RESPONSIBLE FOR THE GENESIS OF THE SUPER, AND THERE WAS NO PREEXISTING MILITARY REQUIREMENT FOR SUCH A WEAPON. IT IS ALSO IMPORTANT TO NOTE THAT THERE WAS CONSIDERABLE UNCERTAINTY THAT THE WEAPON WOULD WORK. DESPITE THIS ASSESSMENT, BRADLEY AND THE JOINT CHIEFS REACHED AN EARLY CONCLUSION ON THE SUPER FROM WHICH THEY NEVER SHIFTED. EVEN THOUGH THE JOINT CHIEFS OF STAFF'S FORMAL RECOMMENDATION ON THE SUPER DID NOT MATERIALIZE FOR WELL OVER A MONTH, BRADLEY STATES THAT "BEHIND THE SCENES, REPRESENTING THE JCS, I WAS AN ACTIVE LOBBYIST FOR THE H-BOMB" NOTING THAT HE EXPRESSED THIS SUPPORT IN A SECRET MEETING OF MCMAHON'S CONGRESSIONAL COMMITTEE ON 14 OCTOBER 1949.[28]

AS CHAIRMAN, BRADLEY FORMALLY CONVEYED THE JOINT CHIEFS POSITION IN A 23 NOVEMBER 1949 MEMORANDUM TO DEFENSE SECRETARY JOHNSON, "UNANIMOUSLY DECLARING IN FAVOR OF ATTEMPTING THE HYDROGEN BOMB" AND NOTING THAT "POSSESSION OF A THERMONUCLEAR WEAPON BY

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[22] Bundy, 205.
[23] United States Department of State, *Foreign Relations of the United States 1949*, vol. I, *National Security Affairs, Foreign Economic Policy* (Washington, D.C.: Government Printing Office, 1976), 589.
[24] Bundy, 205.
[25] Bundy, 205.
[26] Bundy, 206.
[27] General of the Army Omar N. Bradley and Clay Blair, *A General's Life* (New York, New York: Simon and Schuster, 1983), 515.
[28] Bradley, 515.

THE USSR WITHOUT SUCH POSSESSION BY THE UNITED STATES WOULD BE INTOLERABLE."[29] THE MEMO CLEARLY ACKNOWLEDGES THAT THE SUPER "WILL HAVE A PROFOUND EFFECT ON POLICY IN THE FIELD OF INTERNATIONAL AFFAIRS," YET, DOES NOTHING TO ARTICULATE THOSE EFFECTS.[30] FURTHER, THE MEMO TRUMPS ANY POTENTIAL CONSIDERATIONS OF THE BROADER ISSUES, STATING THE "IMPERATIVE NECESSITY" OF PURSUING THE SUPER'S DEVELOPMENT FOR NATIONAL SECURITY, AND BASES THE NEW MILITARY REQUIREMENT ALMOST SOLELY IN A BELIEF IN THE NECESSITY FOR MILITARY SUPERIORITY.[31]

THUS, BY MID-OCTOBER, LAWRENCE, STRAUSS AND TELLER HAD IDENTIFIED KEY SUPPORTERS OF THE SUPER IN CONGRESS, THE WHITE HOUSE, AND THE PENTAGON.[32] DESPITE STRAUSS' BEST EFFORT, THERE REMAINED INFLUENTIAL SCIENTISTS WORKING WITHIN GOVERNMENT THAT ARDENTLY OPPOSED DEVELOPMENT OF THE WEAPON. SEVERAL KEY FIGURES ON THE OTHER SIDE OF THIS DEBATE SERVED ALONGSIDE STRAUSS ON THE ATOMIC ENERGY COMMISSION AND ON THE COMMISSION'S GENERAL ADVISORY COMMITTEE.

THE ATOMIC ENERGY COMMISSION AND ITS GENERAL ADVISORY COMMITTEE

THE AEC WAS THE FIVE-MAN COMMISSION ESTABLISHED BY THE MCMAHON ACT THAT TOOK OVER FOR GROVES AT THE BEGINNING OF 1947.[33] THE COMMISSION WAS CHAIRED BY DAVID LILIENTHAL, WHO, AT THE FIRST MEETING WITH CONGRESS' JOINT COMMITTEE ON ATOMIC ENERGY, REAFFIRMED HIS UNDERSTANDING OF THE COMMISSION'S CHARTER TO "MAINTAIN AND INCREASE THE PREEMINENCE OF THIS COUNTRY IN ATOMIC ENERGY DEVELOPMENT AND ATOMIC WEAPONS; THAT THIS REQUIRED MAXIMUM PRODUCTION AND UNINTERRUPTED PRODUCTION AND AN INCREASE IN PRODUCTION OF FISSIONABLE MATERIALS."[34] THE COMMISSION'S CENTRAL FOCUS IS BEST DESCRIBED BY NOTED MANHATTAN PROJECT SCIENTIST J. ROBERT OPPENHEIMER WHO SAID "THE PRINCIPAL JOB OF THE COMMISSION WAS TO PROVIDE ATOMIC WEAPONS AND GOOD ATOMIC WEAPONS AND MANY ATOMIC WEAPONS."[35] OPPENHEIMER SERVED AS THE CHAIRMAN OF THE GENERAL ADVISORY COMMITTEE (GAC) UNDER THE AEC.

AS GAC CHAIRMAN, OPPENHEIMER WORKED WITH A VARIETY OF OTHER KEY SCIENTISTS, ENGINEERS, AND ECONOMISTS TO PROVIDE POLICY GUIDANCE ON THE DEVELOPMENT OF ATOMIC WEAPONS TO THE EXECUTIVE BRANCH OF THE GOVERNMENT, THROUGH THE AEC.[36] IN RESPONSE TO STRAUSS' OCTOBER 5TH LETTER URGING HIS FELLOW COMMISSIONERS TO SUPPORT DEVELOPMENT OF THE SUPER, AEC CHAIRMAN LILIENTHAL REFERRED THE PROPOSAL TO OPPENHEIMER AND THE GAC.[37]

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[29] Bradley, 515; *FRUS 1949*, 595-596.
[30] *FRUS 1949*, 595-596.
[31] *FRUS 1949*, 595-596.
[32] Bundy, 205.
[33] Bundy, 202, 206.
[34] David E. Lilienthal, *The Journals of David E. Lilienthal*, vol. II, *The Atomic Energy Years 1945-1950* (New York, New York: Harper & Rowe, 1965), 210.
[35] AEC, 69.
[36] AEC, 68-69.
[37] Lilienthal, 580; Strauss, 217.

THE GAC STUDIED AND DEBATED THE ISSUE AND PROVIDED A FINAL REPORT AND RECOMMENDATIONS TO THE PARENT AEC.

ON 29 OCTOBER 1949, THE GAC PROVIDED THEIR FINAL REPORT ON THE MATTER, COMING TO A UNANIMOUS CONCLUSION NOT TO SUPPORT AN " 'ALL-OUT' EFFORT TO DEVELOP" THE SUPER ON TECHNICAL, POLITICAL, AND ETHICAL GROUNDS.[38] FURTHER, THE REPORT STATED THE COMMITTEE WAS "RELUCTANT TO SEE THE UNITED STATES TAKE THE INITIATIVE IN PRECIPITATING ITS DEVELOPMENT."[39] THERE WAS, HOWEVER, SOME DISSENTION ON ANOTHER MATTER. OPPENHEIMER NOTES THAT SIX MEMBERS OF THE COMMITTEE FAVORED AN "UNQUALIFIED COMMITMENT" NOT TO DEVELOP THE WEAPON WHILE TWO MEMBERS, RABI AND FERMI, FELT THAT "IT SHOULD BE MADE CONDITIONAL ON THE RESPONSE OF THE SOVIET GOVERNMENT TO A PROPOSAL TO RENOUNCE SUCH DEVELOPMENT."[40] OVERALL, RABI AND FERMI AGREED WITH THE COMMITTEE'S MAJORITY OPINION THAT FISSION BOMBS PROVIDED ADEQUATE MILITARY SUFFICIENCY TO COUNTER ANY POTENTIAL ADVERSARY'S ATTACK USING FUSION BOMBS.[41] MOST IMPORTANTLY, THE COMMITTEE ALSO NOTED WHAT THEY BELIEVED TO BE THE MORE FAR-REACHING IMPACTS OF THIS DECISION, STATING:

> WE BASE OUR RECOMMENDATION ON OUR BELIEF THAT THE EXTREME DANGERS TO MANKIND INHERENT IN THE PROPOSAL WHOLLY OUTWEIGH ANY MILITARY ADVANTAGE THAT COULD COME FROM THIS DEVELOPMENT. LET IT BE CLEARLY RECOGNIZED THAT THIS IS A SUPER WEAPON; IT IS IN A TOTALLY DIFFERENT CATEGORY FROM AN ATOMIC BOMB…(AND) THE EXISTENCE OF SUCH A WEAPON IN OUR ARMORY WOULD HAVE FAR-REACHING EFFECTS ON WORLD OPINION…THUS WE BELIEVE THAT THE PSYCHOLOGICAL EFFECT OF THE WEAPON IN OUR HANDS WOULD BE ADVERSE TO OUR INTEREST.[42]

RABI AND FERMI ALSO MADE SPECIAL NOTE OF WHAT THEY BELIEVED TO BE THE OVERARCHING ELEMENTS OF THIS DECISION IN THEIR ATTACHMENT TO THE REPORT, STATING: "A DECISION ON THE PROPOSAL THAT AN ALL-OUT EFFORT BE UNDERTAKEN FOR THE DEVELOPMENT OF THE 'SUPER' CANNOT IN OUR OPINION BE SEPARATED FROM CONSIDERATIONS OF BROAD NATIONAL POLICY."[43]

WHEN THIS REPORT WAS DELIVERED TO THE AEC, LILIENTHAL AGREED THAT THE SUPER SHOULD NOT BE DEVELOPED AND BELIEVED THE UNITED STATES WAS BECOMING TOO RELIANT ON NUCLEAR BOMBS.[44] HE DID NOT SEE THE MILITARY UTILITY OF THE SUPER THAT SOME DID, AND NOTED IN HIS JOURNAL THAT GENERAL BRADLEY'S ONLY COMMENT CITED THE "CHIEF VALUE OF SUCH A WEAPON…(WAS) 'PSYCHOLOGICAL'."[45] TWO MEMBERS OF THE COMMISSION, STRAUSS AND GORDON DEAN, DISAGREED WITH LILIENTHAL, AND CONTINUED TO BELIEVE DEVELOPMENT OF THE SUPER WAS

[38] *FRUS 1949*, 571-573; Lilienthal, 582; Strauss 218.
[39] GAC report of October 30, 1949 reprinted in York, *The Advisors*, 156.
[40] York, 155-156.
[41] *FRUS 1949*, 572-573.
[42] *FRUS 1949*, 571.
[43] *FRUS 1949*, 572-573.
[44] Lilienthal, 582-583, 591.
[45] Lilienthal, 581.

ESSENTIAL FOR UNITED STATES NATIONAL SECURITY.[46] IN A FOLLOW-UP LETTER DIRECTLY TO THE PRESIDENT, STRAUSS EXPLAINS HIS BELIEF THAT:

> THE UNITED STATES MUST BE AS COMPLETELY ARMED AS ANY POSSIBLE ENEMY...IT IS THE HISTORIC POLICY OF THE UNITED STATES NOT TO HAVE ITS FORCES LESS WELL ARMED THAN THOSE OF ANY OTHER COUNTRY…(AND) THE DANGER IN THE WEAPON DOES NOT RESIDE IN ITS PHYSICAL NATURE BUT IN HUMAN BEHAVIOR. ITS UNILATERAL RENUNCIATION BY THE UNITED STATES COULD VERY EASILY RESULT IN ITS UNILATERAL POSSESSION BY THE SOVIET GOVERNMENT.[47]

HOWEVER, THE TWO REMAINING MEMBERS OF THE COMMISSION SIDED WITH LILIENTHAL AND SUPPORTED THE GAC'S CONCLUSIONS THAT THE UNITED STATES HAD MILITARY SUFFICIENCY WITH ATOMIC BOMBS, AND "WERE AGAINST IMMEDIATE DEVELOPMENT OF THE SUPER ON BOTH MORAL AND POLITICAL GROUNDS."[48] MOST IMPORTANTLY, LILIENTHAL SAW PAST THE SINGLE DIMENSION, OVERLY SIMPLISTIC ARGUMENTS AND CONCLUDED, AS THE GAC DID, THAT THIS DECISION WAS MUCH MORE COMPLEX AND CARRIED POTENTIALLY FAR MORE SERIOUS CONSEQUENCES. LILIENTHAL REGARDED THE MATTER "NOT AS ONE FOR THE COMMISSION MERELY, OR CHIEFLY, BUT ESSENTIALLY A QUESTION OF FOREIGN POLICY FOR HIM (ACHESON) AND THE PRESIDENT."[49] ON 1 NOVEMBER 1949, LILIENTHAL MADE KNOWN HIS CONCERNS ABOUT THE IMPACT THIS DECISION WOULD HAVE ON FOREIGN POLICY TO SECRETARY OF STATE DEAN ACHESON.[50]

STATE

ACHESON WAS AWARE OF THE POTENTIAL STRATEGIC CONSEQUENCES OF PROCEEDING WITH THE SUPER AND ON 4 NOVEMBER 1949, HE PERSUADED TRUMAN "THAT THIS WAS AN IMPORTANT AND COMPLEX MATTER WITH THE BROADEST RAMIFICATIONS THAT SHOULD NOT BE RUSHED INTO WITHOUT GREAT THOUGHT."[51] ACHESON CONTINUED TO APPLY GREAT THOUGHT TO THE MATTER, AND KEPT HIS KEY ADVISORS ON THE STATE DEPARTMENT'S POLICY PLANNING GROUP DOING THE SAME.

THE POLICY PLANNING GROUP WAS HEADED UP BY GEORGE KENNAN, WHO SERVED AS SENIOR ADVISOR ON ATOMIC POLICY ISSUES TO THE SECRETARY OF STATE.[52] THE GROUP'S MEMBERS HELD A WIDE VARIETY OF OPINIONS ON WHAT COULD OR SHOULD BE DONE ABOUT ADVANCING NUCLEAR TECHNOLOGY AND DEALING WITH THE SOVIETS, BUT THE ADVICE PROVIDED TO SECRETARY ACHESON LARGELY CAME FROM KENNAN. KENNAN HAD BEEN WORKING ON A STRATEGY TO DEAL WITH THE SOVIETS FOR QUITE SOME TIME. KENNAN'S PROPOSAL TO CONTAIN THE SOVIET UNION WAS LARGELY DEFENSIVE IN NATURE, AND ADVOCATED "THE APPLICATION OF A RESTRICTED, PARTIAL, AND BALANCED MILITARY FORCE."[53] KENNAN ARGUED FOR A BALANCED FORCE LARGELY TO COUNTERACT WHAT HE

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[46] Strauss, 218-219.
[47] Strauss, 219-222.
[48] *FRUS 1949*, 570-571; Stein, 18.
[49] Lilienthal, 583.
[50] Lilienthal, 583.
[51] Lilienthal, 583-584, 590.
[52] George F. Kennan, *Memoirs: 1925-1950* (Boston, Massachusetts: Little, Brown and Company, 1967), 325-326, 426.
[53] Kennan, 358-367.

PERCEIVED TO BE AN "OVERRELIANCE ON STRATEGIC AIR POWER AND ATOMIC WEAPONS."[54] KENNAN EXPLAINS IN HIS MEMOIRS THAT:

> A NUMBER OF US, INCLUDING THE LATE ROBERT OPPENHEIMER, FELT THAT BEFORE PROCEEDING WITH THE DEVELOPMENT OF WEAPONS OF A WHOLE NEW RANGE OF DESTRUCTIVENESS, WE SHOULD REEXAMINE OUR SITUATION WITH RESPECT TO THE INTERNATIONAL CONTROL OF ATOMIC WEAPONS GENERALLY, AND MAKE SURE THAT THERE WAS REALLY NO POSSIBILITY OF ARRIVING AT INTERNATIONAL AGREEMENTS THAT WOULD OBVIATE THE NEED TO EMBARK UPON THIS FATEFUL COURSE.[55]

THROUGH DECEMBER 1949, KENNAN AND HIS STAFF WORKED ON AND ANALYZED THE ISSUE, AND PRESENTED THEIR FINDINGS TO SECRETARY ACHESON ON OR ABOUT 20 JANUARY 1950.[56]

KENNAN POSITED THAT THE UNITED STATES' ATTITUDE TOWARD NUCLEAR WEAPONS HAD TO EITHER BE ONE THAT VIEWED THEM AS AN "UNDESIRABLE NECESSITY" REQUIRING THE US TO "NOT BASE PLANS FOR DEFENSE UPON THE PRESUMPTION OF ITS USE" OR A VIEW THAT NUCLEAR WEAPONS WERE "ESSENTIAL TO OUR DEFENSE," REQUIRING THE US TO "BASE OUR DEFENSE STRUCTURE ON THE ASSUMPTION OF ITS FIRST USE; AND WE WOULD PLACE OURSELVES IN THIS WAY IN A POSITION WHERE WE WOULD PRESUMABLY NOT BE ABLE TO AFFORD *NOT* TO USE IT, IF WAR EVER CAME."[57] KENNAN POINTED OUT THAT STATEMENTS MADE BY POLITICAL AND MILITARY LEADERS CLEARLY INDICATED THE US WAS BASING THEIR DEFENSE POSTURE ON A FIRST USE POLICY.[58] IF THIS WAS THE CASE, THEN THERE WOULD BE NO POINT IN FURTHER PURSUING INTERNATIONAL CONTROLS, BECAUSE THE COURSE WAS SET. KENNAN THEN PROPOSED THAT THE US REEXAMINE THE "WHOLE PRINCIPLE OF THE 'FIRST USE' OF ATOMIC WEAPONS," FAVORING COMPLETE ABANDONMENT OF THIS PRINCIPLE AS "IT LAY…AT THE HEART OF ALL OUR CONFUSIONS."[59] KENNAN, HIMSELF, NOTES THAT THESE VIEWS CONFLICTED WITH ESTABLISHED MILITARY POLICY, AS WELL AS CONGRESSIONAL, PUBLIC, AND MILITARY REACTIONS TO THE SOVIET'S SUCCESSFUL ATOMIC TESTS, AND WITH WHAT HE DESCRIBED AS

> THE GROWING TENDENCY IN WASHINGTON TO BASE OUR OWN PLANS AND CALCULATIONS SOLELY ON THE *CAPABILITIES* OF A POTENTIAL ADVERSARY, ASSUMING HIM TO BE DESIROUS OF DOING ANYTHING HE COULD DO TO BRING INJURY UPON US, AND TO EXCLUDE FROM CONSIDERATION, AS SOMETHING UNSUSCEPTIBLE TO EXACT DETERMINATION, THE WHOLE QUESTION OF THAT ADVERSARY'S REAL *INTENTIONS*.[60]

IN THE FACE OF INCREASINGLY THREATENING SOVIET ACTIVITIES AND THE SOVIETS UNWILLINGNESS TO NEGOTIATE ON KEY ISSUES, KENNAN'S INFLUENCE, HIS STRATEGY, AND KENNAN, HIMSELF, WERE LARGELY FALLING OUT OF FAVOR.

IN SUM, THE POLICY PLANNING GROUP ADVISED ACHESON THAT THERE WAS NO PURPOSE OR HOPE OF SECURING ANY TYPE OF A VERIFIABLE AGREEMENT WITH THE SOVIETS TO BAN DEVELOPMENT OF

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[54] Kennan, 475.
[55] Kennan, 471.
[56] Kennan, 472.
[57] Kennan, 472-473.
[58] Kennan, 473.
[59] Kennan, 473.
[60] Kennan, 474-475.

SUPERS AT THE TIME. AS SUCH, STATE NEVER ATTEMPTED TO APPROACH THE SOVIETS NOR SERIOUSLY CONSIDERED AN ALTERNATIVE LIKE THE ONE RABI AND FERMI PROPOSED.[61] FURTHER, ACHESON'S ADVISORS ALL AGREED THAT THE SOVIETS WERE ALSO WORKING ON THE SUPER, RENDERING ANY DECISION AGAINST DEVELOPMENT OF THE SUPER WHOLLY UNACCEPTABLE.[62] DESPITE THE ABSENCE OF ANY REAL DIPLOMATIC LEGWORK TO BE DONE OR POSSIBILITY OF A RAPPROCHEMENT WITH THE SOVIETS, IT WAS STILL RECOGNIZED THAT STATE PLAYED AN IMPORTANT ROLE IN NUCLEAR DECISION MAKING.

IT WAS WELL RECOGNIZED IN WASHINGTON THAT NUCLEAR WEAPONS WERE NOT NORMAL WEAPONS. THE POTENTIAL IMPACT THESE WEAPONS COULD HAVE ON GEOPOLITICAL STABILITY REQUIRED THEM TO BE PLACED UNDER CIVILIAN, VICE MILITARY, CONTROL AND THAT THE STATE DEPARTMENT AND OTHER KEY CIVILIAN AGENCIES SHOULD PLAY A ROLE IN NUCLEAR DECISIONS. AS SUCH, EVEN THE MILITARY'S REQUESTS FOR INCREASES TO THE ATOMIC STOCKPILES OR OTHER NUCLEAR PROGRAMS WERE VETTED THROUGH FOREIGN POLICY CHANNELS AND REVIEWED BY OTHER CIVILIAN AUTHORITIES AND AGENCIES CONCURRENT WITH THEIR ROLES AS MEMBERS OF THE NATIONAL SECURITY COUNCIL.

NATIONAL SECURITY COUNCIL

PRESIDENT TRUMAN CREATED A PROCESS OF REVIEWING ALL NUCLEAR DECISIONS THROUGH THE NATIONAL SECURITY COUNCIL IN JULY 1949, TO ENSURE ALL SUCH MILITARY REQUESTS WERE PROPERLY VETTED BY KEY DEPARTMENTS AND AGENCIES OF THE UNITED STATES GOVERNMENT.[63] AEC CHAIRMAN LILIENTHAL REGARDED PRESIDENT TRUMAN'S DECISION TO IMPLEMENT THIS PROCESS AS:

> WHAT COULD BECOME THE MOST IMPORTANT SINGLE CHANGE IN THE RELATION OF THE PRESIDENT TO THE MILITARY ESTABLISHMENT IN PEACETIME…(IN THAT) IT WILL DIRECT THAT A REQUISITION OF THE MILITARY RELATING TO THE COMMISSION'S (AEC) FUNCTION [OF PROVIDING ATOMIC WEAPONS EXPRESSED IN QUANTITIES AND RATES OF PRODUCTION] BE SUBJECT OF CONSIDERATION AND REPORT BY THE NATL. SECURITY COUNCIL. BASIC FACTORS OF OUR WHOLE POLICY FOR THE PROTECTION OF THE COUNTRY ARE INVOLVED. WHAT MAKES IT MOST IMPORTANT…IS THAT INSTEAD OF HAVING A CONCLUSION OF THE MILITARY STAFFS HANDED TO THE PRES. (ALWAYS URGENT, OF COURSE—JUST IN TIME FOR HIM TO SIGN HIS NAME AND NO QUESTIONS ASKED) AS ESSENTIALLY AN ACCOMPLISHED FACT, IT WOULD NOW BE REGARDED AS A PROPER SUBJECT FOR STAFF WORK BEFORE HE DECIDES; AND THAT STAFF WORK IS NOT JUST FROM THE INTERESTED MILITARY, BUT INCLUDES THE SECY. OF STATE (FOREIGN POLICY STAFFING) AND THE AEC AND THE BUREAU OF BUDGET.[64]

IT WAS THIS COMMITTEE THAT PROVIDED THE FINAL RECOMMENDATION TO THE PRESIDENT TO APPROVE OR DISAPPROVE THE MILITARY'S REQUESTS TO INCREASE THE NATION'S NUCLEAR BOMB AND MATERIEL PRODUCTION. ACCORDING TO BRADLEY, THE FIRST REQUEST APPROVED BY TRUMAN

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[61] *FRUS 1949*, 574-575.
[62] United States Department of State, *Foreign Relations of the United States 1950*, vol. I, *National Security Affairs; Foreign Economic Policy* (Washington, D.C.: Government Printing Office, 1977), 516.
[63] Lilienthal, 552-553..
[64] Lilienthal, 552.

THROUGH THIS PROCESS OCCURRED ON 19 OCTOBER 1949 AND WAS "A LONG-STANDING JCS RECOMMENDATION FOR AN ACCELERATION IN AMERICAN FISSION MATERIALS PRODUCTION" THAT "UNTIL THE SOVIET (ATOMIC TEST) EXPLOSION,…HAD BEEN PIGEONHOLED."[65] TO LILIENTHAL, THE VERY EXISTENCE OF THIS COMMITTEE RECOGNIZED AND VALIDATED THE ROLE OF THE COMMISSION AND STATE DEPARTMENT IN SETTING PRODUCTION REQUIREMENTS.[66] HOWEVER, BUNDY NOTES THAT "THIS MILITARY REQUEST WAS ALMOST ROUTINELY APPROVED."[67] IN FACT, THE COMMITTEE RECOMMENDED AND PRESIDENT TRUMAN APPROVED EVERY MILITARY REQUEST TO INCREASE PRODUCTION (THREE IN ALL) FROM 1949 UNTIL THE END OF HIS ADMINISTRATION.[68] YET, THERE WAS NOTHING ROUTINE ABOUT LILIENTHAL'S NOVEMBER 9TH AEC REPORT CONCERNING DEVELOPMENT OF THE SUPER WHICH INCLUDED HIS ASSESSMENT THAT A DECISION AND EFFORT TO IMMEDIATELY DEVELOP THE SUPER WOULD: UNDERMINE THE PRESIDENT'S "STRATEGY FOR PEACE;" RESULT IN "A LARGE PART OF THE WORLD BELIEVE(ING) THAT WE ARE GOING FAR BEYOND ANY POSSIBLE MILITARY NEEDS, THAT WE HAVE ABANDONED OUR PROGRAM FOR PEACE AND ARE RESIGNED TO WAR;" "CONFIRM AND…INTENSIFY THE ALREADY SERIOUS OVER-VALUATION PLACED UPON ATOMIC WEAPONS BY THE AMERICAN PEOPLE…AND WOULD BE INJURIOUS TO OUR SECURITY;" AND THAT THE EXISTING STOCKPILE OF ATOMIC WEAPONS PROVIDED SUFFICIENT "POWER TO RETALIATE" AGAINST AND DETER THE RUSSIANS.[69]

DUE TO THE WIDE REACHING POTENTIAL CONSEQUENCES AND SPECIAL SENSITIVITY OF THIS ISSUE, PRESIDENT TRUMAN DETERMINED THAT AN EVEN SMALLER GROUP OF HIS MOST SELECT, SENIOR ADVISORS WAS REQUIRED TO EXAMINE AND PROVIDE HIM A FINAL RECOMMENDATION ON THE SUPER.

SPECIAL COMMITTEE OF THE NATIONAL SECURITY COUNCIL

PRESIDENT TRUMAN DIRECTED THE ESTABLISHMENT OF A SPECIAL COMMITTEE OF THE NATIONAL SECURITY COUNCIL, CHAIRED BY THE SECRETARY OF STATE, TO EXAMINE AND PROVIDE HIM A RECOMMENDATION ON WHETHER OR NOT TO PROCEED WITH DEVELOPMENT OF THE SUPER.[70] THIS SPECIAL COMMITTEE WAS COMPRISED OF THE SECRETARY OF STATE (ACHESON), THE SECRETARY OF DEFENSE (LOUIS JOHNSON), AND THE CHAIRMAN OF THE ATOMIC ENERGY COMMISSION (DAVID LILIENTHAL).[71] TRUMAN ALSO APPRECIATED THE BROADER SCOPE OF THIS COMPLEX ISSUE, STATING:

> EVERYTHING PERTAINING TO THE HYDROGEN BOMB WAS AT THIS TIME STILL IN THE REALM OF THE UNCERTAIN. IT WAS ALL THEORY AND ASSUMPTION. EVEN THE SCIENTISTS AND THE COMMISSION WERE DIVIDED. AND, IN ADDITION, THE QUESTIONS WITH WHICH WE WERE CONCERNED RELATED NOT ONLY TO THE MATTERS OF SCIENTIFIC KNOWLEDGE BUT ALSO TO OUR DEFENSE STRATEGY AND OUR FOREIGN POLICY. ALL OF THESE HAD TO BE WEIGHED.[72]

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[65] Bradley, 515.
[66] Lilienthal, 552-553.
[67] Bundy, 203-204.
[68] Bundy, 230.
[69] *FRUS 1949*, 582-583.
[70] Harry S. Truman, *Memoirs by Harry S. Truman*, vol. 2, *Years of Trial and Hope* (Garden City, New York: Doubleday & Company, 1956), 309.
[71] Lilienthal, 552-553.
[72] Truman, *Memoirs*, vol. 2, 308.

TRUMAN REFERRED THE AEC'S REPORT OF NOVEMBER 9TH TO THIS SMALL GROUP OF HIS MOST SENIOR ADMINISTRATION OFFICIALS ON 19 NOVEMBER 1949, AND ASKED THEM TO PROVIDE HIM A FINAL RECOMMENDATION ON THE SUPER.[73]

MORE THAN A MONTH TRANSPIRED BETWEEN THE PRESIDENT'S REFERRAL OF THE SUPER ISSUE TO THE SPECIAL COMMITTEE AND ITS FIRST MEETING ON 22 DECEMBER 1949.[74] DURING THAT TIME, THE PRESIDENT RECEIVED LETTERS ADVOCATING THE SUPER FROM KARL COMPTON, PRESIDENT OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY, STRAUSS, SENATOR MCMAHON, AND THE SECRETARY OF DEFENSE RELAYING ONE OF THE CHAIRMAN OF THE JOINT CHIEFS MEMOS.[75] ALL ARGUED THE KEY REASON TO PURSUE THE SUPER WAS BECAUSE THE SOVIETS WOULD, UNDOUBTEDLY, DO THE SAME, AND WARNED OF THE DANGERS POSED BY UNILATERAL POSSESSION OF THE SUPER BY THE SOVIET UNION. WHEN THE SPECIAL COMMITTEE FINALLY MET ON 22 DECEMBER 1949 TO DEBATE THE ISSUE AND FORM A POLICY RECOMMENDATION FOR THE PRESIDENT, MOST GOVERNMENT DEPARTMENTS HAD ALREADY SETTLED ON A POSITION.

AT THE CONCLUSION OF THE FIRST SPECIAL COMMITTEE MEETING, ACHESON PERCEIVED THAT THE GAP BETWEEN LILIENTHAL'S AND JOHNSON'S POSITION WAS SO WIDE THAT THE GROUP SHOULD ADJOURN AND LET THEIR STAFFS WORK THE GAPS AND FIND COMMON GROUND.[76] WHEN THE INTERAGENCY WORKING GROUP WENT TO WORK, THE PRINCIPALS' SUBORDINATES WORKED TO SECURE THEIR RESPECTIVE DEPARTMENT OR AGENCY'S INTERESTS VICE COOPERATING AS AN INTEGRATED STAFF.[77] WHEN THE SPECIAL COMMITTEE MET FOR THE SECOND AND FINAL TIME ON 31 JANUARY 1950, ACHESON SECURED APPROVAL ON HIS DRAFT REPORT THAT CENTRALLY ADOPTED THE JOINT CHIEFS POSITION TO DEVELOP THE SUPER, BUT ALSO CALLED FOR "THE SECRETARY OF STATE AND THE SECRETARY OF DEFENSE TO UNDERTAKE A REEXAMINATION OF OUR OBJECTIVES IN PEACE AND WAR," AS A CONCESSION TO GAIN LILIENTHAL'S CONCURRENCE.[78] THE COMMITTEE APPROVED THE DRAFT AND IMMEDIATELY TOOK THE RECOMMENDATIONS TO THE PRESIDENT.[79]

PRESIDENT TRUMAN DECIDES

THE COMMITTEE PRESENTED THEIR RECOMMENDATIONS TO THE PRESIDENT AND HE APPROVED THEM AT ONCE.[80] LILIENTHAL DID NOT GET A FULL HEARING ON HIS RESERVATIONS ABOUT THE RECOMMENDATION AS THE MEETING LASTED ONLY SEVEN MINUTES.[81] LILIENTHAL WROTE IN HIS JOURNAL "THE PRES. WAS SO CLEARLY SET ON WHAT HE WAS GOING TO DO BEFORE WE SET FOOT INSIDE THE

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[73] *FRUS 1949*, 587-588.
[74] Lilienthal, 613-614.
[75] *FRUS 1949*, 588-598; Strauss, 219-222.
[76] Richard G. Hewlett and Francis Duncan, *Atomic Shield, 1947/1952*, vol. 2, *A History of the United States Atomic Energy Commission* (University Park, Pennsylvania: Pennsylvania University Press, 1969), 391-399, 403-409.
[77] Hewlett, 391-399, 403-409.
[78] *FRUS 1950*, 517.
[79] *FRUS 1950*, 513; Lilienthal, 623-632.
[80] Lilienthal, 631-632; *FRUS 1950*, 513.
[81] Lilienthal, 632.

DOOR."[82] THE PRESIDENT THEN DIRECTED THE AEC TO PROCEED WITH THE DEVELOPMENT OF THE SUPER, IN CLOSE COORDINATION WITH THE DEPARTMENT OF DEFENSE, AND PUBLICLY ANNOUNCED THE DECISION THAT SAME DAY.[83] LILIENTHAL RECALLED IN HIS JOURNAL THAT TRUMAN EXPLAINED "THAT OUR WHOLE PURPOSE WAS PEACE; THAT HE DIDN'T BELIEVE WE WOULD EVER USE THEM BUT WE HAD TO GO ON AND MAKE THEM BECAUSE OF THE WAY THE RUSSIANS WERE BEHAVING….(AND THAT) WE HAD NO OTHER COURSE."[84] TO LILIENTHAL, THE PRESIDENT'S RATIONALE INDICATED THAT TRUMAN WAS WELL PERSUADED BY BRADLEY'S LETTER OF 23 NOVEMBER 1949 WHERE HE STATED THAT "POSSESSION OF A THERMONUCLEAR WEAPON BY THE USSR WITHOUT SUCH POSSESSION BY THE UNITED STATES WOULD BE INTOLERABLE" AND "A UNILATERAL DECISION ON THE PART OF THE UNITED STATES NOT TO DEVELOP A THERMONUCLEAR WEAPON WILL NOT PREVENT THE DEVELOPMENT OF SUCH A WEAPON ELSEWHERE."[85] ON 1 NOVEMBER 1952, THE UNITED STATES PRODUCED THE FIRST FULL-SCALE THERMONUCLEAR EXPLOSION IN THE WORLD'S HISTORY, ON THE ORDER OF TEN MEGATONS.[86] LESS THAN ONE YEAR LATER, ON 12 AUGUST 1953, THE SOVIET UNION SUCCESSFULLY DETONATED THEIR OWN THERMONUCLEAR DEVICE AND THE ARMS RACE WAS ON.[87]

ANALYSIS

THE RELEVANT POINTS OF THIS CASE ARISE FROM EXAMINATION OF THE DECISION MAKING PROCESS, THE MILITARY UTILITY OF THE SUPER, POLITICS, AND THE MILITARY STRATEGY'S EFFECT ON THE NATION'S GRAND STRATEGY.

DECISION MAKING PROCESS

THERE ARE CERTAINLY MANY COMPLEXITIES THAT FACTORED INTO THE DECISION MAKING PROCESS, BUT THERE ARE SEVERAL NOTABLE DEFICIENCIES WHICH LIMITED TRUE, OPEN DEBATE ON WHETHER OR NOT TO DEVELOP THE SUPER. EVEN THOUGH TRUMAN SOUGHT OUT AND RELIED HEAVILY ON THE ADVICE OF THE UNITED STATES' BEST AND BRIGHTEST, THE DECISION MAKING PROCESS DID NOT ADEQUATELY CONSIDER ALL THE POTENTIAL ALTERNATIVES. DESPITE THE FACT THAT MANY KEY PLAYERS WERE AWARE OF AND ARTICULATED THE SPECIAL SIGNIFICANCE OF THIS DECISION AND ITS BROADER IMPACT UPON FOREIGN POLICY AND NATIONAL STRATEGY, LITTLE WAS DONE TO EXAMINE OR ADDRESS THESE ISSUES. THERE WERE A NUMBER OF FACTORS THAT LIMITED THE DEBATE, LIMITED FREE EXCHANGE OF IDEAS AND INFORMATION, AND DROVE THE ANALYSIS DOWN A PATH WHICH LED TO A NARROW SET OF OPTIONS. FACTORS THAT LIMITED DEBATE AND NARROWED THE OPTION SET INCLUDED: SPEED; THE DEGREE OF SECRECY THAT WAS REQUIRED IN STAFFING AND DEBATING THE ISSUE; POLARIZATION OF THE ISSUE; AND BUREAUCRATIC INERTIA.

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[82] Lilienthal, 632-633.
[83] *FRUS 1950*, 517; *Public Papers of the Presidents of the United States: Harry S. Truman, 1950* (Washington, D.C.: Government Printing Office, 1965), 138; Truman, *Memoirs*, vol. 2, 309.
[84] Lilienthal, 632.
[85] *FRUS 1949*, 595-596.
[86] Bradley, 658.
[87] York, 89.

FOR SUCH AN IMPORTANT ISSUE WITH FAR-REACHING, LONG-LASTING EFFECTS, IT WAS EXAMINED AND DECIDED AT BREAKNECK SPEED WHICH LIMITED DEBATE AND ANALYSIS OF POTENTIAL OPTIONS. THE UNITED STATES' SUPER PROGRAM LAY LARGELY DORMANT FROM THE END OF WORLD WAR II UNTIL ITS ABRUPT REVIVAL BY THE SOVIET'S SUCCESSFUL ATOMIC TEST IN AUGUST 1949. THUS, THE DECISION MAKING PROCESS RAN FROM ROUGHLY EARLY SEPTEMBER 1949 UNTIL PRESIDENT TRUMAN'S APPROVAL OF THE AEC RECOMMENDATION ON 31 JANUARY 1950—A MERE FIVE MONTHS IN ALL. DESPITE THE FACT THAT TWO OF THE THREE MEMBERS OF TRUMAN'S HAND-PICKED SPECIAL COMMITTEE OF THE NSC ADVISED HIM THAT THIS WAS AN IMPORTANT AND COMPLEX MATTER, AND EXPRESSED THEIR CONCERNS THAT HE WOULD BE RUSHED INTO A DECISION, TRUMAN CLEARLY FELT PRESSED TO BRING THE PROCESS TO A RAPID DECISION POINT.[88] TRUMAN ADMITS TO LILIENTHAL IN ESSENCE THAT THEY WOULD HAVE HAD MORE TIME TO QUIETLY REEXAMINE THE ISSUE "IF SENATOR ED JOHNSON HADN'T MADE THAT UNFORTUNATE REMARK ABOUT THE SUPER BOMB."[89] LILIENTHAL RECALLED TRUMAN FURTHER EXPLAINING THAT "SINCE THAT TIME THERE HAS BEEN SO MUCH TALK IN THE CONGRESS AND EVERYWHERE AND PEOPLE ARE SO EXCITED HE (TRUMAN) REALLY HASN'T ANY ALTERNATIVE BUT TO GO AHEAD AND THAT WAS WHAT HE WAS GOING TO DO."[90] THIS IN COMBINATION WITH ANOTHER CONTRIBUTING FACTOR, SECRECY, PRESENTED THE PRESIDENT A GOOD MEASURE OF CONTROL OVER THE DECISION MAKING PROCESS, BUT ALSO LIMITED DEBATE.

TRUMAN'S INSISTENCE ON SECRECY WAS BASED UPON HIS DESIRE NOT ONLY TO KEEP A LID ON SENSITIVE NATIONAL SECURITY ISSUES, BUT ALSO TO PRECLUDE HAVING THE SUPER DEBATE ON THE HILL AND/OR IN THE PUBLIC ARENA. EITHER OF THESE OCCURRENCES WOULD HAVE DECREASED HIS ABILITY TO DRIVE THE AGENDA AND THE DECISION, AND SLOWED—IF NOT PARALYZED—THE DECISION MAKING PROCESS. SECRECY DID HELP SUCCESSFULLY OVERCOME THE FORCES THAT WOULD DRIVE PROCESS INEFFICIENCIES AND RETARD GETTING TO A SOLUTION AND GETTING SOMETHING IMPLEMENTED. HOWEVER, SECRECY ALSO ENSURED THAT ONLY A SMALL CIRCLE OF PEOPLE AND COMMENSURATELY SMALL SET OF IDEAS AND ALTERNATIVES WERE PRESENT IN THE DECISION MAKING PROCESS. THE CUMULATIVE EFFECT OF A SMALL OPTION SET CONCERNING A GRAVELY IMPORTANT ISSUE THAT HAD TO BE DECIDED IN A VERY SHORT TIME UNDER A STRICT CLOAK OF SECRECY RESULTED IN THE BULK OF THE DEBATE CENTERING ON THE EXTREMES OF THE DECISION SET, POLARIZING THE ISSUE, AND FURTHER LIMITING DEBATE.

THE CRITICAL NATURE OF THE ISSUE IS, ARGUABLY, THE BIGGEST CONTRIBUTING FACTOR TO THE POLARIZATION OF THE DECISION MAKING PROCESS, BUT IT WAS SIGNIFICANTLY EXACERBATED BY SPEED

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[88] Acheson advised President Truman on 4 November 1949 and Lilienthal warned Truman of his concerns that "some of the scientists and…McMahon and his Committee (would) try to put on a blitz to get a quick decision." Lilienthal, 590, 594.

[89] Lilienthal, 601, 632.

[90] Lilienthal, 601, 632. Truman was referring to a comment Senator Ed Johnson from Colorado made on a television show 1 November 1949. Lilienthal records in his journal that Sen Johnson was "arguing against relaxation of secrecy in a debate, (and) said things that he had no business to" as "Johnson said progress was being made on a bomb '1,000 times deadlier' than the Nagasaki bomb. He was the first person with access to secret information to speak publicly about a super bomb."

AND SECRECY OF THE DECISION PROCESS. POLARIZATION RESULTED IN KEY DECISION MAKERS FOCUSING MORE ON THE EXTREMITY OF THEIR INSTITUTION'S AND/OR PERSONAL POSITION, AND MORE ON DEFEATING AN OPPONENT'S POSITION OR ARGUMENT VICE LOOKING AT ALTERNATIVE SOLUTIONS. GAC MEMBERS WERE "MORE CERTAIN OF WHAT THEY WERE AGAINST—WHAT THEY CALLED A CRASH PROGRAM OF DEVELOPMENT—THAN ABOUT WHAT THEY WERE FOR, JUST AS THEIR CRITICS WERE MORE CERTAIN OF THE DANGERS OF LETTING THE RUSSIANS WIN THE RACE THAN THEY WERE OF THE ADVANTAGES OF AN AMERICAN PROGRAM OF DEVELOPMENT."[91] ATTEMPTS TO DRIVE THE DEBATE IN THEIR FAVOR CAUSED THEM TO DISCOUNT OR OVERLOOK PROPOSALS THAT OFFERED SOME TYPE OF MIDDLE GROUND SOLUTION LIKE THE ONE OFFERED BY RABI AND FERMI. THE POLARIZATION GREW STRONGER AND BECAME SELF-REINFORCING AS THE DEBATE ENSUED AND INDIVIDUALS AND AGENCIES CHOSE SIDES. IT GALVANIZED OPPONENTS INTO CAMPS THAT ADVOCATED FOR IMMEDIATE, ALL-OUT DEVELOPMENT OF THE SUPER OR COMPLETE RENUNCIATION OF THE WEAPON, WITHOUT EXPLORING OTHER MIDDLE-GROUND POTENTIAL ALTERNATIVES. IN SOME CASES, THE POLARIZATION GREW SO STRONG THAT THE VERY PATRIOTISM OF INDIVIDUALS WHO OPPOSED ANY LIMITATION ON PURSUING THE SUPER WAS QUESTIONED. THESE DEBATE LIMITING FACTORS WERE COMPOUNDED BY A FURTHER FACTOR THAT FINDS ITS WAY INTO ALL LARGE ORGANIZATION DECISION MAKING PROCESSES—BUREAUCRATIC INERTIA.

A PERPETUAL FACTOR LIMITING TRUE, OPEN DEBATE IS THE NATURAL BUREAUCRATIC MACHINATIONS AND INERTIA OF LARGE ORGANIZATIONS. EARLY IN THE H-BOMB DECISION PROCESS, ONE OBSERVES THE VARIOUS GOVERNMENTAL DEPARTMENTS ESTABLISHING AND DIGGING INTO A POSITION. AS IS TYPICAL OF LARGE BUREAUCRATIC ORGANIZATIONS, EACH DEPARTMENT SELECTED AND ADVOCATED A POSITION WHICH REPRESENTED AND SUPPORTED ITS UNIQUE BELIEFS, VALUES, AND REQUIREMENTS, VICE THE LARGER, OVERARCHING REQUIREMENTS OF THE ENTIRE SYSTEM.[92] ONCE EACH ORGANIZATION DETERMINED WHAT POSITION WOULD BEST SERVE ITS INTERESTS, IT STUCK WITH THAT POSITION AND COULD NOT BE SWAYED FROM IT IN SPITE OF ANY ILLUMINATING POINTS OF DEBATE. THE RESULT WAS A NARROWING OF STAFF WORK, SCOPING THE ISSUE AND DEBATE ONLY TO THAT WHICH SERVED THE POSITION EACH AGENCY ADVOCATED. THIS LIMITED ANALYSIS OF EQUALLY LIMITED ALTERNATIVES, LEAVING UNEXPLORED OR EASILY DISCOUNTED OPTIONS THAT MAY HAVE PROVIDED VIABLE SOLUTIONS. THE EVIDENCE OF THIS CASE SHOWS THAT MIDDLE PATHS OR HEDGING STRATEGIES WERE NOT ADEQUATELY EXPLORED OR QUICKLY DISCOUNTED. THIS EFFECT IS MOST PRONOUNCED IN THE DEBATE OVER THE MILITARY UTILITY OF THE SUPER AND THE ENCOMPASSING MILITARY STRATEGY.

MILITARY UTILITY AND STRATEGY

THE MILITARY'S STRONG ADVOCACY FOR THE SUPER WAS A KEY DETERMINANT IN PURSUING IT IN SPITE OF THE FACT THAT IT WAS A PARTICULARLY WEAK ARGUMENT. THE MILITARY'S RATIONALE FOR

[91] Bundy, 219.
[92] James G. March, *A Primer on Decision Making: How Decisions Happen* (New York, New York: The Free Press, 1994), 60-61, 71-73, 110-120; Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed. (New York, New York: Longman, 1999), 175-185, 255-263.

REQUIRING THE SUPER WAS DEVOID OF STRATEGIC THOUGHT AND BASED UPON A FAITH THAT TECHNOLOGY COULD PROVIDE EASY SOLUTIONS TO COMPLEX NATIONAL SECURITY PROBLEMS.

THE LACK OF STRATEGIC THOUGHT IN THE MILITARY'S ANALYSIS IS EVIDENT IN THE OVERKILL THE SUPER WOULD DELIVER AND THE BASE RATIONALE FOR NEEDING THE SUPER—BECAUSE THE SOVIETS WOULD HAVE IT. DESPITE THE FACT THAT SEVERAL KEY SCIENTISTS PROPOSED THAT THE US WOULD STILL HAVE MILITARY SUFFICIENCY WITH THE ATOMIC BOMB STOCKPILE, THERE IS NO EVIDENCE THAT THE MILITARY EVER SERIOUSLY ANALYZED OR ENTERTAINED SUCH A PROPOSAL. INTERESTINGLY, THE MILITARY EXPERTS CHARGED AND EXPERIENCED WITH DEVELOPING MILITARY STRATEGY CONDUCTED LESS OF A CRITICAL ANALYSIS OF THE MILITARY UTILITY AND MILITARY STRATEGY THAN THOSE OUTSIDE THE MILITARY, SO THE CIVILIAN SCIENTISTS FILLED THE ANALYSIS VOID.

IN THE MILITARY'S ESTIMATION, THE SUPER HAD MILITARY UTILITY AND WAS ESSENTIAL TO THEIR MILITARY STRATEGY, BUT THE MILITARY CASE DID NOT SIT ON A FIRM FOUNDATION. THE SUPER HAD GREATER DESTRUCTIVE POWER, WHICH THE MILITARY ASSUMED MEANT GREATER MILITARY UTILITY, AND MIGHT OFFER SOME ECONOMIES OVER ATOMIC BOMBS. GENERAL BRADLEY'S LETTER TO SECRETARY OF DEFENSE JOHNSON DETAILED THE JOINT CHIEFS RATIONALE AND REQUIREMENT FOR THE SUPER. IN THIS MEMORANDUM, BRADLEY MADE REFERENCE TO POTENTIAL CASES WHERE, PRESUMABLY, MULTIPLE CLUSTERED TARGETS COULD BE DESTROYED WITH ONE SUPER VICE SEVERAL ATOMIC BOMBS.[93] HE ALSO STATED THE SUPER "MAY ACT AS A POSSIBLE DETERRENT TO WAR," AND THAT ITS DESTRUCTIVE POWER WOULD ADD "FLEXIBILITY TO OUR PLANNING AND…OPERATIONS" AS WELL AS "BE MORE EFFICIENT IN THE UTILIZATION OF AVAILABLE ORE AND PRODUCTION CAPACITY PER UNIT AREA OF DAMAGE."[94] VAGARIES OF ECONOMIC SAVINGS, ADDED FLEXIBILITY, AND THAT THIS WEAPON "MAY" BE A "POTENTIAL" DETERRENT DO NOT REVEAL A MILITARY STRATEGY, LINKING MEANS TO DESIRED ENDS. RATHER, THEY INDICATE THAT THE MILITARY HAD NO CLEAR PICTURE OF HOW THE SUPER WOULD HELP THEM ACHIEVE THEIR DESIRED ENDS. UNDOUBTEDLY, THE JOINT CHIEFS POSITION WAS INFLUENCED BY THE FAILURE OF EARLIER INTERNATIONAL CONTROL EFFORTS COMBINED WITH THE EXPANSIONIST, AGGRESSIVE BEHAVIOR OF THE SOVIET UNION WHICH LEFT MOST AMERICAN POLICY MAKERS RELIANT UPON THE MOST USEFUL ELEMENT OF GRAND STRATEGY—THE MILITARY. HOWEVER, THE MAIN RATIONALE FOR REQUIRING THE SUPER REMAINED BECAUSE THE SOVIETS WOULD HAVE IT AND THE US MIGHT NOT. LACKING ANY MEANINGFUL ANALYSIS OF HOW THE SUPER WOULD FIT INTO AND SUPPORT MILITARY STRATEGY, CIVILIAN SCIENTISTS STEPPED IN TO FILL THE ANALYSIS VOID.

CIVILIAN SCIENTISTS DID ACCOMPLISH SOME ANALYSIS WHICH HIGHLIGHTED THE SHORTCOMINGS OF THE MILITARY'S STRATEGY. THIS ANALYSIS RAISED QUESTIONS AS TO WHETHER OR NOT THERE WERE EVEN ENOUGH TARGETS FOR THE SUPER WHICH WARRANTED ITS DEVELOPMENT. FERMI ARGUED THAT, ALTHOUGH THE SUPER "WOULD HAVE A PECULIAR ADVANTAGE IN DESTROYING HEAVY STRUCTURES OVER A LARGE AREA…THE NUMBER OF SUITABLE TARGETS WAS LIMITED, AND THE TACTICAL VALUE OF THE

[93] *FRUS 1949*, 595-596.
[94] *FRUS 1949*, 595-596.

WEAPON NEEDED FURTHER INVESTIGATION."[95] PAUL FINE, FROM THE COMMISSION'S DIVISION OF MILITARY APPLICATION, CONCLUDED THAT DEVELOPMENT OF THE SUPER "WOULD SURELY SLOW UP THE DEVELOPMENT OF LIGHTER AND SMALLER FISSION WEAPONS" AND THAT "UNLESS THE SUPERWEAPONS WERE VERY LARGE, THE DAMAGE AREA RESULTING FROM THEIR EXPLOSION WOULD SCARCELY EXCEED THAT OF THE FISSION WEAPONS WHICH COULD HAVE BEEN PRODUCED WITH THE SAME MATERIALS AND FACILITIES."[96] FINE ALSO QUESTIONED WHETHER OR NOT THERE WERE "ENOUGH TARGETS FOR WEAPONS OF THAT SIZE?"[97] THERE IS NO EVIDENCE THAT MILITARY STRATEGISTS ANALYZED THE ISSUE TO THIS LEVEL OF DETAIL AND NO FORMAL RECORD OF ANY RESPONSES TO THE QUESTIONS RAISED HERE. THE EVIDENCE SHOWS THAT THE MILITARY'S POSITION WAS FIRMLY ROOTED IN THE FACT THAT THE SOVIETS WOULD EVENTUALLY HAVE THE WEAPON, THEREFORE, THE UNITED STATES MUST HAVE IT AS WELL. THIS, HOWEVER, IS NOT A MILITARY STRATEGY.

THE MILITARY STRONGLY ADVOCATED FOR THE SUPER, DESPITE THE FACT IT DID NOT HAVE A REQUIREMENT FOR IT OR ANYTHING THAT PROVIDED SIMILAR EFFECTS AT THE OUTSET OF THIS DEBATE. IT WAS ONLY AFTER PRO-SUPER SCIENTISTS BEGAN TO ENCOURAGE THE MILITARY TO ADVOCATE FOR THE SUPER AND THE SHOCK OF THE SOVIET'S FIRST ATOMIC TEST THAT SPURRED THE MILITARY INTO A POSITION OF ADVOCACY FROM WHICH THEY NEVER BUDGED. WITHOUT THE REQUISITE SUPPORTING ANALYSIS OF ITS MILITARY UTILITY AND FIT WITH A COHERENT MILITARY STRATEGY, ONE CONCLUDES THAT THE MILITARY LARGELY PUT FAITH IN A TECHNOLOGICAL MARVEL THAT COULD DELIVER INCREDIBLE OFFENSIVE COMBAT CAPABILITY. FURTHER, THE SUPER REINFORCED A KEY UNDERLYING ASSUMPTION IN THE MILITARY ESTABLISHMENT: THE MORE OFFENSIVE COMBAT POWER, THE MORE ASSURED THE MILITARY VICTORY, WHICH IS ALWAYS BETTER FOR NATIONAL SECURITY. IN A NUT SHELL, THE ANSWER THAT EMERGED FROM THE MILITARY'S ANALYSIS—GET THE SUPER NOW AND FIGURE OUT HOW TO WORK IT INTO A STRATEGY LATER.

<u>POLITICS</u>

HOW COULD SUCH A WEAK MILITARY ARGUMENT WIN THE PRESIDENT'S UNQUESTIONING APPROVAL? THE MILITARY'S POSITION STRONGLY INFLUENCED PRESIDENT TRUMAN BECAUSE THERE IS MORE COMFORT IN OFFENSIVE STRATEGIES THAN DEFENSIVE, AND IT WAS A POLITICALLY SAFE POSITION. IT WOULD HAVE BEEN POLITICAL SUICIDE FOR TRUMAN TO NOT APPEAR STRONG ON DEFENSE AND ADVANCE MILITARY CAPABILITY. THIS IS NOT GERMANE TO TRUMAN, AS THERE IS A RELATIVE SENSE OF SAFETY IN THE OFFENSIVE FOR ALL DECISION MAKERS WHEN FACED WITH SUCH NATIONAL SECURITY UNCERTAINTIES. NO DOUBT THE POLITICAL CLIMATE OF MCCARTHYISM AND THE "GREAT RED SCARE" ALSO PREDISPOSED TRUMAN TO ACCEPTING ANY DECISION THAT WOULD KEEP HIM TOUGH ON COMMUNISM.[98] WITH CONVENTIONAL WEAPONS, ONE COULD ARGUE THAT THE FALLBACK POSITION "THE

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[95] Hewlett, 396.
[96] Hewlett, 396-397.
[97] Hewlett, 397.
[98] Griffin Fariello, *Red Scare: Memories of the American Inquisition: An Oral History* (New York, New York: W.W. Norton & Company, 1995), 23-40.

BEST DEFENSE IS A STRONG OFFENSE" CERTAINLY HOLDS TRUE IN MOST CASES. HOWEVER, THE SPECIAL CHARACTERISTICS AND THREAT POSED BY NUCLEAR WEAPONS RESULTED IN A MILITARY STRATEGY THAT WORKED CONTRARY TO THE LARGER NATIONAL STRATEGY.

MILITARY STRATEGY'S IMPACT ON GRAND STRATEGY

THE MAJOR SHORTCOMING IN THIS INSTANCE IS THAT, DUE TO THE SPECIAL STATUS OF NUCLEAR WEAPONS, RELIANCE UPON DOCTRINE WHICH BEST SERVED A COMMANDER'S MILITARY STRATEGY, WORKED ENTIRELY AGAINST THE LARGER GRAND STRATEGY OF THE NATION IT WAS MEANT TO SERVE.

THE DECISION TO PURSUE THE SUPER DESTABILIZED THE GEOPOLITICAL SITUATION DUE TO THE US PURSUIT OF HIGHLY OFFENSIVE SYSTEMS AND STRATEGY DURING A PERIOD OF RELATIVE PEACE. THIS DECISION SPARKED A FOUR-DECADE ARMS RACE WHICH COST THE US UNTOLD BILLIONS OF DOLLARS. THE DECISION DID NOT DELIVER GREATER MILITARY UTILITY, AND MILITARY SUFFICIENCY WAS FAR EXCEEDED. FURTHER, THERE WAS NO CLEAR TIE WITH HOW SUPERS SUPPORTED MILITARY STRATEGY AND PROVIDED A BETTER DEFENSE AND GREATER SECURITY FOR THE US. THE FACT THAT THE US DOES NOT RETAIN MULTI-MEGATON CLASS WARHEADS IN ITS ARSENAL TODAY ATTESTS TO THE FACT THAT THERE IS NO GREATER MILITARY UTILITY IN THE DESTRUCTIVE POWER OF A SUPER, AND THAT THEY DID NOT MEET ANY PARTICULAR REQUIREMENT OF A MILITARY STRATEGY. IMPROVEMENTS IN MISSILE ACCURACY ALSO MAKE UP FOR THE GREATER YIELD OF YESTERYEAR THAT WAS PURPORTED TO PROVIDE AN EXTRA MEASURE OF INSURANCE FOR INACCURATE DELIVER. ON THE POSITIVE SIDE, THERMONUCLEAR TECHNOLOGY HAS HELPED MAKE WARHEADS LIGHTER.

ANY ATTEMPT TO ARTICULATE THE RESULTS OF A DECISION NOT TO PURSUE THE SUPER IN 1950 WOULD, NATURALLY, BE SPECULATION OF THE HIGHEST ORDER. HOWEVER, IT DOES NOT INVALIDATE STEIN'S OBSERVATION THAT:

> THERE IS NO SURE GUARANTEE THAT THE PAST…DECADES WOULD HAVE BEEN ANY DIFFERENT HAD WE ACTIVELY SOUGHT TO REACH AN AGREEMENT WITH MOSCOW IN 1950 BANNING THERMONUCLEAR WEAPONS DEPLOYMENTS, BUT WE DO KNOW THAT THE ABSENCE OF AN ARMS CONTROL EFFORT THEN DID NOT LEAD TO A STABLE NUCLEAR ENVIRONMENT TODAY.[99]

CONCLUSIONS

THE H-BOMB DECISION HELPS EXPLAIN HOW SPEED AND THE CLOAK OF SECRECY AROUND THE DECISION MAKING PROCESS, POLARIZATION OF THE ISSUE, AND NATURAL BUREAUCRATIC MACHINATIONS CAN NARROW AND LIMIT THE HEALTHY DEBATE THAT NEEDS TO OCCUR ON SUCH VITAL ISSUES OF NATIONAL SECURITY. THE EVIDENCE ALSO DEBUNKS THE MYTH THAT SUCH DECISIONS ARE DRIVEN BY SOME SORT OF TECHNOLOGICAL IMPERATIVE OR TECHNOLOGICAL MANIFEST DESTINY. TO THE CONTRARY, THE EVIDENCE INDICATES THAT THERE WERE CLEAR, CONSCIENTIOUS, POLITICAL EFFORTS AND RESOURCE ALLOCATIONS TO PULL THE TECHNOLOGY ALONG TO MEET A PERCEIVED NEED.

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[99] Stein, 86.

WEAPONS ARE BUILT BECAUSE PEOPLE DECIDE TO BUILD THEM. MOST IMPORTANTLY, THE CASE DEMONSTRATES HOW DECISION MAKERS PUT FAITH IN TECHNOLOGY AND MILITARY SOLUTIONS TO SOLVE COMPLEX NATIONAL SECURITY PROBLEMS, WHICH CAN LEAD TO UNFULFILLED EXPECTATIONS AND SERIOUS, NEGATIVE, UNINTENDED CONSEQUENCES. FAITH IN THE TECHNOLOGICAL ACHIEVEMENT OF THE H-BOMB OBSCURED THE NEED FOR CRITICAL ANALYSIS OF THE BROADER IMPACTS THAT THE TECHNOLOGICAL AND MILITARY SOLUTION WOULD HAVE ON THE NATION'S GRAND STRATEGY AND, IN THIS CASE, DESTABILIZED THE SECURITY SITUATION RATHER THAN STABILIZED IT.

THE H-BOMB CASE IS A CASE WHERE WE WERE MISLED INTO BELIEVING THAT TECHNOLOGY CAN SOMEHOW BE SUBSTITUTED FOR POLITICAL EFFORT AND DECISION.[100] STEIN ALSO CAPTURES THIS SENTIMENT WELL STATING "MORE OFTEN THAN NOT—EVEN FOR CONVENTIONAL WEAPONS PROGRAMS—THE TECHNICAL FIX PROVES TO BE THE ILLUSORY, SHORT-LIVED, AND AT BEST A POOR SUBSTITUTE FOR CREATIVE STRATEGY AND TACTICS."[101]

WITH THE PASSING OF SOME FIFTY-FIVE YEARS INCLUDING THE END OF THE COLD WAR PERIOD, MANY OF THE NEGATIVE STRATEGIC CONSEQUENCES OF THE H-BOMB DECISION HAVE LARGELY BEEN REVERSED, ADDING MORE STABILITY BACK INTO THE GEOPOLITICAL SITUATION, LOWERED NUCLEAR TENSIONS, AND GREATER SECURITY FOR THE US AND OTHERS. HOWEVER, THERE REMAINS ONE LASTING LEGACY OF THIS PERIOD THAT THE US MUST CONTEND WITH. GOLDFISCHER ASSERTS THAT:

> GIVEN THAT SOVIET STRATEGIC NUCLEAR CAPABILITIES WERE BARELY EMERGING BY THE END OF HIS ADMINISTRATION, THE TECHNOLOGICAL ENVIRONMENT OF NEAR-TOTAL OFFENSE DOMINANCE IS LARGELY A LEGACY OF TRUMAN'S PERSONAL DECISION TO EXPLOIT THE OFFENSIVE POTENTIAL OF ATOMIC AND THERMONUCLEAR WEAPONS.[102]

THE LEGACY OF THE "NEAR-TOTAL OFFENSE DOMINANCE" HAS LEFT AN INDELIBLE MARK ON US MILITARY STRATEGY AND US POLICY WHICH STILL INFLUENCES US STRATEGIC CHOICE TODAY. HAS THIS PENCHANT FOR THE OFFENSIVE BECOME SO DEEP-ROOTED IN AMERICAN STRATEGY AND STRATEGIC THOUGHT AT THE COMPLETE EXPENSE OF CONSIDERATIONS FOR DEFENSE? AND, HAS IT PRECARIOUSLY POSITIONED THE US TO MAKE STRATEGIC MISTAKES OF SIMILAR CONSEQUENCE IN THE FUTURE?

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[100] Robert E. Hunter, foreword to Jonathan B. Stein, *From H-Bomb to Star Wars: The Politics of Strategic Decision Making* (Lexington, Massachusetts: Lexington Books, 1984), x.
[101] Stein, 81.
[102] David Goldfischer, *The Best Defense: Policy Alternatives for U.S. Nuclear Security From the 1950s to the 1990s* (Ithaca, New York: Cornell University Press, 1993), 97.

CHAPTER 2

TO MIRV OR NOT TO MIRV?

THIS CHAPTER EXAMINES THE DECISION TO RESEARCH, DEVELOP, AND FIELD THE MULTIPLE INDEPENDENTLY TARGETED REENTRY VEHICLES (MIRV) TECHNOLOGY, WHICH INCREASED THE NUMBER OF WEAPONS EACH MISSILE COULD CARRY FROM A SINGLE WARHEAD TO SEVERAL. THIS TECHNOLOGY REPRESENTED A SIGNIFICANT INCREASE IN THE OFFENSIVE CAPABILITY OF THESE MISSILES AS EACH WARHEAD COULD BE INDEPENDENTLY TARGETED, ENABLING MULTIPLE TARGETS TO BE STRUCK WITH A SINGLE MISSILE LAUNCH. UNLIKE THE H-BOMB DECISION, THERE WAS NO SPECIFIC REVIEW OF THE MIRV TECHNOLOGY BY A FORMAL INTERAGENCY PROCESS AND IT WAS NOT CAPTURED IN A SINGLE DECISION EVENT FOR THE PRESIDENT'S APPROVAL. RATHER, THE DECISION TO PURSUE MIRV WAS A SET OF SMALLER, DELIBERATE CHOICES MADE WITHIN THE DEFENSE ESTABLISHMENT. AS WITH THE H-BOMB, THE DECISION TO PURSUE THIS HIGHLY OFFENSIVE CAPABILITY WAS NOT THE RESULT OF THE INEVITABLE TECHNOLOGICAL PROGRESS OR HAPPENSTANCE. MIRV WAS A DELIBERATE CHOICE TO PURSUE AN OFFENSIVE MILITARY STRATEGY BELIEVED TO PROVIDE THE BEST DEFENSE OF THE UNITED STATES. INTERESTINGLY, MIRV ENCOUNTERED VERY LIMITED OPPOSITION AND APPEALED TO AND WAS SUPPORTED BY A WIDE CONSTITUENCY WITHIN THE GOVERNMENT, ALBEIT FOR ENTIRELY DIFFERENT REASONS. LIKE THE H-BOMB, THE MIRV DECISION FOSTERED UNINTENDED CONSEQUENCES WHICH WORKED COUNTER TO LARGER NATIONAL STRATEGY, AND THE WEAPON FIELDED TO STABILIZE AND INCREASE SAFETY ACTUALLY DESTABILIZED THE GEOPOLITICAL SITUATION.

BACKGROUND

WHEN THE US OBTAINED U-2 PHOTOS OF THE SOVIET ANTI-BALLISTIC MISSILE (ABM) TEST SITE AT SARY SHAGAN IN THE LATE 1950S, IT IMMEDIATELY SPARKED EFFORTS TO DETERMINE HOW TO OVERCOME SUCH A DEFENSE AND ENSURE US NUCLEAR WARHEADS WOULD HIT THEIR TARGETS.[103] DECOYS, CHAFF, AND OTHER MEASURES WERE CERTAINLY POTENTIAL COUNTERMEASURES TO OVERCOME AN ENEMY ABM, BUT MULTIPLE WARHEADS CLEARLY OFFERED THE BEST PROBABILITY OF PENETRATION AND DESTRUCTION OF THE SYSTEM AND OTHER TARGETS. THE ABM PENETRATION PROBLEM GAVE RISE TO THE IDEA OF ATTACKING A TARGET WITH MULTIPLE REENTRY VEHICLES (MRV), BUT DID NOT SPECIFICALLY CALL FOR MIRVS UNIQUE CAPABILITY FOR ONE MISSILE'S WARHEADS TO INDEPENDENTLY STRIKE DIFFERENT TARGETS.

MIRV WAS FIRST CONCEIVED IN 1962 BY A NUMBER OF US COMPANIES IN THE AEROSPACE INDUSTRY PRIMARILY AS A MEANS TO FULFILL THE MILITARY'S REQUIREMENT TO TARGET THE GROWING

[103] Ted Greenwood, *Making the MIRV: A Study of Defense Decision Making* (Cambridge, Massachusetts: Ballinger Publishing Company, 1975), 171.

NUMBER OF SOVIET TARGETS WITH A FINITE NUMBER OF US MISSILES.[104] EARLY MIRV TECHNOLOGY GAVE THE US THE CAPABILITY TO HOLD AT RISK TWO OR THREE TIMES AS MANY SOVIET TARGETS THAN SINGLE-WARHEAD CONFIGURATIONS ALLOWED, WITHOUT A REQUISITE INVESTMENT TO BUILD ADDITIONAL MISSILES OR LAUNCHERS. MIRV WAS EXTREMELY COST EFFECTIVE AND SIGNIFICANTLY INCREASED THE DESTRUCTIVE POWER OF THE STRATEGIC NUCLEAR FORCES AND THEIR ABILITY TO SERVE THE PREVAILING COUNTERFORCE DOCTRINE. JUST AS MIRV TECHNOLOGY BEGAN TO EMERGE IN 1962, THE US RECEIVED ITS FIRST INDICATIONS OF THE SOVIET'S DEPLOYMENT OF AN ABM SYSTEM AROUND MOSCOW.[105] THIS DEVELOPMENT RENEWED INTEREST IN USING MULTIPLE WARHEADS TO PENETRATE AN ABM SYSTEM, AND MIRV WAS VIEWED AS A PROMISING TECHNOLOGICAL AND ECONOMICAL SOLUTION TO SEVERAL COMPLEX PROBLEMS. MIRV WAS QUICKLY EMBRACED AT THE HIGHEST LEVELS OF THE DEPARTMENT OF DEFENSE. HOWEVER, THE ENTHUSIASM WITHIN THE AIR FORCE TECHNICAL OFFICES PRIMARILY RESPONSIBLE FOR MIRV'S DEVELOPMENT AND WITHIN THE OFFICE OF THE SECRETARY OF DEFENSE (OSD) WAS NOT SHARED BY EITHER THE AIR FORCE OR NAVY SENIOR LEADERSHIP—AND THEY RESISTED.

THE AIR FORCE

DESPITE THE FACT THAT MIRV TECHNOLOGY WAS LARGELY A PRODUCT OF AIR FORCE WEAPONS DEVELOPMENT EFFORTS, AIR FORCE SENIOR LEADERSHIP RESISTED IT. TECHNICAL ORGANIZATIONS WITHIN THE AIR FORCE THAT WERE INSTRUMENTAL IN ITS DEVELOPMENT SUPPORTED MIRV, BUT THOSE HIGHER UP THE CHAIN WITHIN THE AIR STAFF AND THE AIR FORCE'S SENIOR LEADERSHIP OPPOSED MIRV IN ITS EARLY STAGES.[106]

THE BALLISTIC SYSTEMS DIVISION (BSD) OF AIR FORCE SYSTEMS COMMAND LED THE AIR FORCE'S BALLISTIC MISSILE RESEARCH, DEVELOPMENT, TEST, AND ACQUISITION EFFORTS AND WAS THE CENTER OF MIRV DEVELOPMENT EFFORTS. THIS ORGANIZATION WAS LARGELY COMPRISED OF ENGINEERS AND TECHNICAL PEOPLE, ALL SEEKING WAYS TO IMPROVE THE WEAPON SYSTEMS THEY WERE CHARGED WITH OVERSEEING IN ORDER TO GIVE THE US THE BEST POSSIBLE WEAPONS. AS A RESULT OF THE ORGANIZATION'S HEAVY EMPHASIS AND RELIANCE UPON LEADING EDGE TECHNOLOGY, EXTREMELY CLOSE TIES DEVELOPED BETWEEN THE GOVERNMENT PERSONNEL THAT RAN THE PROGRAMS AND THE DEFENSE CONTRACTORS WHO DESIGNED, DEVELOPED, AND PRODUCED THE SYSTEMS. FOREGOING THE HISTORY OF WHO, EXACTLY, INVENTED MIRV, IT IS SUFFICIENT TO SAY THAT ONCE BSD LEARNED OF THE POSSIBILITY OF MIRVS AND ITS POTENTIAL TO SOLVE THE GROWING TARGET LIST AND PENETRATION PROBLEMS, BSD EMBRACED MIRV AND ENERGIZED THEIR DEFENSE CONTRACTORS. ONCE THE TECHNICAL FEASIBILITY OF MIRV WAS ESTABLISHED, BSD WENT ABOUT TRYING TO SELL THE TECHNOLOGY TO THE REST OF THE AIR FORCE. UNFORTUNATELY, THE REST OF THE AIR FORCE WAS NOT AS RECEPTIVE OF THE NEW TECHNOLOGY.

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[104] Greenwood, 28-29.
[105] Robert McNamara, *Blundering Into Disaster: Surviving the First Century of the Nuclear Age* (New York, New York: Pantheon Books, 1986), 55; Greenwood, 173.
[106] Greenwood, 37.

As the technology and benefits of MIRV came to light in the Air Force's hierarchy, the Air Force leadership balked at it—particularly the Air Force's top officer, General Curtis E. LeMay. LeMay commanded Strategic Air Command (SAC) from 1948 to 1957, was serving as the Chief of Staff, well understood the strategic nuclear business, and was not in favor of adopting MIRV. Like many others in SAC, on the Air Staff, and in senior Air Force leadership positions, LeMay had good reasons to oppose MIRV.

At the most basic level, LeMay resisted because of his reservations about a change in the guiding strategic doctrine that Secretary of Defense Robert S. McNamara began to discuss in 1964. McNamara proposed a shift in the strategic doctrine from "counterforce" to "assured destruction," whereby the US would require only a sufficient amount of nuclear weapons to survive a first-strike and inflict an assured, calculated amount of destruction upon the attacker.[107] LeMay's belief was and always had been that the only suitable strategy was to maintain a clear superiority of firepower to fight and win. He describes his personal philosophy and convictions, stating:

> I have long been convinced, for example, that simple, factual military superiority in weapons, equipment, numbers, doctrine plans, and training are fundamental to the deterrence of war and certainly to survival if war should occur…(and that) the principle of the offensive, for example, if believed, will determine what weapons are ordered and what strategies are devised to achieve superiority.[108]

In describing how this philosophy translates to the threat of nuclear war with the Soviets, LeMay asserted that he could

> beat him (the Soviets) to the draw and attack all of his bomber and missile bases. In accordance with the Joint Chiefs of Staff my purpose was to destroy his war-making capability, particularly in the strategic nuclear area.[109]

Thus, LeMay was comfortable with and committed to the counterforce doctrine, which he describes as

> a major nuclear war waged against purely military objective such as opposing missile launching sites….(which) to be successful, such a counterforce strategy requires a clear nuclear superiority because it takes more than one missile to destroy another one.[110]

Therefore, in 1964 when McNamara proposed moving away from this doctrine, LeMay and many others were concerned and, to some degree, frustrated. LeMay recalls "we (LeMay

[107] Robert S. McNamara, *The Essence of Security: Reflections in Office* (New York, New York: Harper & Row, 1968), 52-53.
[108] General Curtis E. LeMay with Major General Dale O. Smith, *America is in Danger* (New York, New York: Funk and Wagnalls, 1968), 300-301.
[109] LeMay, *America is in Danger*, 83.
[110] LeMay, *America is in Danger*, 269-270.

AND MCNAMARA) WERE DIAMETRICALLY OPPOSED IN POLICY."[111] SHOWING HIS FRUSTRATION AT THE SHIFT AND HIS FAILURE TO CONVINCE MCNAMARA OF HIS POSITION, HE STATES, "AT HIS ANN ARBOR SPEECH ON JUNE 16, 1962, MCNAMARA ANNOUNCED HIS ENDORSEMENT OF THE COUNTERFORCE DOCTRINE" BUT LATER NOTES THAT "FOR A SHORT TIME, I THOUGHT WE HAD CONVINCED MR. MCNAMARA, BUT I SOON LEARNED HOW WRONG WE WERE."[112] LEMAY OPPOSED MCNAMARA'S STRATEGY AND RECOGNIZED THAT ADOPTING IT WOULD LIKELY REQUIRE FEWER WEAPONS WHICH, IN HIS OPINION, WOULD PUT THE US IN A POTENTIALLY VULNERABLE POSITION OF NUCLEAR INFERIORITY. IT IS EASY TO SEE HOW LEMAY WOULD, THEREFORE, HAVE GREAT RESERVATIONS ABOUT ANY NEW TECHNOLOGY LIKE MIRV THAT WOULD BE A GREAT ENABLER OF MCNAMARA'S ASSURED DESTRUCTION STRATEGY. THIS SUSPICION IS WELL CHARACTERIZED IN LEMAY'S COMMENT (WRITING LATER IN 1968) THAT,

> WHAT WE MUST REMEMBER IS THAT THE INNOVATORS OF THE WARLESS WORLD SCHEME ARE EXPERIMENTING WITH OUR VERY EXISTENCE. IF THEY ARE PROVED WRONG *JUST ONCE*, WE ARE DEAD; INDIVIDUALLY, COLLECTIVELY, AND NATIONALLY.[113]

IN ADDITION TO LEMAY'S SUSPICION OF MIRV'S ROLE IN MCNAMARA'S ASSURED DESTRUCTION STRATEGY, HE AND THE AIR FORCE HAD MORE CONCRETE, QUANTIFIABLE RATIONALE FOR RESISTING MIRV BECAUSE: MIRV DIVIDED A MISSILE'S THROW-WEIGHT (OR PAYLOAD CAPACITY) BETWEEN SMALLER WARHEADS VICE ONE LARGER, MORE DESTRUCTIVE ONE; MIRV WARHEADS WERE BELIEVED TO BE LESS ACCURATE THAN THEN-CURRENT SINGLE-WARHEAD DESIGNS; MIRV THREATENED FUTURE MINUTEMAN MISSILE ACQUISITIONS AS IT COULD POTENTIALLY SERVE AS A SUBSTITUTE FOR MORE MISSILES; AND BECAUSE OF THE "PERVASIVE PROBLEM OF RESOURCE ALLOCATION BETWEEN AIR FORCE MISSILES AND AIRCRAFT."[114]

IN ORDER TO PLACE MULTIPLE WARHEADS ON TOP OF A MISSILE WITH A FINITE PAYLOAD CAPACITY MEANT THE NEW WARHEADS WOULD HAVE TO BE SMALLER, LIGHTER, AND LESS POWERFUL. WHILE INDEPENDENT TARGETING WAS AN ATTRACTIVE FEATURE OF MIRV, LIGHTER WARHEADS WERE THOUGHT TO BE MORE SUSCEPTIBLE TO WIND AND OTHER PERTURBATIONS IN BALLISTIC FLIGHT, MAKING THEM LESS ACCURATE THAN LARGER WARHEADS. FURTHER, THE DECREASED DESTRUCTIVE POWER OF THE SMALLER MIRV WARHEADS REDUCED THEIR ABILITY TO KILL "HARD" TARGETS. THE AIR FORCE COUNTED ON LARGER YIELD, MORE POWERFUL WEAPONS TO MAKE UP FOR INACCURACIES OF DELIVERY, THEREFORE, SMALLER MIRV WARHEADS WOULD HAVE TO BE EVEN MORE ACCURATE THAN THEIR LARGER COUNTERPARTS TO ACCOMPLISH THE SAME MISSION. ADDITIONALLY, THE AIR FORCE BELIEVED IT WAS MORE ECONOMICAL TO BUILD FEWER, HIGH-YIELD WARHEADS THAN MANY MORE LESS POWERFUL ONES. IN 1964, LEMAY DESCRIBED THE ECONOMIC BENEFITS AND PREFERENCES FOR HIGH-YIELD WEAPONS TELLING A SENATE SUBCOMMITTEE:

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[111] General Curtis E. LeMay with MacKinlay Kantor, *Mission with LeMay: My Story* (Garden City, New York: Doubleday & Company, Inc., 1965), 5.
[112] LeMay, *America is in Danger*, 269.
[113] LeMay, *America is in Danger*, 266.
[114] Greenwood, 38-39.

> …THE AIR FORCE HAS ALWAYS BEEN INTERESTED IN HIGHER YIELD WEAPONS, IN THE EARLIER DAYS BECAUSE OF THE ECONOMY OF FISSIONABLE MATERIAL. YOU COULD GET MORE MEGATONNAGE OUT OF THE BIG EXPLOSIONS THAN YOU COULD THE SMALLER ONES. IT WAS MORE COSTLY TO BUILD THE SMALLER WEAPONS.
>
> LATELY, WE HAVE BEEN INTERESTED IN HIGHER YIELD WEAPONS (DELETED). I THINK THAT WE PROBABLY CAN GET BY WITH WHAT WE CAN DO IN THE HIGH-YIELD FIELD NOW, ALTHOUGH I PERSONALLY WOULD LIKE TO GO UP TO 100 MEGATONS OR MORE, OR HAVE THE CAPABILITY OF GETTING THERE RAPIDLY.[115]

IN ADDITION TO THE PERCEIVED LOSS OF DESTRUCTIVE POWER AND ACCURACY, LEMAY AND THE AIR FORCE OPPOSED MIRV BECAUSE IT THREATENED THE MINUTEMAN MISSILE FORCE.

IN 1964, THE AIR FORCE WAS BEGINNING TO PHASE-OUT ITS OLDER, SLOWER REACTING ATLAS AND TITAN I INTERCONTINENTAL BALLISTIC MISSILES (ICBMS) IN FAVOR OF MORE ACCURATE, MORE SURVIVABLE, FASTER REACTING MINUTEMAN MISSILES.[116] THE AIR FORCE HAD 600 OF A PLANNED 800 MINUTEMAN I MISSILES IN PLACE, RECEIVED BUDGET AUTHORITY (FY64) FOR 150 ADDITIONAL, IMPROVED MISSILES DUBBED MINUTEMAN II, AND PLANNED TO ARGUE FOR MORE.[117] IN FACT, LEMAY WANTED AT LEAST 2,400 MINUTEMEN MISSILES TO COVER THE GROWING NUMBER OF SOVIET TARGETS AND FULFILL COUNTERFORCE STRATEGIC DOCTRINE REQUIREMENTS, WHILE THE COMMANDER OF STRATEGIC AIR COMMAND, GENERAL THOMAS POWER, ADVOCATED FOR 10,000.[118] AT THE TIME, THE AIR FORCE'S ARGUMENT WAS ON SOLID GROUND; UNTIL MIRV CAME ALONG. MULTIPLE, INDEPENDENT WARHEADS THAT COULD STRIKE MULTIPLE TARGETS SEPARATED BY HUNDREDS OF MILES POTENTIALLY MEANT ONE MIRVED MINUTEMAN COULD NOW DO THE WORK OF THREE. MIRV'S ABILITY TO SUBSTITUTE FOR MORE MISSILES WOULD MEAN CUTS TO AIR FORCE FORCE STRUCTURE AND PROGRAMS. COMMENSURATE WITH SUCH CUTS, WOULD BE A DECLINE IN THE AIR FORCE'S POWER BASE, INFLUENCE, AND PRESTIGE AS THE PROVIDER OF CHOICE FOR STRATEGIC, NUCLEAR COMBAT POWER AND WAS A PRIME REASON FOR THE AIR FORCE TO RESIST MIRV.[119]

THERE WAS ALSO SOME RESISTANCE IN THE AIR FORCE FROM THOSE WHO SAW MIRV AS YET ANOTHER MISSILE PROGRAM THAT WOULD STEER EVEN MORE RESOURCES AWAY FROM AIRCRAFT PROGRAMS. RESOURCE COMPETITION TENSIONS MAY NOT HAVE BEEN THE PRIMARY REASON TO OPPOSE MIRV IN THE AIR FORCE, BUT IT WAS THE CENTERPIECE OF THE NAVY'S EARLY OPPOSITION TO MIRV.

THE NAVY

IN 1964, THE NAVY WAS EMBROILED IN RESOURCE ALLOCATION TRADE-OFF DECISIONS BETWEEN SUBMARINE LAUNCHED NUCLEAR MISSILES AND SHIPS THAT SERVED THE NAVY'S MORE

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[115] LeMay, *Mission with LeMay*, 545.
[116] House, *Statement of Secretary of Defense Robert S. McNamara Before the House Armed Services Committee on the Fiscal Year 1965-69 Defense Program and 1965 Defense Budget,* 27 January 1964, 34; McNamara, *The Essence of Security,* 72-73.
[117] House, *Statement of Secretary of Defense McNamara on FY1965 Defense Budget,* 34.
[118] Alain C. Entoven and K. Wayne Smith, *How Much is Enough? Shaping the Defense Program, 1961-1969* (New York, New York: Harper & Row, 1971), 195.
[119] Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed. (New York, New York: Longman, 1999), 175-185, 255-263.

TRADITIONAL ROLES AND MISSIONS. THE NAVY WAS WEIGHING WHETHER OR NOT TO ENTER FULL-SCALE DEVELOPMENT OF A NEW, LARGER, 74-INCH NUCLEAR MISSILE. THE NAVY'S SPECIAL PROJECTS (SP) UNIT WAS THE TECHNICAL ORGANIZATION CHARGED WITH DESIGN AND DEVELOPMENT OF THE SYSTEM AND, NATURALLY, PROMOTED AND ADVOCATED THE BENEFITS OF THE MISSILE AND ADDED MISSION EFFECTIVENESS OF INCORPORATING MIRV TECHNOLOGY. THE POSEIDON MISSILE WAS AN ATTRACTIVE WEAPON SYSTEM NOT ONLY FOR ITS WARFIGHTING CAPABILITY, BUT ALSO BECAUSE IT WAS A MEANS FOR THE NAVY TO GARNER SOME OF THE STRATEGIC NUCLEAR FORCE RESOURCES THAT HAD SO LONG BEEN LAVISHED UPON THE AIR FORCE'S BOMBER AND MISSILE FORCES. THIS MISSILE WOULD ALSO HELP THE NAVY GAIN A LARGER SLICE OF THE NUCLEAR MISSION AND RESOURCES PIE WITHOUT DIRECTLY CHALLENGING THE AIR FORCE'S STAKED CLAIM ON THE COUNTERFORCE MISSION.[120] THE SURVIVABILITY OF NUCLEAR SUBMARINES MADE THEM IDEAL AND MOST SUITABLE TO FULFILL A SECOND-STRIKE ROLE. THE NAVY KNEW THESE SYSTEMS WOULD INCREASE IN IMPORTANCE AND VALUE IF THE DEPARTMENT ADOPTED THE ASSURED DESTRUCTION DOCTRINE, SO THEY SUPPORTED THE SHIFT. INTERNALLY, HOWEVER, THERE WAS RESISTANCE FROM THE NAVY'S SURFACE ADMIRALS WHO WERE NOT WON OVER TO THE POTENTIAL OF GAINING A LARGER SLICE OF THE NUCLEAR MISSION, AND VIEWED THE MISSILE PROGRAM AS A DETRACTOR FROM FUNDS THE NAVY SHOULD BE PUTTING INTO SHIPS.[121] HENCE, MIRV WAS NOT AS DIRECTLY OPPOSED IN THE NAVY AS IT WAS IN THE AIR FORCE, AS THE REAL THREAT WAS THE POSEIDON MISSILE PROGRAM. IF THE SURFACE ADMIRALS COULD KILL THE MISSILE, MIRV WOULD DIE WITH IT. HOWEVER, IN THE FALL OF 1964, MCNAMARA DECIDED TO FUND THE FULL-SCALE DEVELOPMENT OF THE POSEIDON MISSILE IN THE FY66 BUDGET.[122] PRESIDENT JOHNSON FORMALLY ANNOUNCED THE PROGRAM IN HIS 18 JANUARY 1965 ADDRESS TO CONGRESS.[123] IN FUNDING THE POSEIDON, OSD EFFECTIVELY HURDLED THE NAVY'S OPPOSITION TO THE PROGRAM, AND SIMULTANEOUSLY CLEARED THE WAY FOR MIRV. IN A SIMILAR STROKE, OSD AGGRESSIVELY FUNDED MIRV DEVELOPMENT, IMPARTING GREAT MOMENTUM INTO THE PROGRAM AND SIGNALING THE BEGINNING OF THE END TO AIR FORCE OPPOSITION.

OSD's DDR&E

IN 1964, OSD'S OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING (DDR&E) WAS HEADED BY HAROLD BROWN, AND WAS THE IMPETUS BEHIND MIRV DEVELOPMENT FUNDING. THIS OFFICE WAS CREATED IN 1958, AND THE DIRECTOR'S MISSION WAS TO ADVISE THE SECRETARY "WITH RESPECT TO WEAPONS DEVELOPMENT AND AT THE SAME TIME…(EXERCISE) LINE AUTHORITY OVER THE RESEARCH, DEVELOPMENT, TEST AND EVALUATION (RDT&E) BUDGET FOR ALL BUT

[120] Greenwood, 55.
[121] Greenwood, 44, 46.
[122] House, *Statement of Secretary of Defense Robert S. McNamara Before the House Armed Services Committee on the Fiscal Year 1966-70 Defense Program and 1966 Defense Budget,* 18 February 1965, 55-56.
[123] John W. Finney, "New U.S. Missile to Bolster Might of Polaris Fleet," *New York Times,* Tuesday, 19 January 1965, 1; "Text of President Johnson's Defense Message Presented to the 89th Congress," *New York Times,* Tuesday, 19 January 1965, 16.

operational systems."[124] Charged with this role, DDR&E had significant influence over the Department's research and development programs and they were especially interested and involved in the services' missile development programs. They established and maintained very close working relationships with the services' RDT&E organizations, even to the point of bypassing the formal hierarchy of the services' senior leadership and working directly with the Air Force's Ballistic Systems Division and, to a lesser degree, the Navy's Special Projects office. The cultures within these three organizations were near-mirror images of each other. Each aggressively pursued technologies that could be incorporated into weapon systems and give the United States an advantage. DDR&E had been keeping close tabs on and fostering MIRV efforts with their BSD counterparts, and committed the department to the project in spite of potential objections from Air Force senior leadership.

In 1964, Brown funded development of MIRV commensurate with his authority over RDT&E programs—to the tune of $1 billion.[125] This huge commitment of resources firmly and unquestionably established the Department's position on MIRV. The Air Force resigned themselves to the fact that the development funding made it exponentially harder to reverse the decision to pursue MIRV technology. As reality set in that they were going to get MIRV whether they liked it or not, the Air Force began to realize that more Minuteman missiles were becoming less likely. Air Force opposition began to erode as they considered how best to incorporate MIRV into a smaller Minuteman force, and considered the accompanying possibility that they would also have to accept Secretary McNamara's assured destruction strategic construct. Interestingly, as the resources were being laid into the budget, the primary rationale for funding MIRV development began to shift.

Intelligence reports in 1963 indicated the Soviets had renewed their ABM efforts, and were deploying the "Tallinn" system in the northwest part of the Soviet Union.[126] In 1964, the effort was expanded significantly, and systems were being constructed across attack corridors for US Minuteman and Poseidon missiles.[127] The US had been aware of Soviet ABM activity since it observed the beginning of construction of the "Galosh" ABM system surrounding Moscow in 1962, but the new Tallinn system gave the appearance that it was intended to protect the whole of the country from missile attack.[128] In 1964, Secretary of Defense McNamara seized upon this development and championed the shift in

[124] Greenwood, 14, 25.
[125] House, *Statement of Secretary of Defense McNamara on FY1966 Defense Budget,* 55.
[126] Greenwood, 173.
[127] Greenwood, 174.
[128] Greenwood, 173, 174.

RATIONALE FOR MIRV AS AN ECONOMICAL COUNTERFORCE TO EMPHASIZE ITS ROLE AS AN ABM PENETRATOR, WHICH HELPED HIM ACHIEVE SEVERAL COMPLEMENTARY OBJECTIVES, AS WELL.

SECDEF

SECRETARY MCNAMARA RECOGNIZED THE SIGNIFICANT LEAP IN OFFENSIVE CAPABILITY MIRV OFFERED, INSISTED ON KEEPING IT TOP SECRET TO PREVENT A PARALLEL SOVIET EFFORT FROM EMERGING, AND SUPPORTED THE LETTING OF EARLY CONTRACTS IN 1964 FOR ITS DEVELOPMENT.[129] MCNAMARA RECOGNIZED THAT MIRV WAS CERTAINLY KEY TO THE ABM PENETRATION PROBLEM, BUT WAS ALSO A POTENTIAL SOLUTION FOR MANY OF THE DEPARTMENT'S OTHER CHALLENGES. IN TOTAL, MCNAMARA SAW MIRV AS: A GREAT ENABLER OF HIS EFFORTS TO SHIFT THE NUCLEAR STRATEGIC DOCTRINE FROM COUNTERFORCE TO HIS NEW VISION OF ASSURED DESTRUCTION; AN EFFECTIVE COUNTER TO THE AIR FORCE'S GROWING DEMANDS FOR MORE MISSILES AND BOMBERS; KEY TO THE ABM PENETRATION PROBLEM; AND A COUNTER TO THOSE THAT SUPPORTED THE EXPENSIVE DEPLOYMENT OF A US ABM SYSTEM DUBBED THE NIKE-X.

MIRV TECHNOLOGY WAS KEY TO MCNAMARA'S EFFORTS TO SHIFT THE STRATEGIC DOCTRINE FROM A COUNTERFORCE STRATEGY TO ASSURED DESTRUCTION. MCNAMARA BELIEVED THE SHIFT WAS NECESSARY TO PROPERLY SET THE LIMIT OF STRATEGIC FORCES NECESSARY FOR NUCLEAR DETERRENCE. MCNAMARA OBSERVED THAT "THERE IS A STRONG PSYCHOLOGICAL TENDENCY TO REGARD SUPERIOR NUCLEAR FORCES AS A SIMPLE AND UNFAILING SOLUTION TO SECURITY AND AN ASSURANCE OF VICTORY UNDER ANY CIRCUMSTANCES."[130] TO THE CONTRARY, MCNAMARA CAME TO BELIEVE THAT NO AMOUNT OF FORCES COULD EVER BE BUILT TO WIN A NUCLEAR WAR. THIS BELIEF DROVE HIS THINKING ABOUT A STRATEGY THAT WOULD PROVIDE THE US THE REQUISITE AMOUNT OF NUCLEAR FORCES TO DETER NUCLEAR CONFLICT WITHOUT RELYING ON AN UNAFFORDABLE STRATEGY OF PURE SUPERIORITY. THE CONTRAST WITH LEMAY'S PREFERENCE FOR SUPERIORITY IS OBVIOUS, AND LEMAY AND MANY IN THE MILITARY SUSPECTED THAT THE TRUE IMPETUS BEHIND MCNAMARA'S CONSTRUCT WAS NOT STRATEGY; RATHER, IT WAS A MEANS TO CUT THE DEFENSE BUDGET. MCNAMARA PERSISTED; HIS THINKING BEGAN TO CRYSTALLIZE OVER TIME, AND HE ARTICULATED HIS STRATEGY AND ITS RATIONALE THIS WAY:

> ONE MUST BEGIN WITH PRECISE DEFINITIONS. THE CORNERSTONE OF OUR STRATEGIC POLICY CONTINUES TO BE TO DETER DELIBERATE NUCLEAR ATTACK UPON THE UNITED STATES OR ITS ALLIES. WE DO THIS BY MAINTAINING A HIGHLY RELIABLE ABILITY TO INFLICT UNACCEPTABLE DAMAGE UPON ANY SINGLE AGGRESSOR OR COMBINATION OF AGGRESSORS AT ANY TIME DURING THE COURSE OF A STRATEGIC NUCLEAR EXCHANGE, EVEN AFTER ABSORBING A SURPRISE FIRST STRIKE. THIS CAN BE DEFINED AS OUR *ASSURED-DESTRUCTION CAPABILITY*.
>
> IT IS IMPORTANT TO UNDERSTAND THAT ASSURED DESTRUCTION IS THE VERY ESSENCE OF THE WHOLE DETERRENCE CONCEPT. WE MUST POSSESS AN ACTUAL ASSURED-DESTRUCTION CAPABILITY, AND THAT CAPABILITY ALSO MUST BE CREDIBLE. THE POINT IS THAT A POTENTIAL AGGRESSOR MUST BELIEVE THAT OUR ASSURED-

[129] Greenwood, 25.
[130] McNamara, *The Essence of Security*, 59.

> DESTRUCTION CAPABILITY IS IN FACT ACTUAL, AND THAT OUR WILL TO USE IT IN RETALIATION TO AN ATTACK IS IN FACT UNWAVERING. THE CONCLUSION, THEN, IS CLEAR: IF THE UNITED STATES IS TO DETER A NUCLEAR ATTACK ON ITSELF OR ITS ALLIES, IT MUST POSSESS AN ACTUAL AND CREDIBLE ASSURED-DESTRUCTION CAPABILITY.
>
> WHEN CALCULATING THE FORCE REQUIRED, WE MUST BE CONSERVATIVE IN ALL OUR ESTIMATES OF BOTH A POTENTIAL AGGRESSOR'S CAPABILITIES AND HIS INTENTIONS. SECURITY DEPENDS UPON ASSUMING A WORST PLAUSIBLE CASE, AND HAVING THE ABILITY TO COPE WITH IT. IN THAT EVENTUALITY WE MUST BE ABLE TO ABSORB THE TOTAL WEIGHT OF NUCLEAR ATTACK ON OUR COUNTRY—ON OUR RETALIATORY FORCES, ON OUR COMMAND AND CONTROL APPARATUS, ON OUR INDUSTRIAL CAPACITY, ON OUR CITIES, AND ON OUR POPULATION—AND STILL BE CAPABLE OF DAMAGING THE AGGRESSOR TO THE POINT THAT HIS SOCIETY WOULD BE SIMPLY NO LONGER VIABLE IN TWENTIETH-CENTURY TERMS. THAT IS WHAT DETERRENCE OF NUCLEAR AGGRESSION MEANS. IT MEANS THE CERTAINTY OF SUICIDE TO THE AGGRESSOR, NOT MERELY TO HIS MILITARY FORCES, BUT TO HIS SOCIETY AS A WHOLE.[131]

MCNAMARA PRESSED FORWARD WITH THIS STRATEGY BECAUSE HE BELIEVED IT SET THE BEST COURSE OF ACTION TO ACHIEVE NUCLEAR DETERRENCE, AND IT OFFERED SUBSTANTIAL ECONOMIES AND SAVINGS IN THE DEFENSE BUDGET.

MCNAMARA REALIZED MIRV TECHNOLOGY WAS ALSO AN ECONOMICAL SUBSTITUTE FOR MORE EXPENSIVE MISSILES AND BOMBERS. HE USED MIRV TO REDUCE OPPOSITION IN THE CONGRESS AND THE AIR FORCE TO FREEZING MINUTEMEN MISSILE BUYS AS WELL AS STOPPING EFFORTS TO DEVELOP THE ADVANCED MANNED STRATEGIC AIRCRAFT (NEXT GENERATION NUCLEAR BOMBER) PROGRAM.[132] MIRVS ACCURACY WAS NOW PROVEN, AND CROSS TARGETING (STRIKING ONE TARGET WITH WARHEADS FROM SEVERAL DIFFERENT MISSILES TO ENSURE DESTRUCTION) WAS SHOWN TO GIVE MIRV A DESTRUCTIVE POTENTIAL AS GREAT AS OLD HIGH-YIELD WARHEADS. COUPLED WITH THE SOLID ARGUMENT HE BUILT FOR ASSURED DESTRUCTION, THE AIR FORCE FOUND IT NEARLY IMPOSSIBLE TO ARGUE ANY OTHER POSITION. IN 1964, WHEN INTELLIGENCE REPORTS INDICATED THE SOVIETS HAD RENEWED WORK ON THEIR ABM SYSTEM, THE CENTRAL ARGUMENTS FOR MIRV BEGAN TO SHIFT FROM BEING BASED UPON ITS FORCE ECONOMY AND ABILITY TO COVER A LARGE TARGET LIST TO EMPHASIZING ITS VALUE AS AN ABM PENETRATOR, FURTHER PAVING THE WAY FOR MIRV.[133]

ON 10 NOVEMBER 1966, MCNAMARA SIGNIFICANTLY ADVANCED THE ARGUMENT FOR MIRV, COUPLING IT TO THE SOVIET ABM ISSUE BY MAKING THE POINT THAT OFFENSES WERE THE PREFERRED AND STRATEGICALLY SOUND RESPONSE TO THE ENEMY SYSTEM.[134] MIRV WAS STILL SECRET AND HE DID

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[131] McNamara, *The Essence of Security*, 52-53.
[132] House, *Statement of Secretary of Defense McNamara on FY1966 Defense Budget,* 54-56; House, *Statement of Secretary of Defense Robert S. McNamara Before the House Armed Services Committee on the Fiscal Year 1967-71 Defense Program and 1967 Defense Budget,* 8 March 1966, 60.
[133] McNamara, *Blundering Into Disaster,* 65; Greenwood, 40.
[134] "Transcript of Joint News Conference by President, McNamara, and Gen. Wheeler," *New York Times*, Friday, 11 November 1966, 18; William Beecher, "The Antimissile Issue: McNamara's Call for Improved Offense May Be Designed to Forestall Pressure," *New York Times*, Friday, 11 November 1966, 19.

NOT REFER TO IT BY NAME IN HIS PUBLIC COMMENTS, BUT MCNAMARA PUT FORTH THE ARGUMENT THAT IF

> THE SOVIETS DECIDE TO EXPAND THEIR ABM DEPLOYMENT, OUR RESPONSE MUST BE REALISTIC…REALISM DICTATES THAT WE THEN MUST FURTHER EXPAND OUR SOPHISTICATED OFFENSIVE FORCES AND THUS PRESERVE OUR OVERWHELMING ASSURED-DESTRUCTION CAPABILITY.[135]

NOW THAT HE HAD ESTABLISHED THAT MORE MINUTEMAN LAUNCH PLATFORMS AND MORE BOMBERS COULD NOT ADD ANY CAPABILITY OR ENHANCE THE SECURITY OF THE US, AND THAT OFFENSES, LIKE MIRV WERE THE ONLY WAY TO DEAL WITH A SOVIET ABM, MCNAMARA MADE THE SAME ARGUMENT AGAINST A US ABM SYSTEM.

ONCE THE ARGUMENT FOR MIRV AS A CHEAPER, EASIER COUNTER TO A SOVIET ABM WAS ACCEPTED, IT WAS EASIER FOR MCNAMARA TO MAKE THE SAME ARGUMENT THAT A US ABM SYSTEM COULD SIMILARLY BE DEFEATED BY SOVIET MIRVS, AND HE ARGUED AGAINST DEPLOYMENT OF THE US'S NIKE-X ABM. FUNDING AND DEPLOYING THIS WEAPON SYSTEM WOULD BE EXTREMELY COSTLY AND IT WOULD LIKELY SPUR MORE MIRV/OFFENSIVE BUILDUP OF SOVIET NUCLEAR FORCES—THE EXACT US RESPONSE TO THE SOVIET'S ABM. MCNAMARA ARGUED THAT AN IMPENETRABLE ABM WOULD BE WORTH THE MONEY AND WOULD PROVIDE GREATER SECURITY.[136] HOWEVER, NO MATTER HOW MUCH MONEY THE US SPENT ON AN ABM, IT COULD NEVER FIELD ONE THAT WAS 100% IMPENETRABLE, THEREFORE, THE "SOVIETS WOULD CLEARLY BE STRONGLY MOTIVATED TO SO INCREASE THEIR OFFENSIVE CAPABILITY AS TO CANCEL OUT OUR DEFENSIVE ADVANTAGE."[137] AT A 6 DECEMBER 1966 FY68 BUDGET REVIEW MEETING AT PRESIDENT JOHNSON'S RANCH IN AUSTIN, TEXAS, HE ADVOCATED THIS POSITION DIRECTLY TO THE PRESIDENT, CONTRADICTING THE UNANIMOUS POSITION JUST GIVEN BY THE JOINT CHIEFS TO DEPLOY A US ABM.[138] THIS ADVICE ALSO RAN COUNTER TO $167.9 MILLION OF FUNDING THE CONGRESS HAD ALREADY AUTHORIZED AND APPROPRIATED TO BEGIN PRODUCTION OF THE NIKE-X US ABM SYSTEM WHICH THEY, TOO, BELIEVED TO BE THE PROPER RESPONSE TO A SOVIET ABM SYSTEM.[139] REALIZING THE POLITICAL PINCH THIS PUT THE PRESIDENT IN, MCNAMARA SUGGESTED

> WHY DON'T WE DO THIS: PUT A SMALL AMOUNT OF MONEY IN THE BUDGET FOR ABM PROCUREMENT, BUT STATE IN THE BUDGET, AND IN MY WRITTEN REPORT TO THE CONGRESS, THAN NONE OF THOSE FUNDS WILL BE SPENT, AND NO DECISION WILL BE MADE TO DEPLOY AN ABM SYSTEM, UNTIL AFTER WE MAKE EVERY POSSIBLE EFFORT TO NEGOTIATE AN AGREEMENT WITH THE SOVIETS WHICH WILL PROHIBIT DEPLOYMENT OF DEFENSES BY EITHER SIDE AND WILL LIMIT OFFENSIVE FORCES AS WELL.[140]

JOHNSON AGREED. MCNAMARA LATER NOTED THAT

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[135] McNamara, *The Essence of Security*, 66.
[136] McNamara, *The Essence of Security*, 64.
[137] McNamara, *The Essence of Security*, 64; House, *Statement of Secretary of Defense Robert S. McNamara Before the House Armed Services Committee on the Fiscal Year 1968-72 Defense Program and 1968 Defense Budget*, 53.
[138] McNamara, *Blundering Into Disaster*, 55-56.
[139] McNamara, *Blundering Into Disaster*, 55.
[140] McNamara, *Blundering Into Disaster*, 56.

> Following our return to Washington, there was unanimous agreement among the chiefs, the President, and me that we must initiate action to expand our offensive forces. The cheapest way to do that was to develop MIRVs. By placing more than one warhead on each missile, the United States could increase the number of warheads far more cheaply than by building more missiles.[141]

The totality of McNamara's assured destruction concept and the savings achieved by deploying MIRV on fewer Minuteman missiles, resulting need for fewer bombers, and no US investment in ABM was logically watertight. The services were unable to put forward a better solution, never to mind one that saved as much money as McNamara's proposal. McNamara's assured destruction capability was adopted, and MIRV was on its way to fielding, but some opposition was beginning to build across the Potomac.

Opposition to MIRV

Notable opposition to MIRV did arise on two separate occasions, originating from the State Department, the Arms Control and Disarmament Agency (ACDA), and Congress. Up until MIRV testing, there had been discussions in these organizations about MIRV and ABM, but because MIRV was not considered to be a new, major weapon system, decisions were made and executed almost solely within the Defense Department and these organizations played almost no role in the decision making process. The two occasions where they did assert themselves to voice their opposition occurred on the eve of the first MIRV tests in 1968, and once again in 1969 during President Richard Nixon's first year in office.

ACDA had long been concerned about MIRV and ABM. ACDA embraced the conclusions of several earlier studies that indicated MIRV would have a destabilizing effect on the strategic balance and, therefore, argued that the US should seek an agreement with the Soviets to ban MIRV.[142] One of the most telling reports they based their opinion on was a 1962 JASON summer study in which

> one member identified exchange ratio, that is the number of an opponent's missiles that are destroyed by each missile fired, as an important parameter of strategic stability, suggesting that accurate multiple warheads might lead to first strike instabilities, particularly if an attacker had a capable ABM system.[143]

The following summer the researchers examined the issue further, included projections of the newly invented MIRV capabilities, concluded that there were serious long-term strategic stability problems with MIRV, and recommended that the US secure a mutual ABM ban with the Soviets.[144] Members at State were also aware of these findings and

[141] McNamara, *Blundering Into Disaster*, 58.
[142] Greenwood, 111.
[143] 1962 JASON summer study cited in Greenwood, 110.
[144] 1963 JASON summer study cited in Greenwood, 110.

HAVING DISCUSSIONS OF THEIR OWN AND WITH ACDA. COMING TO SIMILAR CONCLUSIONS, THEY APPROACHED SECRETARY OF STATE DEAN RUSK, SEEKING HIS SUPPORT TO TRY AND DELAY MIRV TESTING, BUT RUSK REFUSED.[145] DESPITE THE EXISTENCE OF THESE STUDIES AND STATE AND ACDA'S DISCUSSIONS ABOUT THE POTENTIALLY NEGATIVE EFFECT MIRV COULD HAVE ON STABILITY, THIS INFORMATION DID NOT SURFACE AT DECISION MAKING LEVELS IN THE DEPARTMENT OF DEFENSE UNTIL MORTON HALPERIN PROTESTED IN 1968.

THE FIRST MIRV TEST WAS SCHEDULED FOR AUGUST OF 1968, AND PLANNING FOR THE FIRST STRATEGIC ARMS LIMITATION TALKS (SALT) WITH THE SOVIETS STARTED IN THE SUMMER OF THAT SAME YEAR.[146] AT THE TIME, HALPERIN WAS THE DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR INTERNATIONAL SECURITY AFFAIRS, AND MANAGED THE CREATION AND INPUT OF DOD'S POSITIONS FOR THE SALT TALKS. HE WORKED CLOSELY WITH THE STATE DEPARTMENT AND ACDA TO FORM THE BARGAINING POSITIONS FOR THE IMPENDING SALT TALKS. IN THE COURSE OF THESE DUTIES, HALPERIN WAS MADE AWARE OF STATE AND ACDA'S DESIRE TO SEE THE TESTS DELAYED, AND THAT THEY ADVOCATED SEEKING A BAN ON MIRV AND LIMITATIONS ON ABM SYSTEMS IN THE UPCOMING TALKS WITH THE SOVIETS.

HALPERIN THOUGHT THE LIKELIHOOD OF GETTING THE SOVIETS TO AGREE TO A BAN ON MIRV WAS UNLIKELY, BUT HE DID NOT WANT TO PREMATURELY RULE OUT THE POSSIBILITY OF ONE.[147] HALPERIN WAS AWARE OF THE UPCOMING TEST OF THE MIRV SYSTEM AND KNEW A SUCCESSFUL DEMONSTRATION OF THIS TECHNOLOGY WOULD MAKE IT NEARLY IMPOSSIBLE TO ACHIEVE AN AGREEMENT WITH THE SOVIETS. THE SOVIETS WOULD LIKELY NOT AGREE TO A BAN ON MIRV TESTING ONCE THE US HAD THE BENEFIT AND ADVANTAGE OF SUCCESSFUL TEST RESULTS IN HAND. AFTER ALL, EVEN THE LIMITED CONFIDENCE IN THE SYSTEM GAINED FROM SUCH TESTING COULD ENABLE THE US TO SECRETLY DEPLOY THE SYSTEM WHILE ADHERING TO MUTUAL BANS ON FURTHER TESTING. WITHOUT SUCCESSFUL TEST DATA FROM THEIR OWN SYSTEM, THE SOVIETS WOULD BE AT A SEVERE DISADVANTAGE. HALPERIN WENT STRAIGHT TO SECRETARY OF DEFENSE CLARK CLIFFORD AND ASKED HIM TO DELAY THE MIRV TESTS, BUT CLIFFORD REFUSED.[148] INDEPENDENT OF HALPERIN'S EFFORTS AND EACH OTHER, SENATORS COOPER AND HART BOTH UNSUCCESSFULLY PETITIONED PRESIDENT JOHNSON TO DELAY THE MIRV TESTS. MIRV WAS SUCCESSFULLY TESTED ON BOTH POSEIDON AND MINUTEMAN III MISSILES ON 16 AUGUST 1968.[149] THREE WEEKS LATER, SECRETARY CLIFFORD PUBLICLY REJECTED ASSERTIONS THAT THE TESTS SHOULD HAVE BEEN DELAYED OR HAD ANY IMPACT ON FUTURE NEGOTIATING POSITIONS WITH THE SOVIETS, STATING IN A SEPTEMBER 5TH PRESS CONFERENCE:

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[145] Greenwood, 124.
[146] Greenwood, 123.
[147] Greenwood, 124.
[148] Greenwood, 125.
[149] John Noble Wilford, "2 Multiple Missiles Pass Tests in Flight," *New York Times,* Saturday, 17 August 1968, 1; Henry Kissinger, *White House Years* (Boston, Massachusetts: Little, Brown and Company, 1979), 197.

> THAT A POSITION OF SUBSTANTIAL STRENGTH IS ESSENTIAL AND IS THE BEST POSITION FROM WHICH WE CAN NEGOTIATE AGREEMENTS THAT MAKE THE THREAT OF NUCLEAR WAR INCREASINGLY REMOTE…(AND) I AM CONFIDENT THAT OUR DECISION TO PROCEED WITH THE VERY IMPORTANT TESTS OF OUR MIRV-PRINCIPLE DOES NOT PREJUDICE THE PROSPECT THAT SUCH TALKS WOULD BE FRUITFUL.[150]

THE SUCCESSFUL TEST EFFECTIVELY SILENCED THE OPPOSITION, BUT THE SOVIET INVASION OF CZECHOSLOVAKIA ON 20 AUGUST 1968 DELAYED THE SALT TALKS AND GAVE THE OPPOSITION A SECOND CHANCE TO MAKE THEIR CASE AGAINST MIRV—AND THE AUDIENCE WAS A NEW ADMINISTRATION.

SHORTLY AFTER PRESIDENT NIXON'S INAUGURATION IN 1969, THE NEW ADMINISTRATION SET OUT TO PREPARE FOR THE PREVIOUSLY DELAYED SALT TALKS. WHEN INTERAGENCY DISAGREEMENT OVER MIRV SURFACED AGAIN, HENRY KISSINGER WAS APPOINTED CHAIRMAN OF AN INTERAGENCY PANEL TO EXAMINE THE ISSUE IN APRIL 1969.[151]

THE OPPOSITION'S EFFORTS DURING THIS SECOND ASSAULT ON MIRV FOCUSED ON THE ISSUE OF VERIFICATION. AT ISSUE WAS THE IDEA THAT AS TIME PROGRESSED AND THE POTENTIAL FOR MIRV DEPLOYMENT GREW, ACHIEVING ANY TYPE OF AGREEMENT ON MIRV WITH THE SOVIETS WOULD GROW EXPONENTIALLY HARDER AS VERIFICATION WAS PROBLEMATIC. SATELLITE RECONNAISSANCE WAS QUITE GOOD AT COUNTING THE NUMBER OF MISSILES, BUT TOTALLY UNABLE TO DETECT HOW MANY WARHEADS EACH CARRIED. THEREFORE, THE ONLY WAY TO VERIFY SINGLE-WARHEAD TREATY COMPLIANCE WOULD BE ON-SITE INSPECTION, WHICH ACDA BELIEVED THE SOVIETS WOULD STRONGLY OPPOSE, RENDERING ANY MIRV AGREEMENT IMPOSSIBLE. WITH A FINAL ROUND OF MIRV TESTS SCHEDULED FOR MAY 1969, ARMS CONTROL ADVOCATES IN ACDA FEARED THAT TIME TO SECURE A MIRV BAN AGREEMENT WITH THE SOVIETS WAS RUNNING OUT.[152] ACDA ADVOCATED FOR A UNILATERAL BAN ON MIRV TESTING AND INCLUSION OF THE MIRV ISSUE IN THE UPCOMING SALT TALKS IN ADDITION TO A LIMITATION ON ABM. WITH THE ISSUE RAISED TO THE NATIONAL SECURITY COUNCIL FOR RESOLUTION, KISSINGER RECALLS THAT "WE WERE BEING PRESSED TO TAKE TWO MOMENTOUS STEPS: FIRST TO ABANDON OUR ABM WITHOUT RECIPROCITY; AND SECOND, TO POSTPONE OUR MIRV DEPLOYMENT AS A UNILATERAL GESTURE."[153]

IN JUNE 1969, CONGRESS ALSO WEIGHED IN, AS SEVERAL KEY MEMBERS INDEPENDENTLY INTRODUCED SEVERAL PIECES OF LEGISLATION WHICH CALLED FOR BANS OR TEMPORARY MORATORIUMS ON MIRV TESTING AND ONE WHICH CALLED FOR A COMPLETE HALT TO MIRV DEVELOPMENT IN ORDER TO "ENCOURAGE THE SOVIETS TO DO THE SAME."[154] IN SPITE OF THESE OUTCRIES, CONGRESSIONAL SCRUTINY AND WORRY OVER MIRV WAS LIMITED, AND THE CONGRESS REPEATEDLY EXERCISED THEIR AUTHORITY OVER SUCH ACTIVITIES BY AUTHORIZING AND APPROPRIATING THE FUNDS THAT THE DOD AND

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[150] Peter Grose, "Clifford Exempts Missile Defense from Budget Cut," *New York Times,* Friday, 6 September 1968, 1; "Excerpts from Talk by Clifford," *New York Times,* Friday, 6 September 1968, 2.
[151] Greenwood, 130.
[152] Kissinger, 210.
[153] Kissinger, 212.
[154] Kissinger, 211.

PRESIDENT PROPOSED EACH YEAR. CONGRESS CONTINUED TO CONDUCT HEARINGS AND EXAMINED THE ISSUE, BUT NO SERIOUS THREAT TO MIRV EVER EMERGED. IN FACT, THE CONGRESSIONAL PROCESS PRODUCED ONE OF THE BEST ARTICULATIONS OF THE MIRV ISSUE AND ITS POTENTIAL STRATEGIC IMPLICATIONS. IN A PAPER PRESENTED AT THE HEARINGS OF THE SUBCOMMITTEE ON NATIONAL SECURITY POLICY AND SCIENTIFIC DEVELOPMENT, HOUSE FOREIGN AFFAIRS COMMITTEE ON 22 JULY 1969, DR. THOMAS WOLFE OF THE RAND CORPORATION PRESENTED AN ESPECIALLY COMPELLING AND SUCCINCT SUMMARY OF MIRVS IMPACT ON STRATEGIC STABILITY. WOLFE STATED:

> THE FACTOR WHICH SEEMS TO HAVE AROUSED MOST CONCERN RECENTLY IN THIS COUNTRY IS THAT DEPLOYMENT OF ACCURATE MIRV SYSTEMS COULD GREATLY REDUCE THE SURVIVABILITY OF FIXED, HARD ICBM SITES, MAKING FIRST-STRIKE PLANNING ONCE MORE POSSIBLE. THUS, IRONICALLY, WHAT WAS ORIGINALLY MEANT TO BOLSTER DETERRENCE COULD HAVE THE EFFECT OF UNDERMINING THE STABILITY OF DETERRENCE BASED ON A STRATEGIC BALANCE WHEREIN NEITHER SIDE COULD REALISTICALLY COUNT UPON HAVING A FIRST-STRIKE CAPABILITY. IF MIRV DEPLOYMENT WERE COMBINED WITH POSSESSION OF A LARGE ABM SYSTEM, THE DESTABILIZING THREAT TO MUTUAL DETERRENCE MIGHT STILL BECOME GREATER, FOR THIS COMBINATION THEORETICALLY WOULD ENHANCE THE PROSPECT OF BEING ABLE TO STRIKE FIRST WITHOUT HAVING TO FEAR RETALIATION OF "UNACCEPTABLE" DIMENSIONS. THIS CONCERN ABOUT THE DESTABILIZING EFFECT OF MIRV DEPLOYMENT, IT MAY BE NOTED, DOES NOT GENERALLY EXTEND TO MRV TO THE SAME DEGREE, ON THE GROUNDS THAT MRV – MULTIPLE REENTRY VEHICLES WITHOUT AN INDEPENDENTLY TARGETABLE FEATURE – PROBABLY WOULD NOT BE ACCURATE ENOUGH TO AFFORD HIGH CONFIDENCE OF DESTROYING HARDENED SILOS, AND HENCE WOULD NOT POSE A FIRST-STRIKE THREAT THAT COULD ERODE DETERRENT STABILITY.[155]

IN THE RUN UP TO THE SALT TALKS, STATE'S POSITION SOFTENED SOME, AND THEY CONVINCED THEIR COUNTERPARTS AT ACDA THAT THEIR BEST CHANCE TO INFLUENCE THE STRATEGIC TALKS MAY BE TO MAKE A TACTICAL TRADE-OFF. STATE KNEW THAT THE JOINT CHIEFS, DDR&E, THE AIR FORCE, AND THE NAVY STRONGLY OPPOSED INCLUDING MIRV IN THE SALT TALKS, THUS, WANTED TO FOCUS THEIR EFFORTS ON ENSURING THE LIMITATION ON ABM WAS INCLUDED. ACDA "AGREED THAT LIMITING THE ABM WAS THE MAJOR ISSUE," AND BEGAN TO FOCUS THEIR EFFORTS ON ENSURING IT WAS INCLUDED IN THE SALT POSITION.[156] IN THE END, KISSINGER'S ASSESSMENT AND ADVICE TO THE PRESIDENT WAS THAT "TO ABANDON ABM AND MIRV ALTOGETHER WOULD THUS NOT HAVE ONLY UNDERCUT THE PROSPECTS FOR ANY SALT AGREEMENT BUT PROBABLY GUARANTEED SOVIET STRATEGIC SUPERIORITY FOR A DECADE.[157]

WITH KISSINGER'S ADVICE AND RECOMMENDATION IN HAND, PRESIDENT NIXON PUBLICLY REJECTED SUGGESTIONS THAT THE US ADHERE TO A SELF-IMPOSED, UNILATERAL BAN ON MIRV

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[155] House, *Statement by Dr. Thomas W. Wolfe at Hearings of the Subcommittee on National Security Policy and Scientific Developments, House Foreign Affairs Committee, July 22, 1969,* October 1969, 9.
[156] John Beyer et al., *How Nuclear Weapons Decisions are Made,* ed. Scilla McLean (New York, New York: St. Martin's Press, 1986), 82.
[157] Kissinger, 212.

TESTING.[158] PRIVATELY, THE ADMINISTRATION BELIEVED A MORATORIUM WOULD WEAKEN THE US BARGAINING POSITION IN SALT. WHEN THE TALKS FINALLY PROCEEDED IN NOVEMBER 1969, POTENTIAL MIRV AGREEMENTS WEREN'T EVEN DISCUSSED IN THE FIRST ROUND OF DISCUSSIONS. IN THE SECOND ROUND THE US DID PRESENT TWO PROPOSALS TO THE SOVIETS. KISSINGER RECALLS THAT:

> WE HAVE MADE TWO PROPOSALS, TWO LINKED PROPOSALS, ONE IS A BAN ON THE TESTING OF MIRV, THIS WE ARE PREPARED TO MONITOR BY NATIONAL MEANS OF INSPECTION, AND SECOND, A BAN ON DEPLOYMENT OF MIRV FOR WHICH WE ASKED FOR SPOT-CHECKS ON ON-SITE INSPECTION. NOW WE CONSIDERED THE TEST BAN ABSOLUTELY CRUCIAL BECAUSE WE COULD HAVE BEEN SOMEWHAT MORE LENIENT ON THE FREQUENCY OF ON-SITE INSPECTION IF THERE HAD BEEN A TEST BAN ON MIRV'S BECAUSE WITHOUT TESTING, BY DEFINITION, IT IS NOT EASY TO DEPLOY THEM. IT IS, IN FACT, IMPOSSIBLE TO DEPLOY THEM.[159]

AT THE CONCLUSION OF SALT TALKS, KISSINGER STATES:

> AND SO IT HAPPENED THAT WHEN THE SALT TALKS STARTED IN NOVEMBER, CONTRARY TO THE DIRE PREDICTIONS OF ARMS CONTROLLERS THE SOVIETS PROVED EAGER TO NEGOTIATE ON ABM; THEY SHOWED, ON THE OTHER HAND, INTEREST ONLY IN LIMITS ON THE *DEPLOYMENT* OF MIRVS, LEAVING THEM FREE TO TEST AND THEREBY CATCH UP TO US TECHNOLOGICALLY.[160]

IN THE ABSENCE OF AN AGREEMENT FOR A BAN, MIRV WOULD BE DEPLOYED, AND THE NIXON ADMINISTRATION BEGAN WORKING ON AND ARTICULATING ITS OWN VERSION OF NUCLEAR STRATEGY IN 1969 WHICH IT DUBBED "STRATEGIC SUFFICIENCY."[161]

MIRV DECISION

THE MIRV ISSUE NEVER COALESCED INTO A SINGLE DECISION EVENT. RATHER, MIRV EMERGED AS A SET OF SMALLER DECISIONS WITHIN RDT&E ORGANIZATIONS (MOSTLY BSD) THAT WERE AGGRESSIVELY CHAMPIONED AND FOSTERED BY DDR&E, AND AT THE OSD LEVEL.[162] KEY DECISIONS WERE MADE AT THE DEVELOPMENT, TESTING, AND ARMS LIMITATION TALKS PHASES OF THE PROGRAM THAT CUMULATIVELY COMMITTED THE US TO MIRV.

DECISIONS WITHIN BSD GREW THE MIRV PROGRAM IN THE EARLY STAGES, AND ONCE MIRVS FEASIBILITY AND POTENTIAL WAS REVEALED, DDR&E CEMENTED THE PROGRAM'S VIABILITY WITH A $1 BILLION DOLLAR BILL FOR DEVELOPMENT THAT HAD MCNAMARA'S APPROVAL. THE FACT THAT MIRV WAS NOT VIEWED AS A NEW WEAPON SYSTEM, RATHER, MERELY AN IMPROVEMENT TO AN EXISTING SYSTEM, LIKELY PREVENTED GREATER CONGRESSIONAL SCRUTINY AND INTERAGENCY PARTICIPATION IN MIRV DECISIONS. THE 1964 DEVELOPMENT FUNDING DECISION WITHIN OSD IS, WITHOUT DOUBT, THE

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[158] Department of State, *The Department of State Bulletin* (Washington, D.C.: Office of Media Services, Bureau of Public Affairs, 7 July 1969), 2-3.
[159] Senate, *The White House, Question and Answer Session After a Congressional Briefing by Dr. Henry Kissinger, Assistant to the President for National Security Affairs—State Dining Room*, *Military Implications of the Treaty on the Limitations of Anti-Ballistic Missile Systems and the Interim Agreement on Limitation of Strategic Offensive Arms: Hearing before the Committee on Armed Services*, 92nd Cong., 2nd sess., 20 June 1972, 136-137.
[160] Kissinger, 212.
[161] Kissinger, 217.
[162] Greenwood, 80.

DEFINING MOMENT THAT GAVE MIRV A MOMENTUM THAT WAS HARD TO RESIST AND NEARLY IMPOSSIBLE TO REVERSE.[163] REFLECTING ON THE DECISION TO FUND THE DEVELOPMENT SO AGGRESSIVELY, BROWN LATER TOLD THE SENATE APPROPRIATIONS COMMITTEE:

> THE DECISION TO DEPLOY IS NOT MADE. BUT THERE IS A STRONG PRESUMPTION THAT IT IS A LIKELY DECISION ON THE BASIS OF OUR DECISION TO PROCEED WITH A $1 BILLION DEVELOPMENT. MY OWN VIEW IS THAT YOU DO NOT PROCEED WITH A $1 BILLION DEVELOPMENT UNLESS YOU THINK THERE IS A HIGH CHANCE OF DEPLOYMENT, AND THAT IS THE SITUATION.[164]

THE AIR FORCE SAW THE WRITING ON THE WALL AND SWUNG BEHIND MIRV ONCE IT WAS CLEAR THERE WAS LITTLE POSSIBILITY OF GETTING MORE MINUTEMEN, SO THEY SETTLED FOR MIRV AS THE ONLY SOLUTION TO THEIR GROWING TARGET LIST PROBLEM. COINCIDENTALLY, THE EROSION OF AIR FORCE OPPOSITION WAS PROBABLY ENHANCED BY GENERAL LEMAY'S RETIREMENT IN 1965. SIMILARLY, THE NAVY FELL IN BEHIND MIRV ONCE OSD APPROVED THE FULL-SCALE DEVELOPMENT OF THE POSEIDON MISSILE IN 1964.

DECISIONS MADE AT THE TIME OF MIRV TESTING ALSO HELPED SECURE A FUTURE FOR MIRV. SECRETARY OF STATE RUSK'S DECISION TO NOT GET INVOLVED AND ATTEMPT TO DELAY MIRV TESTING AND SECRETARY OF DEFENSE CLIFFORD'S REFUSAL TO DELAY THE FIRST TESTS SIGNIFICANTLY COMMITTED THE US TO MIRV. AS DESCRIBED EARLIER, TESTING REPRESENTED AN IRREVERSIBLE MILESTONE IN RELATION TO POTENTIAL ARMS AGREEMENTS WITH THE SOVIETS OVER MIRV.

FINALLY, STATE'S AND ACDA'S DECISIONS TO FOREGO THE ARGUMENT TO INCLUDE MIRV IN THE SALT TALKS TO ENSURE, AT A MINIMUM, ABM LIMITATIONS WERE INCLUDED ALSO CONTRIBUTED TO THE DECISION SET THAT ESTABLISHED MIRV. CHOOSING NOT TO FIGHT STRONG MIRV SUPPORT IN THE DEFENSE ESTABLISHMENT CLEARED THE WAY FOR MIRV. IT IS INTERESTING TO NOTE THAT THE OPPOSITION DID NOT LATCH ONTO KEY INTELLIGENCE INFORMATION IN 1967 THAT UNDERMINED THE PRIMARY RATIONALE FOR MIRV. THESE REPORTS INDICATED THE TALLINN SYSTEM THE SOVIET'S WERE DEPLOYING DID NOT HAVE AN ANTI-BALLISTIC MISSILE CAPABILITY; RATHER, IT WOULD LIKELY ONLY BE EFFECTIVE AS AN AIR DEFENSE SYSTEM.[165] THIS WAS A POTENTIALLY SIGNIFICANT BLOW TO THE CASE FOR MIRV AS, SINCE 1964, THE PRIMARY RATIONALE FOR MIRV WAS ITS ABILITY TO DEFEAT ABM SYSTEMS AND MAINTAIN THE STRATEGIC BALANCE. UNCERTAINTY OVER THE TRUE CAPABILITY OF THE TALLINN SYSTEM AND DEBATE AMONG INTELLIGENCE AGENCIES OVER THE SOVIET'S ABILITY TO UPGRADE THE SYSTEM TO A FULL-UP ABM LIKELY PREVENTED THE OPPOSITION FROM PUSHING THIS ARGUMENT

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[163] John W. Kingdon, *Agendas, Alternatives, and Public Policies*, 2nd ed. (New York, New York: Longman, 2003), 152.

[164] Senate, *Department of Defense Appropriations, 1966: Hearings before the Subcommittee on Department of Defense of the Committee on Appropriations and the Committee on Armed Services (H.R. 9221)*, 89th Cong., 1st sess., 2 March 1965, pt. 1, 465-466.

[165] House, *Statement of Secretary of Defense McNamara on FY1968 Defense Budget,* 42; House, *Statement of Secretary of Defense Robert S. McNamara Before the Senate Armed Services Committee on the Fiscal Year 1969-73 Defense Program and 1969 Defense Budget,* prepared 22 January 1968, 55.

FURTHER.[166] NEVERTHELESS, MIRV WAS ALLOWED TO CONTINUE AND, AS DISCUSSED, WAS TESTED IN 1968 THROUGH 1969, AVOIDED BEING BANNED IN TWO ROUNDS OF ARMS CONTROL TALKS WITH THE SOVIETS IN NOVEMBER 1969 AND APRIL 1970, AND THE FIRST TEN MIRVED MINUTEMAN III MISSILES ACHIEVED OPERATIONAL STATUS IN JUNE 1970.[167]

FIGURES 1 AND 2 (BELOW) ILLUSTRATE THE DRAMATIC IMPACT MIRV FIELDING HAD ON THE STRATEGIC BALANCE.

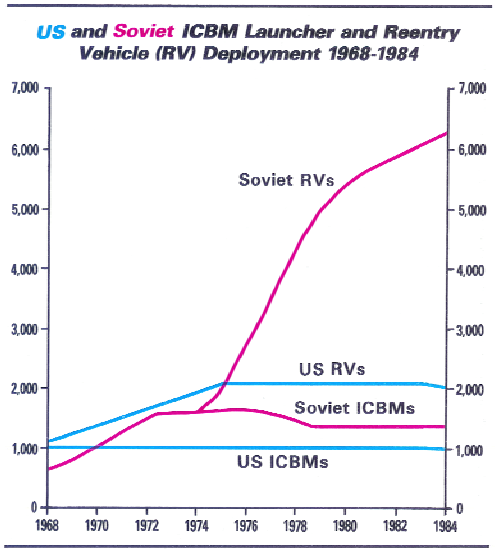

FIGURE 1.

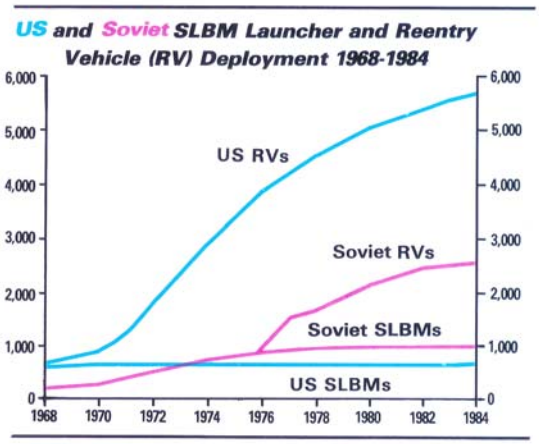

FIGURE 2.

SOURCE: *SOVIET MILITARY POWER*, 1984.

UP UNTIL THE FIRST MIRV DEPLOYMENT, A RELATIVELY STABLE STRATEGIC NUCLEAR BALANCE WAS MADE POSSIBLE BY THE ROUGH NUCLEAR PARITY IN BOTH THE NUMBER OF OVERALL WEAPONS AND THE APPROXIMATE ONE-TO-ONE RELATIONSHIP BETWEEN WARHEADS AND THEIR INTENDED TARGETS (PRIMARILY THE OPPONENT'S NUCLEAR MISSILES). HOWEVER, MIRV INCREASED THE NUMBER OF WARHEADS SEVERAL FOLD AND TURNED ICBMS INTO HIGHLY OFFENSIVE KILLING MACHINES. THIS INCREASE CREATED A SEVERE STRATEGIC IMBALANCE WHERE THE NUMBER OF WARHEADS GREATLY OUTNUMBERED POTENTIAL TARGETS. THE NEW EXCHANGE RATIO CREATED THE POSSIBILITY THAT ONE COULD LAUNCH A PORTION OF ONE'S MISSILES, ALLOCATING MULTIPLE WARHEADS AGAINST EVERY TARGET IN THE OPPONENT'S ARSENAL TO ENSURE THEIR DESTRUCTION, AND STILL RETAIN A GOOD SIZED NUCLEAR ARSENAL IN RESERVE. THIS CHANGE GREATLY INCREASED THE VALUE AND LIKELIHOOD OF A FIRST OR PREEMPTIVE STRIKE, AND SEVERELY DESTABILIZED THE STRATEGIC BALANCE. IT ALSO CREATED CONDITIONS WHERE SUPERIORITY OF OFFENSIVE FORCES WOULD BE PURSUED WITH NO LOGICAL LIMIT.

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[166] House, *Statement of Secretary of Defense McNamara on FY1969 Defense Budget*, 55.

[167] Senate, *Arms Control Implications of Current Defense Budget: Hearings before the Subcommittee on Arms Control, International Law and Organization of the Committee on Foreign Relations*, 92nd Cong., 1st sess., 16 June 1971, 24-25.

IRONICALLY, EVEN BEFORE THE FALL OF THE BERLIN WALL AND END OF THE COLD WAR, THE US BEGAN TO REVERSE ITS POSITION ON MIRV TO REGAIN STABILITY. MCNAMARA COMMENTS IN 1986 THAT "THE IRONY IS THAT TODAY WE ARE APPROACHING FULL CIRCLE. THE SCOWCROFT COMMISSION HAS NOW CALLED FOR A SHIFT AWAY FROM MIRVS AND BACK TO SINGLE-WARHEAD MISSILES."[168]

POST COLD WAR, THE US INITIATED DRASTIC UNILATERAL REDUCTIONS IN THE NUMBER OF OPERATIONALLY DEPLOYED STRATEGIC NUCLEAR WARHEADS. THE ROADMAP FOR THESE REDUCTIONS IS DETAILED IN THE DEPARTMENT OF DEFENSE'S NUCLEAR POSTURE REVIEW (A CONGRESSIONALLY MANDATED REPORT) SUBMITTED TO CONGRESS ON 31 DECEMBER 2001. AS OF 2002, THE US ARSENAL WAS REPORTED TO INCLUDE 550 LAND-BASED ICBMS CARRYING A TOTAL OF UP TO 2,000 WARHEADS, AND 18 NUCLEAR TRIDENT SUBMARINES (CARRYING 24 MISSILES EACH) CAPABLE OF EMPLOYING OVER 3,450 WARHEADS.[169] FROM START I LEVELS OF APPROXIMATELY 6,000 OPERATIONALLY DEPLOYED STRATEGIC NUCLEAR WARHEADS IN FY02, THE US ACHIEVED A REDUCTION OF 1,300 WARHEADS BY DE-ALERTING AND RETIRING ALL 50 PEACEKEEPER ICBMS (OVER A THREE YEAR PERIOD) AND REMOVING FOUR TRIDENT SUBMARINES FROM STRATEGIC NUCLEAR SERVICE.[170] FURTHER REDUCTIONS TO ACHIEVE THE FY07 GOAL OF 3,800 TOTAL OPERATIONALLY DEPLOYED WARHEADS WILL BE ACHIEVED PRIMARILY BY REVERTING MIRV'D MISSILES BACK TO SINGLE RE-ENTRY VEHICLE CONFIGURATION (COMMONLY REFERRED TO AS "DOWNLOADING").[171] THE US PLANS FURTHER REDUCTIONS BEYOND FY07 TO ACHIEVE AN ULTIMATE GOAL OF 1,700 TO 2,200 OPERATIONALLY DEPLOYED STRATEGIC NUCLEAR WARHEADS BY 2012.[172] CLEARLY, THE SCOWCROFT COMMISSION'S FINDINGS PROVIDE MUCH OF THE FOUNDATIONAL RATIONALE SUPPORTING THIS MOVE, NOW REINFORCED AND COMPLEMENTED BY THE CONCLUSIONS OF THE WELCH REPORT OF 1998.

CHAIRED BY RETIRED AIR FORCE GENERAL LARRY WELCH, THE DEFENSE SCIENCE BOARD TASK FORCE ON NUCLEAR DETERRENCE ARTICULATED THE STABILIZING EFFECT OF SINGE-WARHEAD CONFIGURATIONS, BUT CAUTIONED AGAINST REDUCTIONS IN LAUNCH PLATFORMS WHICH WERE

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[168] McNamara, *Blundering Into Disaster*, 66; *Report of the President's Commission on Strategic Forces* (Washington, D.C.: Scowcroft Commission, 6 April 1983), 14-16.

[169] According to START I counting rules detailed in "Joint Statement on the Soviet-United States Summit Meeting," 10 December 1987, n.p., on-line, Internet, 14 April 2005, available from http://www.reagan.utexas.edu/resource/speeches/1987/121087a.htm; "LGM-30G Minuteman III Fact Sheet" and "LGM-118A Peacekeeper Fact Sheet," Headquarters Air Force Space Command Public Affairs, January and June 2004, n.p., on-line, Internet, 14 April 2005, available from http://www.peterson.af.mil/hqafspc/Library/FactSheets; "Ballistic Missile Submarines (SSBNs) Fact File," U.S. Strategic Command Public Affairs, March 2004, n.p., on-line, Internet, 14 April 2005, available from http://www/stratcom.mil/factsheetshtml/submarines.htm.

[170] Assistant Secretary of Defense for International Security Policy J.D. Crouch (presenter), News Transcript of the "Special Briefing on the Nuclear Posture Review," U.S. Department of Defense News, 9 January 2002, n.p., on-line, Internet, 14 April 2005, available from http://www.defenselink.mil/transcripts/2002/t01092002_t0109npr.html.

[171] Crouch, "Special Briefing on the Nuclear Posture Review."

[172] Crouch, "Special Briefing on the Nuclear Posture Review."

INHERENTLY DESTABILIZING.[173] THE TASK FORCE CONCLUDED THAT THE LAND-BASED ICBM FORCE'S "VALUE INCREASES THE MOST WITH DECLINING FORCES. AS THE TOTAL NUMBERS ON BOTH SIDES MOVES THE SITUATION FROM WARHEAD RICH TO TARGET RICH, THE SINGLE WARHEAD SILO-BASED ICBM BECOMES HIGHLY STABILIZING."[174] PRESENTING FEWER TARGETS TO THE ENEMY MAY, AFTER ALL, REACH A BREAK POINT WHERE AN ADVERSARY'S ADVANTAGE TO CONDUCT A FIRST-STRIKE BECOMES TOO ATTRACTIVE.

ANALYSIS

SIMILAR TO THE H-BOMB CASE, RELEVANT POINTS CAN BE DRAWN FROM EXAMINATION OF THE DECISION MAKING PROCESS, THE MILITARY UTILITY AND STRATEGY FOR MIRV, POLITICS, AND THE MILITARY STRATEGY'S EFFECT ON THE NATION'S GRAND STRATEGY.

DECISION MAKING PROCESS

ONCE AGAIN, THE EVIDENCE INDICATES THAT THE COMPLEX DECISION MAKING PROCESS WAS BESET BY SEVERAL NOTABLE DEFICIENCIES WHICH LIMITED OPEN DEBATE ON WHETHER OR NOT TO DEVELOP MIRV TECHNOLOGY. ISSUE POLARIZATION, SECRECY, THE LEVEL OF DECISION AUTHORITY FOR MIRV, AND BUREAUCRATIC/PROGRAMMATIC MOMENTUM REPRESENT A FEW FACTORS THAT LIMITED THE DEBATE AND ANALYSIS OF THE POTENTIAL INTENDED AND UNINTENDED CONSEQUENCES OF PURSUING MIRV TECHNOLOGY OR PREMATURELY COMMITTED THE US TO A SPECIFIC COURSE OF ACTION.

AS WITH THE H-BOMB ISSUE, THE CRITICAL NATURE OF THE MIRV ISSUE DROVE VERY STRONG FEELINGS AND OPINIONS IN THOSE THAT SUPPORTED AND OPPOSED MIRV, POLARIZING THE ISSUE. THE EFFECT WAS THAT THE ISSUE BECAME PERSONAL AND EMOTIONAL, RESULTING IN ADVOCATES ON BOTH SIDES OF THE ISSUE ARGUING EXTREMES AND LIKELY MISSING OPPORTUNITIES TO EXAMINE AND FIND MIDDLE GROUND SOLUTIONS THAT MIGHT HAVE BETTER SERVED EVERYONE'S INTERESTS. LEMAY COMPLAINED ABOUT THE DEGREE OF POLARIZATION THAT OCCURRED, WRITING IN 1968 THAT

> THE ARMS CONTROL MOVEMENT IS GAINING NEW CONVERTS DAILY AND HAS SOMETIMES TAKEN ON THE FERVOR OF A RELIGION. TO QUESTION CERTAIN FEATURES OF IT MEANS THAT ONE IS BRANDED OUT OF HAND AS BLIND, UNREASONING, STUPID, AND POSSIBLY EVIL, WITH LITTLE REGARD FOR CIVILIZATION OR HUMANITY.[175]

UNDOUBTEDLY, THERE ALSO WERE MIRV ADVOCATES WHO BELIEVED MIRV OPPONENTS WERE PIE-EYED, PEACE LOVING ARMS CONTROLLERS WHO JUST DID NOT UNDERSTAND THE COLD HARD TRUTHS OF THE WORLD. LEMAY'S OWN STATEMENT, QUOTED EARLIER, THAT "THE INNOVATORS OF THE WARLESS WORLD SCHEME ARE EXPERIMENTING WITH OUR VERY EXISTENCE" IS AN INDICATION THAT THERE WERE SIMILAR FEELINGS ON BOTH SIDES.[176] THE FACT THAT THE OPPOSITION ARGUED FOR BANS VICE BANS AND/OR LIMITATIONS ON MIRV AND PROPONENTS ARGUED FOR NOTHING SHORT OF IMMEDIATE TESTING

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[173] Department of Defense, *Report of the Defense Science Board Task Force on Nuclear Deterrence* (Washington, D.C.: Office of the Under Secretary of Defense [Acquisition and Technology], October 1998), 14.
[174] Department of Defense, *Report of the Defense Science Board Task Force on Nuclear Deterrence*, 14.
[175] LeMay, *America is in Danger*, 280.
[176] LeMay, *America is in Danger*, 266.

AND DEPLOYMENT OF THE SYSTEMS VERIFY THAT MIDDLE GROUND SOLUTIONS WERE NOT VIABLE, ACCEPTABLE SOLUTIONS TO EITHER SIDE. THIS LIMITED THE SET OF POTENTIAL ALTERNATIVE SOLUTIONS FOR DECISION MAKERS, AND POSSIBLY EXCLUDED A BETTER SOLUTION. DEBATE WAS FURTHER LIMITED BY THE SECRECY REQUIRED.

SECRECY CERTAINLY PLAYED A PART IN THE MIRV DECISION, BUT JUST HOW MUCH IT AFFECTED THE PROCESS IS THE SUBJECT OF CONSIDERABLE DEBATE. SOME ARGUE THAT SECRECY KEPT OPPOSITION FROM EMERGING, AND OTHERS ARE QUICK TO POINT OUT THAT OPPOSITION DID EMERGE IN THE STATE DEPARTMENT, ACDA, CONGRESS, AND EVENTUALLY EVEN WITHIN THE DOD.[177] THE EVIDENCE SHOWS THAT SECRECY CANNOT BE CHARACTERIZED WITH QUITE THE OPPRESSIVE POWER SOME MIGHT ARGUE, BUT THE VEIL OF SECRECY CERTAINLY PLAYED A PART IN LIMITING THE NUMBER OF PLAYERS EXPOSED TO, CONSIDERING, AND ANALYZING THE POTENTIAL BENEFITS AND CONSEQUENCES OF MIRV WHICH FURTHER LIMITED OR NARROWED THE DEBATE. SECRECY CERTAINLY DID NOT PREVENT OPPOSITION, BUT IT DID PLAY A PART IN SUPPRESSING WIDE, OPEN DISCUSSION WHICH MAY HAVE WON MORE AND/OR HIGHER LEVEL PLAYERS TO ITS CAUSE. FURTHER LIMITING OPEN DEBATE IS THE FACT THAT MOST DISCUSSIONS THAT HAD ANY DIRECT BEARING ON DECISIONS WERE HELD WITHIN THE DOD.

THE FACT THAT AUTHORITY FOR MOST OF THE KEY MIRV DECISIONS WAS RETAINED WITHIN THE DOD GREATLY INFLUENCED THE DECISION TO PURSUE MIRV. DECISIONS TO RESEARCH, DEVELOP, AND FIELD MIRV WERE ALL MADE WITHIN DOD CHANNELS, WHICH PRECLUDED KEY INTERAGENCY INVOLVEMENT IN THE DEBATES AND DECISIONS. STATE AND ACDA HAD DISCUSSIONS ABOUT MIRV, BUT HAD NO REAL PLAY IN ANY OF THE DECISIONS THAT LED TO MIRVS DEVELOPMENT. ONE COULD ARGUE THAT CONGRESS RETAINED BUDGET LEVEL AUTHORITY ALL ALONG, BUT BECAUSE THEY VIEWED MIRV AS AN IMPROVEMENT TO A WEAPON SYSTEM, VICE A NEW ONE, MIRV FLEW BELOW THEIR RADAR. FURTHER, THE DESPERATE ARMS RACE THAT WAS ENSUING WITH THE SOVIETS MADE MOST CONGRESSMEN ALL TOO EAGER TO FUND ANYTHING THAT CONTRIBUTED TO THE UNITED STATES STAYING ON TOP. DESPITE THE FACT THAT A FEW MEMBERS OF CONGRESS INJECTED THEMSELVES INTO THE PROCESS AT SEVERAL POINTS, CONGRESS FUNDED ALL OF THE DOD DEVELOPED, PRESIDENT RECOMMENDED BUDGET REQUESTS FOR MIRV. THIS FUNDING FUELED MIRV, AND IMPARTED A STRONG BUREAUCRATIC AND PROGRAMMATIC MOMENTUM WHICH PROPELLED IT FORWARD.

THE FINAL NOTABLE FACTOR IN THE DECISION MAKING PROCESS IS THE BUREAUCRATIC/PROGRAMMATIC MOMENTUM THAT BUILT UP AND SUSTAINED MIRV AS A VIABLE, ACCEPTED PROGRAM. IN CONTRAST TO THE H-BOMB CASE WHERE THERE WAS EVIDENCE OF BUREAUCRATIC ORGANIZATIONS COMING TO A POSITION THAT SUITED THEIR ORGANIZATIONAL GOALS AND STICKING WITH IT, OSD'S MIRV AND POSEIDON DEVELOPMENT FUNDING DECISIONS VIRTUALLY STEAM-ROLLED THE AIR FORCE AND NAVY POSITIONS, EVENTUALLY GAINING COMPLETE REVERSALS. ONE COULD EASILY ARGUE THAT OSD'S $1 BILLION MIRV DEVELOPMENT FUNDING IN 1964 COUPLED WITH THE DECISION TO FUND FULL-SCALE DEVELOPMENT OF THE POSEIDON MISSILE MADE MIRV A FOREGONE

[177] Greenwood, 115.

CONCLUSION. BROWN'S TESTIMONY THAT "THE DECISION TO DEPLOY IS NOT YET MADE" WAS TECHNICALLY ACCURATE, BUT HE ADMITS THAT "YOU DO NOT PROCEED WITH A $1 BILLION DEVELOPMENT UNLESS YOU THINK THERE IS A HIGH CHANCE OF DEPLOYMENT."[178] NO DOUBT, HIS LATTER COMMENT IS A MORE ACCURATE DEPICTION OF THE SITUATION, AND CONVEYS THE POWER THAT SMALLER, UPSTREAM DECISIONS CAN HAVE ON THE OVERALL DECISION PROCESS. MIRV GAINED AND MAINTAINED A NEARLY IRRESISTIBLE MOMENTUM THAT VIRTUALLY ASSURED ITS DEPLOYMENT, DESPITE THE FACT THAT THE MILITARY STRATEGY AND RATIONALE FOR THE WEAPON WAVERED AT TIMES.

MILITARY UTILITY/STRATEGY

MIRV'S MILITARY UTILITY WAS ALMOST UNQUESTIONED. MIRV HAD INCREDIBLE KILLING POWER, WAS MILITARILY USEFUL IN SEVERAL DIFFERENT COMBAT FUNCTIONS, AND WAS AN EFFICIENT AND EFFECTIVE WAY OF DOING MORE OF THE GROWING NUCLEAR MISSION WITH LESS. DESPITE THE GREAT DEBATE AND DIFFERENCES OF OPINION BETWEEN LEMAY AND MCNAMARA OVER MILITARY STRATEGY, A HARD REQUIREMENT FOR MIRV WAS NOT FIRMLY GROUNDED IN EITHER MILITARY STRATEGY. THAT WHICH WAS ESTABLISHED WAS ONLY LOOSELY CONNECTED TO A REQUIREMENT FOR MIRV, AND IT EVEN SHIFTED SEVERAL TIMES BEFORE MIRV WAS DEVELOPED AND DEPLOYED. THE FACT REMAINS THAT NEITHER LEMAY'S NOR MCNAMARA'S STRATEGY WAS CRITICALLY DEPENDENT UPON MIRV.

LEMAY'S STRATEGY WAS CRITICALLY DEPENDENT UPON MORE WEAPONS, BUT MIRV WAS ONLY ONE POTENTIAL SOURCE OF THAT CAPABILITY. HENCE, LEMAY'S HIGHLY OFFENSIVE DOCTRINE OF PURE MILITARY SUPERIORITY WAS NOT DEPENDENT UPON MIRV. LEMAY'S PREFERRED SOLUTION WAS TO BUY MORE DELIVERY PLATFORMS WHICH EMPLOYED SINGLE, LARGER YIELD WARHEADS. NEVERTHELESS, WHEN OSD COMMITTED THE DEPARTMENT TO MIRV, THE AIR FORCE ACCEPTED THAT ADDITIONAL MINUTEMEN AND BOMBERS WERE UNLIKELY, AND MIRV FILLED THE REQUIREMENT JUST FINE. HAVING ESTABLISHED THAT MIRV WAS NOT A DRIVING FORCE IN THE ARGUMENT FOR OR AGAINST LEMAY'S POSITION FROM A PURE MILITARY STRATEGY ASPECT, WHY DID LEMAY LOSE THE ARGUMENT? THE ANSWER IS THAT LEMAY'S STRATEGY APPEARED WEAKER THAN MCNAMARA'S PROPOSAL BECAUSE THERE WAS NO REAL QUALITATIVE ANALYSIS OR RATIONALE FOR HIS HIGHLY OFFENSIVE DOCTRINE OF PURE SUPERIORITY AND NO END TO IT. FURTHER, LEMAY'S NOTIONS OF MILITARY SUPERIORITY WORKED WELL WITH CONVENTIONAL FORCES, BUT THE GUIDING PRINCIPLES AND NET EFFECTS DID NOT READILY TRANSFER TO NUCLEAR FORCES. IN THE END, THE IMPORTANT ITEM TO NOTE IS THAT MIRV WAS NOT A CRITICAL ENABLER OR DISABLER OF LEMAY'S PROPOSED STRATEGY. LEMAY LARGELY LOST THE ARGUMENT OVER MILITARY STRATEGY BECAUSE HIS ARGUMENT WAS NOT AS WELL ARTICULATED AND ANALYTICALLY BASED AS MCNAMARA'S ASSURED DESTRUCTION STRATEGY.

MCNAMARA'S STRATEGY WAS MUCH MORE ARTICULATE AND ANALYTICALLY BASED, GIVING IT GREATER CREDIBILITY AND VALUE WHICH WAS HARD TO ARGUE AGAINST, BUT IT WAS NOT CRITICALLY DEPENDENT UPON MIRV EITHER. LIKE LEMAY, MCNAMARA NEEDED MORE WEAPONS TO ENABLE HIS

[178] Senate, *Department of Defense Appropriations, 1966: Hearings before the Subcommittee on Department of Defense of the Committee on Appropriations and the Committee on Armed Services (H.R. 9221)*, pt. 1, 465-466.

STRATEGY, BUT REALIZED THERE WAS A LIMIT TO THE AMOUNT OF WEAPONS ONE WOULD POTENTIALLY NEED AND COULD AFFORD. THE WEAKNESS IN MCNAMARA'S STRATEGY WAS THAT AS IT EVOLVED THE ENTICING ECONOMIC EFFICIENCIES DERIVED FROM MIRV DILUTED THE PURENESS OF HIS MILITARY STRATEGY, AND BECAME THE DRIVER OF HIS ASSURED DESTRUCTION MILITARY STRATEGY. POLICY AND STRATEGY SHOULD DRIVE WHERE DOLLARS ARE SPENT. WHEN DOLLARS ARE ALLOWED TO DRIVE STRATEGY, IT IS A RECIPE FOR STRATEGIC FAILURE. THEREFORE, MCNAMARA'S STRATEGY WAS NOT CRITICALLY DEPENDENT UPON MIRV FROM A PURELY STRATEGIC PERSPECTIVE. THE STRATEGY COULD HAVE BEEN ACHIEVED WITH OTHER MEANS, LIKE MORE DELIVERY PLATFORMS, BUT IT PROMISED TO ACHIEVE THE NATION'S NUCLEAR NEEDS AT A MUCH MORE AFFORDABLE COST. AS THE STRATEGIC FOUNDATION FOR MIRV, FROM A PURE MILITARY STRATEGY PERSPECTIVE, WAS NOT GROUNDED IN MIRV, ONE MUST EXAMINE OTHER RATIONALES FOR NEEDING MIRV.

IN ADDITION TO THE MORE COMPLEX STRATEGIC DOCTRINES THAT SURROUNDED MIRV, THE BASIC RATIONALE FOR MIRV SHIFTED SEVERAL TIMES BEFORE IT WAS DEPLOYED, YET, MIRV SURVIVED. ORIGINALLY, MIRV, AS A MULTIPLE WARHEAD SYSTEM, WAS VIEWED AS HAVING POTENTIAL MILITARY UTILITY AS AN ABM PENETRATOR. IN THE EARLY 1960S, INDEPENDENT TARGETING CAPABILITY FOR THESE MULTIPLES SHIFTED THE RATIONALE FOR MIRV TO ITS ABILITY TO COVER MANY MORE TARGETS, WITH MORE KILLING POWER IN FULFILLING THE COUNTERFORCE DOCTRINE. THE RATIONALE FOR MIRV SHIFTED BACK TO ITS FUNCTION AS AN ABM KILLER IN 1964 WHEN THE SOVIETS RENEWED THEIR ABM EFFORTS. COINCIDENTALLY, THIS SHIFT OCCURRED AT THE SAME TIME AS MCNAMARA'S ASSURED DESTRUCTION EFFORTS. INTERESTINGLY, WHEN US INTELLIGENCE REPORTS (1967) INDICATED THAT THE SOVIET'S TALLINN SYSTEM LIKELY HAD LITTLE TO NO ABM CAPABILITY, NO ONE QUESTIONED WHETHER OR NOT THIS STILL MEANT THE US NEEDED MIRV. ONE COULD ARGUE THAT THE RATIONALE FOR MIRV REMAINED VIABLE AT THIS POINT BECAUSE THE INTELLIGENCE COMMUNITY WAS DIVIDED ON WHETHER OR NOT TALLINN COULD BE EASILY UPGRADED TO AN ABM CAPABILITY AND PROVIDE AN EFFECTIVE, COUNTRY-WIDE DEFENSE AGAINST US MISSILES. STILL, ONE WOULD THINK THE OPPOSITION WOULD HAVE LATCHED ON TO THIS SUBTLETY AND ADDED IT TO THEIR LIST OF POINTS TO ARGUE AGAINST MIRV ON THE EVE OF SYSTEM TESTING IN 1968. IT IS HIGHLY POSSIBLE THE OPPOSITION DID NOT CAPITALIZE ON THIS OPPORTUNITY AND EXPLOIT THIS POTENTIAL SEAM IN THE MIRV ARGUMENT BECAUSE OF INTERNAL POLITICAL WRANGLINGS WITHIN THE US GOVERNMENT.

<u>POLITICS</u>

POLITICS PLAYED A LARGE PART IN MIRVS FATE—BOTH POLITICAL ACTS OF COMMISSION AND OMISSION. ONE OF THE MAIN REASONS MIRV WAS SO WIDELY ACCEPTED AND SUPPORTED IN THE US GOVERNMENT WAS BECAUSE MIRV HAD A LITTLE SOMETHING FOR ALMOST EVERYONE.

MIRV FULFILLED THE NEEDS AND REQUIREMENTS OF A GREAT MANY ORGANIZATIONAL INSTITUTIONS WITHIN THE US GOVERNMENT AND GAINED WIDE ACCEPTANCE AND SUPPORT, ALBEIT FOR ENTIRELY DIFFERENT REASONS IN EACH. FOR THE AIR FORCE'S TECHNICAL ORGANIZATION (BSD), MIRV FULFILLED THE ORGANIZATIONAL AND INDIVIDUAL GOALS OF TECHNOLOGY DEVELOPERS AND BROUGHT

resources, validation, and prestige. After 1964, the Air Force leadership supported MIRV because it was a great enabler of their counterforce strategy. It was also unwise to continue arguing against MIRV once OSD made the $1 billion commitment, as it would potentially poison the working relationship and draw unfavorable consideration of other Air Force requests and needs. MIRV also helped the Air Force retain its position and role as the strategic nuclear provider of choice. In the same stroke, the Navy supported MIRV because it helped them gain a slice of the nuclear mission pie and a good share of the plentiful resources therein. Further, MIRV enabled the Navy to fulfill its preferred doctrine (counter-city and later, assured-destruction) without treading on any Air Force territory. MIRV allowed OSD DDR&E to fulfill its mission of putting the best technology into the force as quickly as possible, and was a key enabler of the Secretary's agenda. As detailed earlier, MIRV enabled McNamara to address the ABM penetration issue, cover a large number of targets, reduce Congressional and Air Force resistance to delivery platform cuts, prevent the expensive deployment of an ineffective US ABM system, and save a lot of money. Congress and other politicians in the administration liked MIRV because funding the advanced technology, offensive system helped them look strong on defense, tough on communism, and as a facilitator of leading-edge technologies for America. Additionally, some saw MIRV as a strong bargaining chip with the Soviets. This support constituted significant political acts of commission, but it is worth noting that there were also distinct political acts of omission which propelled MIRV forward.

Helping MIRV along its path were choices by key US government agencies and individuals not to take action or assert themselves in the process. For example, the State Department and ACDA made a tactical decision not to call for inclusion of a MIRV ban in the SALT position because of considerable support for MIRV they would face from the military establishment. They specifically chose not to engage on MIRV to ensure they had a better chance of securing their objectives vis-à-vis the larger issue of ABM limitations. It is impossible to say what the result of such an engagement would have been, but it is noteworthy as it was a distinct point where they could have made their case at a more senior decision level and possibly gained some sympathy and/or support for their position. Similarly, Secretary Rusk's decision not to intervene prior to the 1968 testing provides another instance where a deliberate decision was made to not engage. It is possible that Rusk did not intervene because he supported MIRV. More likely is that Rusk felt MIRV was a DoD-internal matter and did not want to intrude any more than he would appreciate McNamara inserting himself into State's internal dealings. However, the consequences of inaction in these two instances is that they both presented prime opportunities for the MIRV issue to be raised above the DoD level, discussed as a national security matter at the

broader, interagency level, and could have potentially even drawn the chief executive into the discussion and/or decision loop.

Military strategy's impact on grand strategy

The fact that the US is now unilaterally reducing the number of warheads and converting missiles to single-warhead configurations for greater strategic stability confers incredible credibility and validity upon the conclusions drawn by early studies like the JASON study of 1962. These thinkers clearly had the best grasp of the strategic consequences of MIRV and ABM systems, yet, were unsuccessful in getting their results to organizations and people that could influence the process. There was a clear disconnect between MIRV's high military utility and ability to serve the military strategy of the day, and the severe, destabilizing strategic consequences of its deployment. Today, key decision makers and proponents of MIRV during the 1960s acknowledge the highly destabilizing effects MIRV had on the strategic balance and even express regret that its strategic implications were not more fully explored or understood at the time. Reflecting on the decisions to develop, test, and deploy MIRV, Secretary McNamara states,

> With hindsight, it is clear there were tremendous costs to continued testing that were not properly considered in 1963. The same can be said of the decision in 1972 to go ahead with the deployment of MIRVs after the ABM Treaty had removed the initial justification for the program.[179]

McNamara asserts that other key figures support this assessment noting that

> When asked in 1974 about the effort to limit MIRVs, former Secretary of State Henry Kissinger stated, "I would say in retrospect that I wish I had thought through the implications of a MIRVed world more thoughtfully in 1969 and in 1970 than I did."[180]

Conclusions

The decisions to develop, test, and deploy MIRV provide evidence how issue polarization, secrecy, decision authority resident within a single government department, and bureaucratic/programmatic momentum limited the debate and analysis of the potential intended and unintended consequences of pursuing MIRV technology and prematurely committed the US to a specific course of action. As observed in the examination of the H-bomb decision, there were clear, conscientious, political efforts and resource allocations to pull the technology along to meet a perceived need and a demonstrated faith that technology could provide the solution to a complex national security problem. The faith in technology and McNamara's use of MIRV to manage the political business

[179] McNamara, *Blundering Into Disaster*, 64-65.
[180] McNamara, *Blundering Into Disaster*, 66.

PROCESS RENDERED A LESS OPTIMUM STRATEGIC SOLUTION AND DESTABILIZED THE STRATEGIC BALANCE FOR DECADES TO COME. MIRV WAS INTENDED TO DELIVER GREATER SECURITY FOR THE US BUT, IN FACT, RESULTED IN THE COMPLETE OPPOSITE—CONSUMING A GREAT AMOUNT OF NATIONAL TREASURE IN THE PROCESS. IT MUST ALSO BE REALIZED THAT AT A MORE BASIC LEVEL, THE MILITARY ESTABLISHMENT DOES NOT FOCUS ON WHETHER OR NOT TO BUILD A WEAPON; RATHER, ITS SYSTEM IS DESIGNED TO OPTIMIZE THE CHOICE BETWEEN AVAILABLE WEAPONS THAT MEET MISSION REQUIREMENTS.[181] KEEPING THE DECISION AUTHORITY FOR WEAPONS WITH POTENTIAL STRATEGIC IMPLICATIONS WITHIN A SINGLE DEPARTMENT HAD TERRIBLE STRATEGIC CONSEQUENCES. IN HIS 1986 REFLECTIONS, MCNAMARA PROVIDES SAGE ADVICE, STATING:

> IT IS ESSENTIAL TO UNDERSTAND THE ACTION-REACTION DYNAMIC AND TO TAKE IT INTO ACCOUNT IN FORMULATING ARMS CONTROL AND DEFENSE POLICIES. WE MUST LEARN TO PREPARE FOR THE BAD WITHOUT BRINGING ON THE WORST. WE MUST UNDERSTAND THAT EVERY ACTION STIMULATES A REACTION IN AN ENDLESS CYCLE. ALREADY THE COST OF OUR FAILURE TO DO SO HAS BEEN THE DEVELOPMENT OF RIDICULOUSLY LARGE ARSENALS AND MISSED OPPORTUNITIES TO NEGOTIATE AGREEMENTS TO REDUCE THEM…(ADDING) THE HISTORY OF THE ARMS RACE HAS BEEN, IN LARGE PART, THE SEARCH BY THE WEST FOR A TECHNOLOGICAL "FIX" THAT WILL CONFER A LASTING MILITARY ADVANTAGE ON IT…AMERICANS PLACE TREMENDOUS FAITH IN TECHNOLOGY.[182]

THE CHALLENGE FOR US STRATEGISTS REMAINS TO "PREPARE FOR THE BAD WITHOUT BRINGING ON THE WORST" AND THIS CASE ILLUSTRATES HOW A PENCHANT FOR OFFENSIVE, TECHNOLOGICAL SOLUTIONS SOMETIMES MAKES US OUR OWN MOST DANGEROUS ADVERSARY.

[181] Greenwood, 14.
[182] McNamara, *Blundering Into Disaster*, 59.

CHAPTER 3

"STAR WARS"

THIS CHAPTER EXAMINES THE UNITED STATES' PURSUIT OF BALLISTIC MISSILE DEFENSES UNDER THE STRATEGIC DEFENSE INITIATIVE (SDI). THIS SYSTEM RELIED UPON THE MOST CUTTING EDGE, YET UNDISCOVERED, EXOTIC TECHNOLOGIES TO INTERCEPT AND DESTROY NUCLEAR MISSILES INBOUND UPON THE UNITED STATES. THE SDI CASE IS PARTICULARLY ILLUMINATING AS IT OFFERS A LOOK AT TWO DISTINCTLY DIFFERENT CHARACTERISTICS NOT PRESENT IN THE PREVIOUS CASE STUDIES. UNLIKE THE H-BOMB AND MIRV CASES, THE UNITED STATED GOVERNMENT ARTICULATED A STRATEGIC VISION WHICH CALLED FOR THE RESEARCH AND DEVELOPMENT OF WEAPON SYSTEMS TO FULFILL A SPECIFIC STRATEGIC NEED. THE US NEEDED NEW WEAPON SYSTEMS THAT WOULD SUPPORT A SHIFT FROM RELIANCE UPON MUTUALLY ASSURED DESTRUCTION (MAD) TO ONE OF DEFENSE AGAINST NUCLEAR THREATS.[183] SECONDLY, WHILE THERE WAS A SIGNIFICANT DEGREE OF SECRECY WHICH PROTECTED WEAPON SYSTEM TECHNOLOGY AND SPECIFIC PLANS, PUBLIC DISCLOSURE OF THE STRATEGY FUELED A PLETHORA OF ANALYSIS AND DEBATE AT THE NATIONAL LEVEL. BY FAR, THE MOST INTERESTING EVIDENCE THIS CASE STUDY REVEALS IS HOW A WEAPON SYSTEM INTENDED SOLELY FOR DEFENSIVE PURPOSES PRESENTED A FORMIDABLE INCREASE IN OFFENSIVE CAPABILITY AND THE POTENTIAL TO GREATLY DESTABILIZE THE SECURITY ENVIRONMENT. ALSO NOTEWORTHY IS THE FACT THAT THIS DEFENSIVE SYSTEM RELIED HEAVILY ON DEPLOYMENT OF WEAPONS IN SPACE. SDI'S SPACE SEGMENT OFFERED GREAT CAPABILITY FOR THE SYSTEM, BUT CREATED NEW PROBLEMS VIS-À-VIS THE POTENTIAL DUAL USES OF THESE WEAPONS FOR ANTI-SATELLITE (ASAT) OR OTHER OFFENSIVE PURPOSES. THUS, THE SDI CASE IS ESPECIALLY RELEVANT AS IT ILLUSTRATES THE OVERLAP BETWEEN NUCLEAR WEAPON ISSUES AND SPACE ISSUES, EFFECTIVELY BRIDGING THE TWO.

BACKGROUND

IN THE RUN-UP TO THE NOVEMBER 1980 ELECTION, THE REPUBLICAN PARTY PLATFORM INCLUDED A PROMISE TO REBUILD THE AMERICAN MILITARY AND RECAPTURE THE PROMINENCE AND DOMINANCE IT ONCE HELD. AT THE TIME, PRESIDENT CARTER'S FY80 PROPOSED DEFENSE BUDGET WAS THE FIRST ATTEMPT TO "REVERSE A TWELVE YEAR DECLINE IN THE SHARE OF THE FEDERAL BUDGET ALLOCATED TO THE NATIONAL DEFENSE FUNCTION."[184] THE REPUBLICAN'S ASSERTED THAT PREVIOUS DEMOCRATIC ADMINISTRATIONS: UNDER-FUNDED THE AMERICAN MILITARY; LOST AMERICA'S STRATEGIC SUPERIORITY; UNDERESTIMATED THE CURRENT AND GROWING THREAT POSED BY THE SOVIET UNION; AND WERE OVER RELIANT ON ARMS CONTROL AGREEMENTS (SALT, ABM, ETC.). FURTHER, THE

[183] Ronald Reagan, *An American Life* (New York, New York: Simon and Schuster, 1990), 550.
[184] Congressional Research Service, *The Fiscal Year 1980 Defense Budget*, Report Number 79-44F (Washington, D.C.: Library of Congress, 21 February 1979), iv.

REPUBLICAN PARTY PLATFORM CONTAINED A PLANK TO "PROCEED WITH VIGOROUS RESEARCH AND DEVELOPMENT OF AN EFFECTIVE ANTI-BALLISTIC MISSILE SYSTEM, SUCH AS IS ALREADY AT HAND IN THE SOVIET UNION, AS WELL AS MORE MODERN ABM TECHNOLOGIES."[185] AS SOON AS PRESIDENT REAGAN AND HIS ADMINISTRATION TOOK OFFICE, THEY BEGAN TO MAKE GOOD ON THEIR PROMISES, PROPOSING A $225 BILLION INCREASE IN THE PENTAGON'S BUDGET (FOR FY81-86).[186] THUS, THE ADMINISTRATION PLACED NEW EMPHASIS ON ABM TECHNOLOGY (THAT HAD BEEN FUNDED AT LOW LEVELS SINCE THE EARLY 1970S AS A HEDGE AGAINST TECHNOLOGICAL SURPRISE), BEGAN TO CRAFT A MORE AGGRESSIVE SPACE POLICY, AND INITIATED BROAD REVIEWS OF US DEFENSE CAPABILITIES AND NEEDS TO COUNTER THE SOVIET NUCLEAR THREAT AND ENSURE US NATIONAL SECURITY.[187]

AT THE ADMINISTRATION'S REQUEST, THE PENTAGON BEGAN TO REVIEW US SPACE POLICY IN AUGUST 1981.[188] SUBSEQUENT TO THIS REVIEW, PRESIDENT REAGAN ANNOUNCED A NEW NATIONAL SPACE POLICY ON 4 JULY 1982 WHICH TOOK A MUCH MORE ASSERTIVE POSTURE IN SPACE TO SECURE US NATIONAL INTERESTS.[189] PART OF THIS SPACE POLICY ADDRESSED THE DESIRE TO ACHIEVE AND DEPLOY AN ASAT CAPABILITY TO DETER THE GROWING SOVIET ASAT THREAT. IN CONCERT WITH THIS EFFORT, BMD FUNDING WAS INCREASED DUE TO ITS COMMON TECHNOLOGICAL BASE (WITH ASAT), AND TO CONTINUE TO DEMONSTRATE US TECHNOLOGICAL SUPERIORITY TO DETER THE SOVIETS. THERE WERE NATURAL OVERLAPS IN THE TECHNOLOGICAL BASE REQUIRED TO DEVELOP BOTH ASAT AND BMD CAPABILITY, PARTICULARLY IN THE POTENTIAL USES OF DIRECTED-ENERGY WEAPONS. ADDITIONALLY, THERE ARE SCANT DIFFERENCES IN THE TECHNOLOGICAL REQUIREMENTS AND CHALLENGES OF ENGAGING A SPACECRAFT IN LOW EARTH ORBIT AND A NUCLEAR WARHEAD ON A SUBORBITAL TRAJECTORY THROUGH SPACE. ON 1 FEBRUARY 1983, SECRETARY OF DEFENSE CASPAR WEINBERGER'S ANNUAL REPORT TO CONGRESS WAS RELEASED, WHICH SPOKE DIRECTLY TO THE CLOSE TIE BETWEEN THE ASAT AND BMD TECHNOLOGY EFFORTS. WEINBERGER'S INTENT WAS

> TO SUPPORT AN ANTI-SATELLITE CAPABILITY BEYOND THIS DECADE, WE ARE CURRENTLY ASSESSING THE FEASIBILITY OF SPACE-BASED LASER WEAPONS.
>
> THE PROGRAM IS STRUCTURED, THEREFORE, TO SUSTAIN OUR UNDERSTANDING OF THIS TECHNOLOGY SO THAT WE COULD FIELD AN ADVANCED AND HIGHLY EFFECTIVE BMD SYSTEM QUICKLY SHOULD THE NEED ARISE.[190]

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[185] Martin Anderson, *Revolution* (New York, New York: Harcourt Brace Jovanovich, Publishers, 1988), 87.
[186] Congressional Research Service, *The Defense Spending Debate: Comparing Recent Defense Appropriations with 1981 Projections,* Report No. 84-97F (Washington, D.C.: The Library of Congress, 29 May 1984), 9.
[187] Anderson, 99.
[188] "Pentagon Space Policy: More of the Same," *Aerospace Daily* 116, no. 35 (August 19, 1982): 279.
[189] Herbert H. Denton, "Reagan Commits U.S. to Preparing for Possibility of Combat in Space," *The Washington Post*, Monday, 5 July 1982, A1.
[190] Department of Defense, *Report of the Secretary of Defense Caspar W. Weinberger to the Congress on the FY 1984 Budget, FY 1985 Authorization Request and FY 1984-88 Defense Programs, February 1, 1983* (Washington, D.C.: Government Printing Office, 1983), 227.

ALTHOUGH BMD EFFORTS CLEARLY GAINED SOME MOMENTUM IN THIS TIME PERIOD, THE SDI PROGRAM HAD NOT YET BEEN FULLY CONCEIVED. TO UNDERSTAND THE GENESIS OF SDI REQUIRES EXAMINATION OF A SMALL, INFLUENTIAL GROUP OF REAGAN'S ADVISORS.

THE PRESIDENT'S COUNSEL

AS SEEN IN PREVIOUS CASE STUDIES, KEY INDIVIDUALS CAN EXERT SIGNIFICANT INFLUENCE IN THE WEAPONS DEVELOPMENT AND DEFENSE POLICY PROCESSES, AND SDI WAS NO DIFFERENT. AMONG REAGAN'S CLOSEST ADVISORS WERE MARTIN ANDERSON, EDWIN MEESE, RICHARD ALLEN, AND GEORGE KEYWORTH (THE PRESIDENT'S SCIENCE ADVISOR) FROM INSIDE THE WHITE HOUSE AND RETIRED LIEUTENANT GENERAL DANIEL GRAHAM AND EDWARD TELLER FROM OUTSIDE THE WHITE HOUSE. THESE INDIVIDUALS, AMONG OTHERS, FORMED THE NUCLEUS OF REAGAN'S PERSONAL, TRUSTED, INNERMOST ADVISORY GROUP. MANY IN THIS GROUP WERE ADVOCATES OF EFFORTS FOR STRATEGIC DEFENSE AND WERE AWARE OF REAGAN'S DISSATISFACTION WITH THE CURRENT MAD CONSTRUCT. PERSONALLY, REAGAN "WAS MORALLY APPALLED AT THE DOCTRINE OF MUTUALLY ASSURED DESTRUCTION (MAD) THAT HAD BEEN OUR NATIONAL NUCLEAR WEAPONS DEFENSE POLICY FOR SOME TWENTY YEARS" AND HAD LONG BEEN CONCERNED ABOUT THE US' INABILITY TO PREVENT HOSTILE MISSILE LAUNCHES FROM HITTING THE US.[191] IN REAGAN'S OPINION, MAD DIDN'T "SEND YOU TO BED FEELING SAFE."[192] HE LIKENED THE STRATEGIC CONSTRUCT TO "TWO WESTERNERS STANDING IN A SALOON AIMING THEIR GUNS AT EACH OTHER'S HEAD—PERMANENTLY" AND FELT "THERE HAD TO BE A BETTER WAY."[193] REAGAN'S KEY ADVISORS BEGAN TO BRIEF THE PRESIDENT ON TECHNOLOGICAL ADVANCES WHICH MIGHT MAKE POSSIBLE A TRUE STRATEGIC DEFENSE AGAINST NUCLEAR MISSILES.

DESPITE THE FACT THAT THIS TOPIC REPRESENTED THE MOST CRITICAL DEFENSE ISSUE OF THE PERIOD, THE MATTER WAS NOT REFERRED TO THE DEFENSE EXPERTS AT THE DEPARTMENT OF DEFENSE, THE NATIONAL SECURITY COUNCIL, OR TO THE STATE DEPARTMENT FOR AN ASSESSMENT OF FOREIGN POLICY IMPACTS. AS THE SMALL, INFORMAL, INNER CIRCLE OF REAGAN'S CLOSEST ADVISORS (SOMETIMES REFERRED TO AS THE "KITCHEN CABINET") BEGAN TO THIS EXPLORE STRATEGIC DEFENSE OF THE US, THE DISCUSSIONS WERE KEPT SECRET, EXTREMELY CLOSE HOLD, AND CONFINED EXCLUSIVELY TO THE SMALL GROUP. ANDERSON RECALLS THAT

> …WE DID SOMETHING THAT, BY THE BOOK, WE SHOULD NOT HAVE DONE. WITHOUT EVER FORMALLY ACKNOWLEDGING IT, EVEN TO OURSELVES, A SMALL, INFORMAL GROUP ON STRATEGIC MISSILE DEFENSE WAS FORMED WITHIN THE WHITE HOUSE.[194]

ANDERSON'S RATIONALE FOR SIDE-STEPPING THE "NORMAL WAY TO PROCEED" CENTERS ON THE OPINION THAT THIS IMPORTANT ISSUE WOULD BE THREATENING TO THE ENTRENCHED DEFENSE BUREAUCRACY AND BUDGET, RESULTING IN INACTION.[195] GRAHAM SECONDS THIS BELIEF, ASSERTING "THE IDEA WOULD

[191] Anderson, 73, 83.
[192] Reagan, *An American Life*, 547.
[193] Reagan, *An American Life*, 547.
[194] Anderson, 94.
[195] Anderson, 93.

HAVE BEEN SMOTHERED IN ITS CRADLE."[196] AS A RESULT, THE INNERMOST CIRCLE BEGAN TO EXPLORE ALL ASPECTS OF STRATEGIC DEFENSE AND BRIEF THE PRESIDENT ON THEIR FINDINGS.

ANDERSON RECALLS THAT "THINGS STARTED TO ROLL IN EARLY SEPTEMBER [1981] WITH A SERIES OF PHONE CALLS" AND CULMINATED IN THE GROUP'S FIRST MEETING ON 14 SEPTEMBER 1981 TO DISCUSS THE "GENERAL CONCEPT OF MISSILE DEFENSE AND ITS TECHNICAL AND ECONOMIC FEASIBILITY."[197] ANDERSON RECALLS THAT AT THIS MEETING

> THERE WAS A GENERAL AGREEMENT THAT WE SHOULD SHIFT OUR NUCLEAR DEFENSE STRATEGY FROM RELIANCE ON TOTAL OFFENSE, CALLED FOR BY THE POLICY OF MUTUALLY ASSURED DESTRUCTION, TO A POLICY THAT RELIED ON BOTH OFFENSE AND DEFENSE TO DETER A NUCLEAR WAR. THERE WAS ALSO GENERAL AGREEMENT THAT A MAJOR PART OF A MISSILE DEFENSE EFFORT WOULD PROBABLY BE BASED IN SPACE.[198]

FOLLOWING THIS MEETING, A SECOND WAS HELD ON 12 OCTOBER 1981 WHICH FEATURED A STATUS REPORT GIVEN BY FORMER HEAD OF THE DEFENSE INTELLIGENCE AGENCY, RETIRED ARMY LIEUTENANT GENERAL GRAHAM.

GRAHAM WAS "A NOTED MILITARY EXPERT WHO HAD DEVOTED MUCH TIME AND STUDY TO SPACE TECHNOLOGY" AND WAS "ONE OF THE BEST KNOWN AND MOST EFFECTIVE PROPONENTS OF MISSILE DEFENSE."[199] HIS PARTICIPATION IN THESE EARLY MEETINGS CERTAINLY HELPED SHAPE THE PRESIDENT'S VIEWS ON STRATEGIC DEFENSE. GRAHAM ARTICULATED HIS VIEWS IN A SMALL BOOK PUBLISHED IN MARCH, 1982 TITLED "*HIGH FRONTIER: A NEW NATIONAL STRATEGY*" WHICH ESPOUSED REPLACING MUTUALLY ASSURED DESTRUCTION WITH STRATEGIC DEFENSE THAT ASSURED SURVIVAL.[200] TO FULFILL THIS STRATEGY, GRAHAM ENVISIONED DEPLOYING 432 ORBITING SPACECRAFT ARMED WITH "FORTY OR FIFTY SMALL ROCKETS CAPABLE OF INTERCEPTING UP TO EIGHTY PERCENT OF A SOVIET LONG-RANGE MISSILE ATTACK EARLY IN TRAJECTORY."[201] AT THE SECOND MEETING OF THIS INFORMAL, INNER CIRCLE, GRAHAM AND ANOTHER MEMBER OF THE GROUP PRESENTED A REPORT ON STRATEGIC DEFENSE TO THE PRESIDENT WHICH ANDERSON CHARACTERIZES AS "GLOWING AND ENCOURAGING."[202] IN SPITE OF THE FACT THAT THE STRATEGIC AIM GRAHAM ESPOUSED INTRIGUED REAGAN AND HIS ADVISORS, SOME OF HIS VIEWS BEGAN TO FALL SLIGHTLY OUT OF FAVOR DUE TO HIS RELIANCE ON OFF-THE-SHELF TECHNOLOGY.[203] HOWEVER, THE NUCLEUS GROUP CONTINUED TO EMBRACE THE OVERARCHING STRATEGIC CONCEPT, AND CONTINUED THE MEETINGS, ALBEIT WITHOUT GRAHAM. THE GROUP'S FOCUS WAS CLEARLY DIRECTED AT SOLUTIONS WHICH RELIED UPON MORE SOPHISTICATED,

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[196] Lt Gen Daniel O. Graham, *To Provide for the Common Defense: The Case for Space Defense* (Louisville, Kentucky: Frank Simon Company, 1986), 18.
[197] Anderson, 94-95.
[198] Anderson, 95.
[199] Anderson, 91,
[200] Lt Gen Daniel O. Graham, *High Frontier: A New National Strategy* (Washington, D.C.: High Frontier, Inc., 1982), ix-xii, 1-2, 17-20.
[201] Graham, *To Provide for the Common Defense*, 35-36; Graham, *High Frontier*, 119-122.
[202] Anderson, 95.
[203] Graham, *To Provide for the Common Defense*, 36.

ADVANCED TECHNOLOGY—TECHNOLOGY THAT TELLER WAS INTIMATELY FAMILIAR WITH AND INSTRUMENTAL IN DEVELOPING AND ADVOCATING.

WHILE MANY OF REAGAN'S ADVISORS ADVOCATED INCREASED DEFENSE PROGRAMS AND EVEN THOSE DIRECTLY ASSOCIATED WITH WHAT BECAME SDI, NONE WERE MORE ACTIVE OR INFLUENTIAL THAN NOTED SCIENTIST EDWARD TELLER. TELLER FIRST INTRODUCED REAGAN TO ANTI-MISSILE TECHNOLOGY IN 1967 DURING A TOUR OF THE LAWRENCE LIVERMORE NATIONAL LABORATORY, GIVING THE NEW CALIFORNIA GOVERNOR HIS "FIRST CHANCE TO HEAR ABOUT DEFENSIVE WEAPONS."[204] TELLER BELIEVED THE US NEEDED TO DEVELOP AND DEPLOY ACTIVE DEFENSES AND SAW HIS WORK ON DIRECTED-ENERGY WEAPONS AS A PROMISING WAY TO FULFILL THAT NEED, STATING:

> THERE ARE CLAIMS THAT PARTICLE BEAMS ARE EFFECTIVE OVER VAST DISTANCES, BUT SUCH CLAIMS SEEM PREMATURE. THERE IS REAL HOPE, HOWEVER, THAT PARTICLE BEAMS COULD AID IN DEFENSE AGAINST INCOMING MISSILES THAT ARE AS CLOSE AS A FEW MILES.[205]

EARLY ON, TELLER WAS KEY IN CONVINCING REAGAN'S STAFF THAT "A NUCLEAR MISSILE DEFENSE WAS TECHNICALLY POSSIBLE" AND CONTINUED TO EXERT GREAT INFLUENCE THROUGH HIS CONTINUED PARTICIPATION IN THIS SMALL GROUP.[206]

ANDERSON STATES THAT A MEETING ON 8 JANUARY 1982 BETWEEN THE PRESIDENT, TELLER, MEESE, KEYWORTH, AND OTHERS SIGNIFIED A "CRITICAL TURNING POINT" WHICH ILLUMINATED THE POSSIBILITIES THAT NEW TECHNOLOGY MIGHT ENABLE ACHIEVEMENT OF STRATEGIC DEFENSE, AND ENERGIZED REAGAN'S COMMITMENT TO PURSUE THE SOLUTION.[207] SUBSEQUENT MEETINGS CONTINUED TO EXPLORE THE TOPIC. IN DECEMBER 1982, PRESIDENT REAGAN RAISED THE ISSUE OF STRATEGIC DEFENSE WITH THE JOINT CHIEFS OF STAFF, ASKING THEM ABOUT MOVING AWAY FROM A TOTAL RELIANCE ON OFFENSE TO DETER A NUCLEAR ATTACK AND TOWARD A GREATER RELIANCE ON DEFENSE.[208] THIS QUESTION GENUINELY CAUGHT THE MILITARY ESTABLISHMENT BY SURPRISE. AFTER THIS MEETING WILLIAM CLARK (THE PRESIDENT'S NATIONAL SECURITY ADVISOR) CONFIRMED THE JOINT CHIEFS "MARCHING ORDERS…TO TAKE A HARD LOOK AT MISSILE DEFENSE" AND DIRECTED HIS DEPUTY, ROBERT MCFARLANE, "TO GET DEEPLY INVOLVED IN THE QUESTION OF MISSILE DEFENSE."[209] ON 11 FEBRUARY 1983, THE JOINT CHIEFS "MET WITH PRESIDENT REAGAN AND RECOMMENDED TO HIM THAT THE UNITED STATES ABANDON ITS COMPLETE DEPENDENCE ON THE OLD DOCTRINE OF MUTUALLY ASSURED DESTRUCTION AND MOVE AHEAD WITH THE RESEARCH AND DEVELOPMENT OF A MISSILE DEFENSE SYSTEM."[210]

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[204] Edward Teller, "SDI: The Last, Best Hope," *Insight* (28 October 1985): 75.
[205] Edward Teller, "Technology: The Imbalance of Power," in *The United States in the 1980s,* eds. Peter Duignan and Alvin Rabushka, (Stanford, California: Hoover Institution Press, 1980), 514.
[206] Anderson, 93.
[207] Anderson, 95-96.
[208] Anderson, 97.
[209] Anderson, 97.
[210] Anderson, 97.

With the Joint Chiefs on board, the president moved to announce his plans for the new strategy. In early March 1983, McFarlane drafted the strategic missile defense statement which would be included in a formal presidential address, but the document remained extremely secret and close-hold—even from other top administration officials.[211] Most key officials were consulted on the speech less than 48 hours from its delivery, if at all. This included the secretary of state, George Schultz, the secretary of defense, Caspar Weinberger, members of the Joint Chiefs of Staff, the undersecretary of defense, Richard DeLauer, the top arms control advisor, Paul Nitze, and even David Gergen who served inside the White House as the communications director.[212] In spite of the lack of coordination and vetting, the stage was set for the president's historic announcement.

The President's Vision

On 23 March 1983 Reagan delivered what was to become one of his most famous addresses, commonly referred to as the "Star Wars" speech. In this address, Reagan outlined his intent to shift the US nuclear strategy from one based upon the threat of mutual destruction and deterrence to defense. In his remarks, Reagan articulated the clear and present danger that the Soviet Union posed and his vision, stating:

> …My predecessors in the Oval Office have appeared before you on other occasions to describe the threat posed by Soviet power and have proposed steps to address that threat. But since the advent of nuclear weapons, those steps have been increasingly directed toward deterrence of aggression through the promise of retaliation.
>
> This approach to stability through offensive threat has worked. We and our allies have succeeded in preventing nuclear war for more than three decades. In recent months, however, my advisors, including in particular the Joint Chiefs of Staff, have underscored the necessity to break out of a future that relies solely on offensive retaliation for our security.
>
> …I believe we must thoroughly examine every opportunity for reducing tensions and for introducing greater stability into the strategic calculus on both sides.
>
> …If the Soviet Union will join with us in our effort to achieve major arms reduction, we will have succeeded in stabilizing the nuclear balance. Nevertheless, it will still be necessary to rely on the specter of retaliation, on mutual threat. And that's a sad commentary on the human condition. Wouldn't it be better to save lives than to avenge them? Are we not capable of demonstrating our peaceful intentions by applying all our abilities and our ingenuity to achieving a truly lasting stability? I think we are. Indeed, we must.
>
> …What if free people could live secure in the knowledge that their security did not rest upon the threat of instant U.S. retaliation to deter a

[211] Anderson, 98.
[212] Anderson, 98.

> SOVIET ATTACK, THAT WE COULD INTERCEPT AND DESTROY STRATEGIC BALLISTIC MISSILES BEFORE THEY REACHED OUR OWN SOIL OR THAT OF OUR ALLIES?
>
> …I CLEARLY RECOGNIZE THAT DEFENSIVE SYSTEMS HAVE LIMITATIONS AND RAISE CERTAIN PROBLEMS AND AMBIGUITIES. IF PAIRED WITH OFFENSIVE SYSTEMS, THEY CAN BE VIEWED AS FOSTERING AN AGGRESSIVE POLICY, AND NO ONE WANTS THAT. BUT WITH THESE CONSIDERATIONS FIRMLY IN MIND, I CALL UPON THE SCIENTIFIC COMMUNITY IN OUR COUNTRY, THOSE WHO GAVE US NUCLEAR WEAPONS, TO TURN THEIR GREAT TALENTS NOW TO THE CAUSE OF MANKIND AND WORLD PEACE, TO GIVE US THE MEANS OF RENDERING THESE NUCLEAR WEAPONS IMPOTENT AND OBSOLETE.
>
> TONIGHT, CONSISTENT WITH OUR OBLIGATIONS OF THE ABM TREATY AND RECOGNIZING THE NEED FOR CLOSER CONSULTATION WITH OUR ALLIES, I'M TAKING AN IMPORTANT FIRST STEP. I AM DIRECTING A COMPREHENSIVE AND INTENSIVE EFFORT TO DEFINE A LONG-TERM RESEARCH AND DEVELOPMENT PROGRAM TO BEGIN TO ACHIEVE OUR ULTIMATE GOAL OF ELIMINATING THE THREAT POSED BY STRATEGIC NUCLEAR MISSILES. THIS COULD PAVE THE WAY FOR ARMS CONTROL MEASURES TO ELIMINATE THE WEAPONS THEMSELVES. WE SEEK NEITHER MILITARY SUPERIORITY NOR POLITICAL ADVANTAGE. OUR ONLY PURPOSE—ONE ALL PEOPLE SHARE—IS TO SEARCH FOR WAYS TO REDUCE THE DANGER OF NUCLEAR WAR…[213]

THE POTENTIAL FOR A TRUE DEFENSE AGAINST THE THREAT OF NUCLEAR MISSILES STRUCK A CHORD IN THE HEART OF THE AMERICAN PEOPLE. IT ALSO GENERATED MUCH DISCUSSION ABOUT HOW SUCH A GRAND POLICY INITIATIVE COULD HAVE REMAINED SO SECRET UNTIL REAGAN'S NATIONAL UNVEILING. ANDERSON RECOGNIZES AND ADDRESSES THIS IN HIS ACCOUNT OF THE EVENTS AND CONTENDS THAT

> AT FIRST GLANCE, STAR WARS APPEARED TO BE AN IMPULSIVE, POSSIBLY DANGEROUS GESTURE, A WHIM INDULGED IN BY AN IGNORANT POLITICIAN, IRRESPONSIBLY TAKEN WITHOUT EVEN A CURSORY CONSULTATION WITH EXPERT ADVISORS.
>
> IN FACT, IT IS ALMOST A CLASSIC CASE OF THE SLOW, STEADY DEVELOPMENT OF AN IDEA WITH POWER AND LOGIC AND MORAL STRENGTH…STAR WARS WAS A CAREFULLY THOUGHT OUT PROPOSAL, DEVELOPED OVER MANY YEARS, WITH THE ADVICE AND CONSULTATION OF SOME OF THE BEST NUCLEAR WEAPONS EXPERTS IN THE WORLD.[214]

IN SPITE OF THIS GROWING PERCEPTION, TWO DAYS AFTER REAGAN'S PUBLIC PRONOUNCEMENT HE ISSUED NATIONAL SECURITY DECISION DIRECTIVE (NSDD) 85 TO "DIRECT THE DEVELOPMENT OF AN INTENSIVE EFFORT TO DEFINE A LONG-TERM RESEARCH AND DEVELOPMENT PROGRAM AIMED AT AN ULTIMATE GOAL OF ELIMINATING THE THREAT POSED BY NUCLEAR BALLISTIC MISSILES."[215] ON APRIL 18TH, REAGAN ISSUED NSDD 6-83 WHICH COMMISSIONED TWO INDEPENDENT STUDY EFFORTS TO ASSESS THE TECHNOLOGICAL PARAMETERS AND INTERNATIONAL IMPLICATIONS OF PROCEEDING WITH STRATEGIC DEFENSE OF THE UNITED STATES.

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[213] Ronald Reagan, "Address to the Nation. March 23, 1983," *Weekly Compilation of Presidential Documents* 19, no. 12 (Monday, 28 March 1983): 442-448.
[214] Anderson, 99.
[215] "Ballistic Missile Defense Research and Development: Announcement on the Issuance of a National Security Decision Directive. March 25, 1983," *Weekly Compilation of Presidential Documents* 19, no. 12 (Monday, 28 March 1983): 462-463.

DIRECTED STUDIES

THE HOFFMAN REPORT[216]

THE FUTURE SECURITY STRATEGY STUDY WAS SPLIT INTO TWO TEAMS, ONE COMPOSED OF INTERAGENCY PERSONNEL FROM WITHIN THE GOVERNMENT, AND A SECOND GROUP OF OUTSIDE EXPERTS IN ORDER TO ASSESS THE ROLE OF DEFENSIVE SYSTEMS IN THE US' FUTURE SECURITY STRATEGY.[217] THE INTERAGENCY GROUP GENERATED A CLASSIFIED REPORT WHICH WAS NOT RELEASED TO THE PUBLIC. FRED HOFFMAN CHAIRED THE OUTSIDE EXPERTS GROUP AND PUBLISHED HIS PANEL'S FINDINGS IN OCTOBER 1983, SUMMARIZING THE OFFICIAL RATIONALES FOR SDI. THE MAIN THRUST OF THE REPORT IS FAIRLY WELL CAPTURED IN THE REPORT'S REMARKS THAT

> THE NEW TECHNOLOGIES OFFER THE POSSIBILITY OF A MULTILAYERED DEFENSE SYSTEM ABLE TO INTERCEPT OFFENSIVE MISSILES IN EACH PHASE OF THEIR TRAJECTORIES. IN THE LONG TERM, SUCH SYSTEMS MIGHT PROVIDE A NEARLY LEAKPROOF DEFENSE AGAINST LARGE BALLISTIC MISSILE ATTACKS. HOWEVER, THEIR COMPONENTS VARY SUBSTANTIALLY IN TECHNICAL RISK, DEVELOPMENT LEAD TIME, AND COST, AND IN THE POLICY ISSUES THEY RAISE. CONSEQUENTLY, PARTIAL SYSTEMS, OR SYSTEMS WITH MORE MODEST TECHNICAL GOALS, MAY BE FEASIBLE EARLIER THAN THE FULL SYSTEM.[218]

WHILE THE REPORT GENERALLY SUPPORTS REAGAN'S VISION AND THE TECHNICAL FEASIBILITY OF THE PROJECT, THIS REMARK EFFECTIVELY SPLIT THE SDI ISSUE IN TWO. ON ONE HAND, THE PRESIDENT AND OTHER SENIOR ADMINISTRATION OFFICIALS HAD CLEARLY LAID DOWN THE GAUNTLET, ASSERTING THIS WAS A TOTAL SHIELD WHICH, IN THE PRESIDENT'S WORDS, HAD "THE ULTIMATE GOAL OF ELIMINATING THE THREAT POSED BY STRATEGIC NUCLEAR MISSILES" AND RENDERING "NUCLEAR WEAPONS IMPOTENT AND OBSOLETE." ON THE OTHER HAND, THIS REPORT'S CONCLUSIONS BEGAN TO DISCUSS THE TECHNOLOGICAL INFEASIBILITY OF A LEAKPROOF SYSTEM, AND BEGAN ADVOCATING THE MERITS OF PARTIAL SYSTEMS THAT COULD COMPLICATE SOVIET ATTACK PLANNING AND CONFIDENCE AND HELP MAINTAIN DETERRENCE.[219] BUT THE ADMINISTRATION'S GOAL WAS TO ABANDON A STRATEGY OF DETERRENCE IN FAVOR OF TRUE DEFENSE, AND THIS DEPARTURE FROM THE WHITE HOUSE MESSAGE CAUSED SIGNIFICANT PROBLEMS FOR THE ADMINISTRATION DOWN THE LINE.

THE FLETCHER REPORT[220]

JAMES C. FLETCHER LED THE DEFENSIVE TECHNOLOGY STUDY DESIGNED TO REVIEW TECHNOLOGIES AND "TO IDENTIFY THE MOST PROMISING APPROACHES TO EFFECTIVE DEFENSE AGAINST BALLISTIC MISSILES AND TO DESCRIBE A TECHNICALLY FEASIBLE RESEARCH AND DEVELOPMENT

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[216] Fred S. Hoffman, *Ballistic Missile Defenses and U.S. National Security: Summary Report*, Prepared for the Future Security Strategy Study (Washington, D.C.: Institute for Defense Analyses, October 1983); hereafter cited as the Hoffman Report.
[217] Hoffman Report, iv.
[218] Hoffman Report, 2.
[219] Hoffman Report, 8.
[220] Department of Defense, *The Strategic Defense Initiative: Defensive Technologies Study* (Washington, D.C.: Government Printing Office, April 1984); hereafter cited as the Fletcher Report.

PROGRAM."[221] THIS REPORT ALSO REINFORCED THE ADMINISTRATION'S ASSERTIONS AND CONCLUDED THAT

> POWERFUL NEW TECHNOLOGIES ARE BECOMING AVAILABLE THAT JUSTIFY A MAJOR TECHNOLOGY DEVELOPMENT EFFORT OFFERING FUTURE TECHNICAL OPTIONS TO IMPLEMENT A DEFENSIVE STRATEGY" AND THAT "THE MOST EFFECTIVE SYSTEMS HAVE MULTIPLE LAYERS, OR TIERS.[222]

IMPORTANTLY, THE REPORT ALSO IDENTIFIED THAT "SURVIVABILITY IS POTENTIALLY A SERIOUS PROBLEM FOR THE SPACE-BASED COMPONENTS."[223] THE REPORT'S FINDINGS INCLUDED AN ASSESSMENT THAT THE TECHNOLOGICAL CHALLENGES OF A STRATEGIC DEFENSE INITIATIVE WERE GREAT BUT NOT INSURMOUNTABLE. IT CONCLUDED THAT THE SCIENTIFIC COMMUNITY MAY INDEED BE ABLE TO DELIVER A TECHNOLOGICAL SOLUTION THAT WOULD RENDER THE BALLISTIC MISSILE THREAT "IMPOTENT AND OBSOLETE."[224]

OVERALL BOTH REPORTS RENDERED QUALIFIED SUPPORT OF REAGAN'S VISION, AND THE ADMINISTRATION ESTIMATED THE FIRST FIVE YEARS (FY85-89) OF THE PROGRAM WOULD COST UPWARDS OF $26 BILLION.[225] HOWEVER, IN SPITE OF THE REPORTS, SDI BEGAN TO DRAW CRITICISM WHICH EVOLVED INTO A FULL-BLOWN, NATIONAL, PUBLIC DEBATE.

NATIONAL DEBATE

REAGAN'S ANNOUNCEMENT ENERGIZED BOTH CRITICS AND SUPPORTERS OF STRATEGIC DEFENSE, AND EACH SIDE HURRIED TO PUBLICLY ARTICULATE AND ADVOCATE THEIR POSITION ON SDI.

STAR WARS ADVOCATES

THOSE WHO ADVOCATED FOR RESEARCHING, DEVELOPING, AND DEPLOYING SDI ECHOED THE RATIONALE GIVEN BY THE REAGAN ADMINISTRATION, NOW CODIFIED IN THE FLETCHER AND HOFFMAN REPORTS. IN ADDITION TO THESE EFFORTS, MANY INDIVIDUALS INSIDE AND OUTSIDE THE GOVERNMENT PUBLISHED ARTICLES AND BOOKS AND GAVE INTERVIEWS DETAILING THE REASONS TO PURSUE SDI. LT GEN GRAHAM AND EDWARD TELLER WERE TWO OF THE MOST INFLUENTIAL SDI EVANGELISTS WHO CONTINUED THEIR OUTSPOKEN EFFORTS TO SECURE A STRATEGIC DEFENSE STRATEGY. THE ARGUMENTS THESE TWO MEN PUT FORTH AS WELL AS NOTED STRATEGIST COLIN GRAY REPRESENT, TO A FAIR DEGREE, THE LARGER BODY OF ARGUMENTS IF FAVOR OF SDI, WHICH CENTERED ON THE IMMORALITY AND FLAWS OF THE MAD STRATEGY, ESPECIALLY IN LIGHT OF A GROWING SOVIET THREAT.

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[221] Fletcher Report, preface.
[222] Fletcher Report, 2.
[223] Fletcher report, 10.
[224] Fletcher report, 13.
[225] Department of Defense, *Report to the Congress on the Strategic Defense Initiative 1985*, (Washington, D.C.: Government Printing Office, 1985), 77.

TELLER ARGUED THAT MAD WAS MORALLY BANKRUPT AND FATALLY FLAWED, AND ADVOCATED THE MORAL IMPERATIVES OF PURSUING STRATEGIC DEFENSE.[226] HE POINTS OUT THAT AMERICANS WERE DISSATISFIED WITH A STRATEGY THAT RELIED UPON THE THREAT OF MASS RETALIATORY KILLING TO ENSURE NATIONAL SECURITY. THIS SENTIMENT WAS ECHOED BY "MORE THAN 1,000 CLERGYMEN…(WHO) PUBLICLY ENDORSED SDI RESEARCH…(AS) ITS DEPLOYMENT…IS NOT ONLY MORALLY JUSTIFIABLE, BUT PERHAPS EVEN OBLIGATORY FOR THE AMERICAN PEOPLE AND THEIR GOVERNMENT.' "[227] WITH TWENTY YEARS OF MAD EXPERIENCE, MUCH HAD BEEN WRITTEN ABOUT THIS ATTRIBUTE OF THE MAD DOCTRINE AS WELL AS ANOTHER MORALLY DISTURBING ASPECT. FOR MAD TO REMAIN VIABLE AND EFFECTIVE, US STRATEGISTS HAD TO ENSURE THE US REMAINED SUFFICIENTLY VULNERABLE TO SOVIET NUCLEAR WEAPONS. IN AN INTERVIEW WITH DISCOVER MAGAZINE, TELLER ALSO NOTED THE OBVIOUS FLAWS IN ADHERING TO A STRATEGY WHOSE OPERATING PRINCIPLES WERE NEVER ACCEPTED BY THE SOVIETS.[228] TELLER CITES THE FACT THAT THE SOVIET'S CONTINUED TO BUILD THEIR ABM WHILE THE US DISMANTLED ITS ONLY SYSTEM IN 1976 AND BELABORED THE FACT THAT THE SOVIETS SPENT $13 PER CAPITA ON CIVIL DEFENSE COMPARED TO THE US' 78 CENTS.[229] IN MANY WAYS, THESE ARGUMENTS WERE A REFLECTION AND REINFORCEMENT OF A MORE DETAILED STRATEGY ARGUMENT GRAHAM MADE IN 1983.

IN *WE MUST DEFEND AMERICA*, GRAHAM IS CRITICAL OF THE STRATEGY WHICH PURPORTEDLY PROVIDED FOR AMERICA'S DEFENSE THROUGH PROMISES OF SUPERIOR NUCLEAR RETALIATION. HE ASSERTED THAT MAD WAS NOT A VIABLE DEFENSE STRATEGY AS IT PROVIDED NO DEFENSE AT ALL. WHATEVER SECURITY MAD DID DELIVER WAS PREDICATED UPON SOVIET COOPERATION TO BUY INTO AND ACCEPT THE MAD CONSTRUCT...SOMETHING WHICH THEY HAD NEVER DONE.[230] THE SOVIET'S INCREASES IN OFFENSIVE FORCES, DEPLOYMENT, UPGRADE, AND EXPANSION OF THE "WORLD'S ONLY OPERATIONAL ABM SYSTEM," AND IMPROVED CIVIL DEFENSE MEASURES WERE EVIDENCE THAT THE SOVIET STRATEGY REMAINED ROOTED IN THE BELIEF THAT THEY COULD FIGHT AND WIN A NUCLEAR CONFLICT.[231] FURTHER, THE SOVIETS HAD NOT TRULY EMBRACED ARMS CONTROL MEASURES, WERE FREQUENTLY CAUGHT CHEATING ON THE THOSE THEY HAD AGREED TO, AND WERE ACTIVELY DEVELOPING ADVANCED WEAPONRY TO ENSURE SUPERIORITY, EVIDENCED BY THE DEPLOYMENT OF AN OPERATIONAL ASAT WEAPON. THIS SOVIET MILITARY ACTIVITY WAS WIDELY PUBLICIZED BY THE ADMINISTRATION IN PUBLIC REPORTS ENTITLED *SOVIET MILITARY POWER* INTENDED TO HIGHLIGHT THE GROWING THREAT. A STATE DEPARTMENT SDI DOCUMENT CONCLUDED THAT THE SOVIET MILITARY ACTIVITY "COULD PROVIDE

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[226] Dr. Edward Teller, "Science and Technology in the Strategic Defense Initiative," *Defense Science 2003+* 4, no. 2 (April/May 1985): 17-24.
[227] Dr. Kenneth Adelman, "The Impact of Space on Arms Control," *Defense Science 2003+* 4, no. 2 (April/May 1985): 48.
[228] Edward Teller and Carl Sagan, "Pro and Con," *Discover* 6, no. 9 (September 1985): 68.
[229] Teller and Sagan, "Pro and Con:" 68.
[230] Daniel O. Graham, *We Must Defend America: and put an end to MADness* (Chicago, Illinois: Regnery Gateway, 1983), 20-30.
[231] Department of Defense and Department of State, *Soviet Strategic Defense Programs* (Washington, D.C.: Government Printing Office, October 1985), preface-27.

THE FOUNDATION OF DECISIVE ADVANTAGE IN THE FUTURE."[232] THIS SENTIMENT WAS MIRRORED IN DEFENSE DEPARTMENT PUBLICATIONS WHICH ASSERTED THAT "THE COMBINATION OF SOVIET OFFENSIVE AND DEFENSIVE DEVELOPMENTS, IF UNANSWERED, MAY PROVIDE THE SOVIET UNION WITH A DECISIVE MILITARY ADVANTAGE IN THE NEAR FUTURE."[233] CUMULATIVELY, THESE EFFORTS WERE REPRESENTATIVE OF THE OVERALL SOVIET STRATEGY TO SYSTEMATICALLY ERODE US SECURITY, ENSURE ACROSS-THE-BOARD SOVIET SUPERIORITY, ENABLING THEM TO FIGHT AND WIN A NUCLEAR CONFLICT. STRATEGIST COLIN GRAY SUMS UP THE SITUATION WELL STATING "DETERRENCE THROUGH OFFENSIVE RETALIATION IS FINE AS LONG AS IT IS NOT TESTED SEVERELY," WHICH REVEALS THE STRATEGIC DISCONNECT AND MAKES PROTECTION AGAINST NUCLEAR MISSILES AN IMPERATIVE.[234]

A WHITE HOUSE REPORT NOTES THAT UNDER MAD, "IF DETERRENCE WERE TO FAIL, WITHOUT A SHIELD OF ANY KIND, IT COULD CAUSE THE DEATH OF MOST OF OUR POPULATION AND THE DESTRUCTION OF OUR NATION AS WE KNOW IT."[235] ASIDE FROM THE OBVIOUS BENEFITS STRATEGIC DEFENSE PROVIDED IN THE EVENT OF A MASSIVE SOVIET ATTACK, GRAHAM ARGUED THAT SDI ALSO HAD EXCELLENT UTILITY TO PROTECT CITIZENS FROM THE THREAT OF AN ACCIDENTAL LAUNCH AND ATTACKS FROM ROGUE STATES WITH NUCLEAR ICBM CAPABILITY. WITHOUT A DEFENSE OF ANY KIND, EVEN A VERY LIMITED ATTACK OF THIS NATURE WOULD HAVE CATASTROPHIC CONSEQUENCES, AND THE US HAD A DUTY TO PROTECT ITS CITIZENS OR, AT MINIMUM, LIMIT THE DAMAGE AND SAVE LIVES IN SUCH AN EVENT. HOWEVER, THE UTILITY OF AND NEED FOR DEFENSE AGAINST THESE TYPES OF ATTACKS OR ACCIDENTS HAD ALWAYS EXISTED AND THE US REJECTED THE PROTECTION OFFERED BY THE ABM IN THE 1960S.

RECOGNIZING THE NEED TO OVERCOME THE OBVIOUS ABM COUNTER TO SDI PROPOSALS, TELLER AND OTHER ADVOCATES WERE QUICK TO POINT OUT THAT NEW TECHNOLOGIES WERE AVAILABLE THAT, FOR THE FIRST TIME, ENABLED THE POSSIBILITY OF FULFILLING THESE DUTIES.[236] THE QUESTION OF WHETHER OR NOT TO ADOPT SDI WAS NOT THE SAME AS THE ARGUMENT OVER ABM DUE TO EXOTIC TECHNOLOGIES THAT SIMPLY DID NOT EXIST AT THE TIME ABM WAS DEBATED. US EXPERTS CONCLUDED "TECHNOLOGY AT THE TIME WAS SUCH THAT ABM SYSTEMS WERE NOT VERY RELIABLE AND COULD BE OVERCOME BY DEPLOYING ADDITIONAL OFFENSIVE SYSTEMS AT SUBSTANTIALLY LESSER COST."[237] FURTHER, ADVOCATES ACKNOWLEDGED THE RELATIVE IMMATURITY AND UNPROVEN STATUS OF MANY OF THESE NEW TECHNOLOGIES, BUT EMPHASIZED THAT THE SDI PROPOSAL ONLY COMMITTED THE US TO

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[232] Department of State, *The Strategic Defense Initiative: Special Report no. 129* (Washington, D.C.: Government Printing Office, June 1985), 2.
[233] Department of Defense, *Strategic Defense Initiative: Progress and Promise* (Washington, D.C.: Government Printing Office, 1988), 4.
[234] Colin S. Gray, "SDI Necessary for National Security," *Defense Science 2003+* 4, no. 1 (February/March 1985): 14.
[235] The White House, *The President's Strategic Defense Initiative* (Washington, D.C.: Government Printing Office, January 1985), 3-4.
[236] Teller, "Science and Technology in the Strategic Defense Initiative:" 17-24.
[237] Paul Nitze, "The Objectives of Arms Control," *The Department of State Bulletin* 85, no. 2098 (Washington, D.C.: Office of Public Communication, Bureau of Public Affairs, May 1985): 60.

RESEARCH AND DEVELOPMENT OF WHAT APPEARED TO BE PROMISING TECHNOLOGY WHICH COULD REPLACE DETERRENCE WITH TRUE DEFENSE.

SDI ADVOCATES STRESSED THE FACT THAT RESEARCH AND DEVELOPMENT WOULD TAKE TIME, PATIENCE, AND SIGNIFICANT INVESTMENT. THE ADMINISTRATION ALSO DID ITS PART TO ENSURE THIS MESSAGE REACHED THE PUBLIC, NOTING "IT SHOULD BE STRESSED THAT THE SDI IS A RESEARCH PROGRAM THAT SEEKS TO PROVIDE THE TECHNICAL KNOWLEDGE REQUIRED TO SUPPORT A DECISION ON WHETHER TO DEVELOP AND LATER DEPLOY ADVANCED DEFENSIVE SYSTEMS. IT IS NOT A PROGRAM TO DEPLOY THOSE SYSTEMS."[238] PAUL NITZE, THE SENIOR ARMS CONTROL ADVISOR TO THE PRESIDENT, FURTHER STAKED OUT THE ADMINISTRATION'S REQUIREMENTS NOTING THE TWO CRITERIA THAT ANY SDI SYSTEM WOULD HAVE TO MEET TO BE CONSIDERED FOR DEPLOYMENT:

> …THE CRITERIA BY WHICH WE WILL JUDGE THE FEASIBILITY OF NEW TECHNOLOGIES WILL BE DEMANDING. THEY MUST PRODUCE DEFENSIVE SYSTEMS THAT ARE REASONABLY SURVIVABLE; IF NOT, THE DEFENSES COULD THEMSELVES BE TEMPTING TARGETS FOR A FIRST STRIKE. THIS WOULD DECREASE RATHER THAN ENHANCE STABILITY.
>
> NEW DEFENSIVE SYSTEMS MUST ALSO BE COST-EFFECTIVE AT THE MARGIN—THAT IS, IT MUST BE CHEAPER TO ADD ADDITIONAL DEFENSIVE CAPABILITY THAN IT IS FOR THE OTHER SIDE TO ADD OFFENSIVE CAPABILITY NECESSARY TO OVERCOME THE DEFENSE. IF THIS CRITERION IS NOT MET, THE DEFENSIVE SYSTEMS COULD ENCOURAGE PROLIFERATION OF COUNTERMEASURES AND ADDITIONAL OFFENSIVE WEAPONS TO OVERCOME DEPLOYED DEFENSES, INSTEAD OF A REDIRECTION OF EFFORT FROM OFFENSE TO DEFENSE…IF THESE NEW TECHNOLOGIES CANNOT MEET THE STANDARDS WE HAVE SET AND, THUS, NOT CONTRIBUTE TO ENHANCING STABILITY, WE WOULD NOT DEPLOY THEM.[239]

NITZE WENT ON TO UNDERLINE THE PRESIDENT'S INTENTION THAT SDI BE USED TO REDUCE THE LIKELIHOOD OF WAR, NOT PREPARE TO WIN ONE STATING "LET ME BE CLEAR THAT SDI IS NOT AN ATTEMPT TO ACHIEVE SUPERIORITY."[240] THE ADMINISTRATION ALSO EMPHASIZED THIS POINT CLARIFYING THAT THE US "DOES NOT VIEW DEFENSIVE MEASURES AS A MEANS OF ESTABLISHING MILITARY SUPERIORITY."[241] UNFORTUNATELY, SUCH STATEMENTS DID LITTLE TO SOOTHE THE SOVIET'S ANXIETIES OVER WHAT THEY VIEWED AS A SPECIFIC ATTEMPT TO PROTECT US NUCLEAR FORCES, THEREBY ACHIEVING A FIRST-STRIKE CAPABILITY WITH THE ASSURANCE THAT ANY COUNTERSTRIKE WOULD LEAVE REMAINING US NUCLEAR FORCES, THE US INDUSTRY AND POPULATION CENTERS INTACT. VIEWED THROUGH AN ADVERSARY'S EYES, CLAIMS OF DEFENSE CLEARLY HAD GREAT OFFENSIVE IMPLICATIONS, PRESENTED GREATER DANGER, AND DESTABILIZED, RATHER THAN STABILIZED THE STRATEGIC BALANCE. THESE POINTS WERE NOT LOST ON MANY WITHIN THE US WHO ARGUED AGAINST SDI FOR THESE VERY REASONS.

STAR WARS OPPONENTS

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[238] DoD, *Report to the Congress on the Strategic Defense Initiative 1985*, 7.
[239] Nitze, 62.
[240] Nitze, 62.
[241] The White House, *The President's Strategic Defense Initiative*, 5.

THE MAJORITY OF SDI OPPONENTS CAME, NOT SURPRISINGLY, FROM OUTSIDE THE ADMINISTRATION. SIMILAR IN COMPOSITION TO THE RANKS OF STAR WARS ADVOCATES, THE OPPONENTS WERE REPRESENTED BY THEIR FAIR SHARE OF RESPECTED STATESMEN, SCIENTISTS, AND OTHERS. AS IN THE CASE FOR SDI, ONE CAN GENERALLY BOIL THE ARGUMENTS AGAINST SDI DOWN INTO A FEW KEY ISSUES. THESE ISSUES ARE PRESENTED AND ARGUED BY A HOST OF AUTHORS, BUT FOR THE PURPOSES OF THIS STUDY, THIS DISCUSSION WILL FOCUS ON SEVERAL WHOSE WRITINGS GENERALLY REPRESENT THE LARGER BODY OF LITERATURE. THE WRITINGS OF PROMINENT STATESMEN LIKE MCGEORGE BUNDY, GEORGE KENNAN, AND ROBERT MCNAMARA AS WELL AS INFLUENTIAL SCIENTISTS SUCH AS HANS BETHE WELL REPRESENT THE ARGUMENTS AGAINST SDI ON THE GROUNDS THAT IT WAS NOT TECHNICALLY OR OPERATIONALLY FEASIBLE, ECONOMICAL, OR CREATED UNACCEPTABLE POLITICAL AND STRATEGIC CONSEQUENCES. THE CASE AGAINST SDI WAS ALSO STRENGTHENED, IN LARGE PART, DUE TO THE FRACTURING OF THE ISSUE INTO TWO DISTINCTLY DIFFERENT PROPOSALS. ONE WHICH EMBODIED THE PRESIDENT'S ORIGINAL VISION OF A NATIONAL SHIELD, AND A SECOND CONCEPT FOR PARTIAL DEFENSES THAT BEGAN TO SEEM MORE READILY ACHIEVABLE TO THE TECHNICAL EXPERTS.

BETHE AND OTHER NOTED SCIENTISTS PRESENTED ARGUMENTS WHICH DETAILED THE SIGNIFICANT CHALLENGES OF STRATEGIC DEFENSE FROM TECHNICAL AND OPERATIONAL STANDPOINTS.[242] BETHE (ET AL) PROVIDED A DETAILED ANALYSIS OF THE MAJOR NEW WEAPONS TECHNOLOGIES PROPOSED FOR USE IN SDI. HE THEN APPLIED THE POTENTIAL CAPABILITIES AND LIMITATIONS OF LASERS, PARTICLE BEAMS, AND KINETIC-ENERGY WEAPONS AGAINST THE FOUR ENGAGEMENT WINDOWS OF A MISSILE'S BALLISTIC FLIGHT (BOOST, POST-BOOST, MIDCOURSE, AND TERMINAL PHASES). IN SUM, BETHE CONCLUDED "DESPITE REMARKABLE ADVANCES SINCE THE 1960S IN BMD RELATED TECHNOLOGIES, THERE ARE MAJOR UNCERTAINTIES SURROUNDING THE ULTIMATE FEASIBILITY OF DEPLOYING AND MAINTAINING STRATEGIC DEFENSES AGAINST BALLISTIC MISSILES."[243] FURTHER, OTHERS QUESTIONED THE TECHNICAL AND OPERATIONAL FEASIBILITY OF DESIGNING AND DEVELOPING COMMAND AND CONTROL AND BATTLE MANAGEMENT SYSTEMS CRITICAL TO THE OVERALL SYSTEM.

WHILE MOST SDI DISCUSSIONS FOCUSED ON THE WEAPONS WHICH WOULD ULTIMATELY ENABLE STRATEGIC DEFENSE, THE WEAKEST LINK WAS LIKELY FOUND IN THE BATTLE MANAGEMENT AND COMMAND AND CONTROL TECHNOLOGY REQUIRED TO FIELD AN EFFECTIVE SYSTEM. THE SHEER COMPLEXITY OF BATTLE MANAGEMENT IN A STRATEGIC DEFENSE SCENARIO PRESENTED EQUALLY GREAT TECHNICAL AND OPERATIONAL CHALLENGES. IN THE FACE OF A MASSIVE SOVIET ATTACK, A STRATEGIC DEFENSE SYSTEM WOULD NEED TO TRACK POTENTIALLY THOUSANDS OF INDIVIDUAL MISSILE LAUNCHES, DISCRIMINATE BETWEEN TENS OF THOUSANDS OF ACTUAL WARHEADS AND HUNDREDS OF THOUSANDS OF DECOY TARGETS, AND ENGAGE THE MULTITUDE OF WARHEADS WITHIN THE VERY SHORT TIME SPAN OF A

[242] Hans A. Bethe, Jeffrey Boutwell, Richard L. Garwin "BMD Technologies and Concepts in the 1980s," *Daedalus* 114, no. 2 (Spring 1985): 53-71.
[243] Bethe et al: 70.

mass raid.[244] Due to the extremely short flight time of ballistic missiles (typically on the order of 30 minutes or less), the system would have to be highly automated, prohibiting human intervention.[245] Further complicating matters is the fact that the command and control systems for an effective defensive system would have to do something that no system had ever before been expected to do, that is, survive and continue to operate throughout the attack. Even if a system could be designed to achieve these formidable requirements, the stresses of a real, mass attack could never be created to test the system; yet, it would have to work perfectly the first time it was needed.[246] Cumulatively, this made the prospect of a full defensive shield more and more unlikely. SDI opponents then leveraged these arguments against the Hoffman report's conclusion that "partial systems, or systems with more modest technical goals, may be feasible earlier than the full system" and exploited the seam in the administration's proposal.[247] The fracturing of the SDI proposal into two distinctly different proposals enabled opponents to vividly illustrate the flawed economic and strategic aspects of SDI.

The advanced technology required and complexity of these systems meant they would be extremely expensive to develop and field, furthering the argument against SDI. Opponents were quick to point out that even if a full system shield could be built, it would not meet Nitze's criteria to be cost-effective at the margin. Accurate estimates for SDI development and deployment were extremely difficult to proximate, but some respected statesmen and scientists argued it could cost the US up to $1 trillion.[248] This significant investment had severe consequences for the cost-effectiveness of the strategic defense strategy. Worse yet, an adversary could employ a host of cheaper, easy countermeasures which would make the system less effective and even less cost-effective.[249] For example, an adversary could cover their missiles in ablative material, highly polish surfaces, and/or program their ICBMs to gently roll during flight to dissipate the destructive heat of a US laser.[250] Less expensive decoy warheads would greatly complicate or potentially saturate the US defense system or at least draw a much more expensive weapon against the less expensive decoy. Therefore, offenses to overcome the system would be cheaper than US costs to defend against them, making it uneconomical to defend and creating incentives for an adversary to build up offensive

[244] Herbert Lin, "The Development of Software for Ballistic-Missile Defense," *Scientific American* 253, no. 6 (December 1985): 46-53.
[245] Lin, 46.
[246] Lin, 51.
[247] Hoffman Report, 2.
[248] James R. Schlesinger, "Rhetoric and Realities in the Star Wars Debate," *International Security* 10, no. 1 (Summer 1985): 4.
[249] Bethe et al: 53-71.
[250] US Congress, Office of Technology Assessment, *Ballistic Missile Defense Technologies* (Washington, D.C.: Government Printing Office, September 1985), 170-177.

FORCES.[251] THIS WOULD HAVE THE OPPOSITE OF THE INTENDED EFFECT FOR WHICH THE SYSTEM WAS BEING DEPLOYED, AND MAKE THE US LESS SECURE WITH THE SYSTEM THAN IT CURRENTLY WAS WITHOUT IT. THE COST-EFFECTIVENESS AND OFFENSE-DEFENSE EXCHANGE RATIO PROBLEMS ONLY GOT WORSE WITH THE PROSPECTS OF A LEAKY OR PARTIAL DEFENSE SYSTEM AND HEARKENED BACK TO ARGUMENTS THAT DEFEATED ABM IN THE 1960S.

IMPERFECT OR PARTIAL DEFENSES ONLY MADE THE COST-EFFECTIVENESS AND OFFENSE-DEFENSE EXCHANGE RATIO PROBLEMS WORSE AND ADDED NEW INCENTIVES FOR AN ADVERSARY TO BUILD OFFENSES AS SATURATION PRESENTED A VIABLE OPERATIONAL TACTIC TO DEFEAT THESE DEFENSES.[252] SDI OPPONENTS DUSTED OFF ABM ARGUMENTS AND ARGUED THAT MODERN-DAY, EXOTIC TECHNOLOGIES COULD STILL NOT OVERCOME THE DESTABILIZING DRAWBACKS OF A PARTIAL OR LEAKY SYSTEM.

IN SUM, THE EVIDENCE OPPONENTS PRESENTED ARGUED THAT SDI WAS NOT TECHNICALLY OR OPERATIONALLY FEASIBLE TO BEGIN WITH. EVEN IF SDI WAS TECHNOLOGICALLY AND OPERATIONALLY ACHIEVABLE, IT WAS NOT A COST-EFFECTIVE DEFENSE AND, THEREFORE, CREATED ECONOMIC INCENTIVES FOR AN ADVERSARY TO BUILD OFFENSES. FURTHER, CHEAP, EASY COUNTERMEASURES THAT AN ADVERSARY COULD EMPLOY RENDERED THE DEFENSE LESS EFFICIENT AND EVEN LESS COST-EFFECTIVE ON THE MARGIN. HENCE, EVEN A PERFECT, FULL DEFENSIVE SHIELD COULD BE DEFEATED BY A DETERMINED ADVERSARY WHO DEPLOYED MORE OFFENSES MORE CHEAPLY THAN THE US COULD KEEP UP WITH EXPENSIVE DEFENSES. ON THE FLIP SIDE, THE FACT THAT A PERFECT DEFENSE WAS NOT TECHNICALLY OR OPERATIONALLY POSSIBLE MEANT THAT ANY SYSTEM DEPLOYED WOULD BE A LEAKY OR PARTIAL SYSTEM. THIS CREATED SIMILAR INCENTIVES FOR ADVERSARIES TO BUILD OFFENSES DUE TO FAVORABLE ECONOMIC EXCHANGE RATIOS. ADDITIONALLY, IT CREATED NEW INCENTIVES AS SATURATION TACTICS OFFERED CLEAR OPERATIONAL ADVANTAGES TO SUCCESSFULLY DEFEAT THESE DEFENSES. THE OFFENSIVE BUILD UP SPURRED BY ECONOMIC AND OPERATIONAL ADVANTAGES OF THE OFFENSE WOULD HAVE STRATEGIC CONSEQUENCES IN THE FORM OF LESS STABILITY WHILE PROVIDING NO BETTER DEFENSE OF THE US. BEYOND THE INSTABILITY CAUSED BY IMPERFECT DEFENSES AND RESULTING ECONOMIC AND OPERATIONAL DYNAMICS, ADDITIONAL, UNACCEPTABLE POLITICAL AND STRATEGIC CONSEQUENCES WOULD ACCRUE.

SEVERAL PROMINENT US STATESMEN ARGUED THAT THE NEW US DEFENSE WOULD LIKELY APPEAR TO BE A QUEST FOR NUCLEAR SUPERIORITY, DEGRADE THE VALUE OF THE SOVIET NUCLEAR DETERRENT FORCE, AND PLACE THE US IN A PROVOCATIVE FIRST-STRIKE POSTURE, RESULTING IN EVEN GREATER INSTABILITY.[253] ONCE DEPLOYED, SDI COULD CONCEIVABLY RENDER THE US IMPERVIOUS TO SOVIET NUCLEAR MISSILE ATTACK, ENABLING A FIRST-STRIKE WITH THE CONFIDENCE IT COULD

[251] Bethe et al: 53-71.
[252] OTA, *Ballistic Missile Defense Technologies*, 174.
[253] McGeorge Bundy, George F. Kennan, Robert S. McNamara, and Gerard Smith "The President's Choice: Star Wars or Arms Control," *Foreign Affairs* 63, no. 2 (Winter 1984/85): 264-278.

WITHSTAND ANY SOVIET RETALIATORY ATTACK.[254] THEREFORE, THERE WOULD BE CLEAR ADVANTAGES FOR THE SOVIETS TO CONDUCT A PREEMPTIVE, FIRST-STRIKE BEFORE AND DURING SDI DEPLOYMENT, CREATING SEVERE STRATEGIC INSTABILITY, ESPECIALLY DURING CRISIS. IN A LETTER TO PRESIDENT REAGAN ON 24 DECEMBER 1985, THE FEARS AND POTENTIAL REACTIONS OF WHAT APPEARED TO BE A US EFFORT TO ACHIEVE NUCLEAR SUPERIORITY WERE ARTICULATED BY SOVIET PRIME MINISTER GORBACHEV WHO WROTE

> YOU HAVE SAID, MR. PRESIDENT, THAT THE U.S. HAS NO INTENTION OF USING THE SDI PROGRAM FOR ACHIEVING MILITARY SUPERIORITY. I AM SURE THAT YOU PERSONALLY COULD NOT HAVE ANY SUCH INTENTION. BUT, WE AGREE THAT IT IS THE DUTY OF THE LEADERS OF BOTH SIDES TO EVALUATE ACTIONS OF THE OTHER IN THE AREA OF THE CREATION OF NEW TYPES OF WEAPONS NOT IN TERMS OF INTENTIONS, BUT RATHER IN TERMS OF THE POTENTIAL CAPABILITY WHICH MIGHT BE ACHIEVED DUE TO THE CREATION OF A NEW WEAPON. VIEWING THE SDI PROGRAM FROM SUCH A POSITION THE SOVIET LEADERSHIP INEVITABLY ARRIVES AT ONE CONCLUSION: IN THE CURRENT ACTUAL CONDITIONS, THE 'SPACE SHIELD' IS NEEDED ONLY BY THE SIDE WHICH IS PREPARING FOR A FIRST (PREEMPTIVE) STRIKE.[255]

FURTHER COMPLICATING THE ISSUE, THE VULNERABILITY OF THE SPACE SEGMENT OF THE PROPOSED US "SPACE SHIELD" AS WELL AS THE CONSIDERABLE STRATEGIC AND TECHNICAL OVERLAP IN SDI AND ASAT TECHNOLOGY INTENSIFIED THESE FIRST-STRIKE INSTABILITIES.

SDI'S HEAVY RELIANCE UPON SPACE-BASED SENSORS AND WEAPONS PLATFORMS CREATED ADDITIONAL FIRST-STRIKE INSTABILITIES DUE TO POOR SURVIVABILITY OF THE SPACE SEGMENT. THE FLETCHER REPORT'S CONCLUSION THAT "SURVIVABILITY IS POTENTIALLY A SERIOUS PROBLEM FOR THE SPACE-BASED COMPONENTS" DID NOT BODE WELL FOR A SYSTEM THAT PRIMARILY RELIED UPON SPACE-BASED ASSETS TO PERFORM ITS MISSION.[256] THIS VULNERABILITY CREATED INCENTIVES FOR AND REQUIRED THE SOVIETS TO BUILD ASAT WEAPONS TO COUNTER SDI SPACE ASSETS. THE NEAR-CONSENSUS AT THE TIME WAS THAT UNRESTRAINED DEVELOPMENT OF ASAT WAS EXTREMELY DESTABILIZING AS "ALL SCENARIOS INVOLVING THE USE OF ASATS, ESPECIALLY THOSE SURROUNDING CRISES, INCREASE THE RISK OF ACCIDENT, MISPERCEPTION, AND INADVERTENT ESCALATION."[257] SATELLITES WERE A STABILIZING FACTOR IN THE US-SOVIET RELATIONSHIP AS THEY GAVE TRANSPARENCY WHICH HELPED INFORM AND PREVENT UNNECESSARY AND DANGEROUS ESCALATION IN A CRISIS. PROLIFERATION OF ASAT WEAPONS WOULD PUT THIS TRANSPARENCY IN JEOPARDY AND, ONCE AGAIN, CREATE ADVANTAGES TO GOING FIRST IN A CRISIS. CONGRESS' OFFICE OF TECHNOLOGY ASSESSMENT (OTA) CAME TO A SIMILAR CONCLUSION IN A REPORT ENTITLED *ANTI-SATELLITE WEAPONS, COUNTERMEASURES, AND ARMS CONTROL* WHICH INCLUDED A FINDING THAT

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[254] Robert S. McNamara and Hans A. Bethe, "Reducing the Risk of Nuclear War," *The Atlantic* 256, no. 1 (July 1985): 43-51.
[255] Reagan, *An American Life*, 646-647.
[256] Fletcher Report, 10.
[257] William J. Perry, Brent Scowcroft, Joseph S. Nye, Jr., and James A. Schear, "Anti-Satellite Weapons and U.S. Military Space Policy: An Introduction," in *Seeking Stability in Space: Anti-Satellite Weapons and the Evolving Space Regime,* eds. Joseph S. Nye, Jr. and James A. Schear (Lanham, Maryland: Aspen Strategy Group Publication, University Press of America, Inc., 1987), 12.

> OF THE FUTURE ASAT WEAPONS NOW FORESEEABLE, THOSE WHICH WOULD BE MOST EFFECTIVE IF USED IN A PREEMPTIVE OR AGGRESSIVE SURPRISE ATTACK WOULD BE SPACE-BASED AND THEREFORE SUBJECT TO ATTACK BY SIMILAR WEAPONS. PREEMPTIVE ATTACK WOULD BE AN ATTRACTIVE COUNTERMEASURE TO SPACE-BASED ASAT WEAPONS. IF EACH SIDE FEARED THAT ONLY A PREEMPTIVE ATTACK COULD COUNTER THE RISK OF BEING DEFEATED BY ENEMY PREEMPTION, THEN A CRISIS SITUATION COULD BE EXTREMELY UNSTABLE.[258]

THIS "USE THEM OR LOSE THEM" DYNAMIC WAS REINFORCED BY THE STRATEGIC AND OPERATIONAL OVERLAP OF SDI AND ASAT TECHNOLOGY.

AS THE TECHNOLOGIES AND OPERATIONAL CHALLENGES OF INTERCEPTING AND DESTROYING A BALLISTIC MISSILE TRANSITING SPACE WERE NOT ALL THAT DIFFERENT FROM THOSE REQUIRED TO ENGAGE AND DESTROY A SPACECRAFT IN LOW EARTH ORBIT, THERE WAS CONSIDERABLE OVERLAP IN SDI AND ASAT TECHNOLOGY. THIS CREATED A SIGNIFICANT POTENTIAL FOR AND FEAR OF DUAL USE OF SDI SPACE ASSETS AS ASAT WEAPONS. CONGRESSIONAL REPORTS REINFORCED THIS ASSESSMENT, CONCLUDING THAT EVEN A LIMITED BMD SYSTEM WOULD BE A VERY GOOD ASAT.[259] ONCE AGAIN, THIS CREATED MORE DESTABILIZING CONDITIONS AS IT PRESENTED FIRST-STRIKE ADVANTAGES FOR BOTH SIDES. DEPLOYMENT OF SDI WITH A DUAL USE AS AN ASAT WEAPON WOULD PUT THE US IN A FIRST-STRIKE POSTURE WHEREBY IT COULD POTENTIALLY NEUTRALIZE SOVIET EARLY WARNING AND COMMAND AND CONTROL SATELLITES IN A PRELUDE TO A NUCLEAR ATTACK. THIS POSSIBILITY WOULD CREATE AN UNSTABLE SITUATION WHERE IT WOULD CLEARLY BE TO THE SOVIET'S ADVANTAGE TO STRIKE FIRST BEFORE THESE VITAL ASSETS WERE LOST TO ENEMY ACTION. THE DUAL USE POTENTIAL OF SPACE-BASED WEAPONS WAS, ONCE AGAIN, NOT LOST ON THE SOVIETS AS GORBACHEV CONTINUED IN HIS LETTER TO PRESIDENT REAGAN THAT

> INDEED, SPACE-STRIKE WEAPONS ARE GLOBAL WEAPONS…(WITH) A CAPABILITY TO DESTROY THE OTHER SIDE'S MONITORING, NAVIGATION, COMMUNICATION AND OTHER SPACE SYSTEMS BY STRIKING FROM GUIDED SPACE WEAPONS…IN ESSENCE, THE USE OF THIS WEAPON CAN ONLY BE CONSIDERED AS A MEANS TO 'BLIND' AND TAKE THE OTHER SIDE BY SURPRISE AND TO INTERFERE WITH ITS CAPABILITY TO RESPOND TO A NUCLEAR ATTACK…TO PROVIDE FOR ITS SECURITY, COME WHAT MAY, WE WILL BE FORCED TO DEVELOP AND PERFECT STRATEGIC NUCLEAR FORCES TO INCREASE THEIR ABILITY TO NEUTRALIZE THE AMERICAN 'SPACE SHIELD.' AT THE SAME TIME, WE WOULD BE FORCED TO DEVELOP OUR OWN SPACE WEAPONS, INCLUDING THOSE FOR NATIONAL BALLISTIC MISSILE DEFENSE.[260]

THIS SUMMATION OF THE OVERARCHING ARGUMENTS AND AUTHORS WHO ARTICULATED THEM REVEALS THE SIGNIFICANT AMOUNT OF INTELLECTUAL RIGOR APPLIED ON BOTH SIDES OF THE SDI ISSUE. THE NATIONAL DEBATE OVER SDI CONTINUED FOR YEARS AS THE PRESIDENT'S RESEARCH AND DEVELOPMENT PROGRAM GOT UNDER WAY. HOWEVER, MANY OF THE ARGUMENTS PRESENTED BY THE

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[258] US Congress, Office of Technology Assessment, *Anti-Satellite Weapons, Countermeasures, and Arms Control*, OTA-ISC-281 (Washington, D.C.: Government Printing Office, September 1985), 9.
[259] OTA, *Anti-Satellite Weapons, Countermeasures, and Arms Control*, 19-20.
[260] Reagan, *An American Life*, 646-647.

OPPOSITION GAINED TRACTION IN THE PUBLIC FORUM AND BEGAN TO IMPEDE SOME OF THE EARLY MOMENTUM IMPARTED BY THE ADMINISTRATION AS CONGRESS BEGAN TO TUG ON THE PURSE STRINGS.

DECISIONS

IN SPITE OF THE HIGH INTEREST AND EARLY PUBLIC SUPPORT OF THE PROGRAM, THE ENSUING DEBATE CONSUMED MUCH OF RESOURCES THE PRESIDENT HAD PROGRAMMED FOR SDI. THE ADMINISTRATION SUCCESSFULLY ESTABLISHED THE STRATEGIC DEFENSE INITIATIVE ORGANIZATION (SDIO) IN APRIL 1984 AND GOT THE PROGRAM ROLLING, BUT AS CONGRESS BECAME MORE INFORMED AND AWARE OF THE ARGUMENTS FOR AND AGAINST SDI, THEY TEMPERED THE PROGRAM'S PACE.[261] IN EACH OF THE FIRST FIVE YEARS OF THE SDI PROGRAM, CONGRESS CONSISTENTLY APPROPRIATED FEWER RESOURCES THAN THE PRESIDENT REQUESTED. FOR FY1985-89, THE PRESIDENT REQUESTED A TOTAL OF $20.8 BILLION FOR SDI, YET CONGRESS APPROPRIATED ONLY $14.8 BILLION.[262] NATURALLY, THE ADMINISTRATION PROTESTED, CLAIMING THE CUTS PREVENTED THE ESTABLISHMENT OF A VIABLE PROGRAM TO EXPLORE THE REQUIRED TECHNOLOGIES, AND WOULD NOT ENABLE THE US TO MAKE AN INFORMED DECISION ON WHETHER OR NOT TO DEPLOY STRATEGIC DEFENSE SYSTEMS. IN AN ATTEMPT TO GAIN MORE SUPPORT FOR THE PROGRAM, THE ADMINISTRATION PUBLISHED REPORTS THAT SEEMED TO APPEAL DIRECTLY TO THE PUBLIC IN THE HOPES CONGRESSIONAL SUPPORT WOULD FOLLOW. INTERESTINGLY, ONE OF THESE APPEALS ATTEMPTED TO DEMONSTRATE HOW AFFORDABLE SDI WAS BY PUTTING SDI FUNDING IN THE "PROPER PERSPECTIVE," COMPARING THE MEAGER $4 BILLION PER YEAR PROGRAM COST TO THE $40 BILLION AMERICANS SPEND ON TOBACCO PRODUCTS EACH YEAR, AS WELL AS THE $20 BILLION ON SOFT DRINKS, $28 BILLION ON WATCHES AND JEWELRY, AND OVER $80 BILLION ON ALCOHOLIC BEVERAGES.[263]

SDI RESEARCH CONTINUED OVER THE FOLLOWING YEARS, BUT FUNDING DWINDLED COMMENSURATE WITH THE REDUCTION IN THE SOVIET THREAT. ACCORDING TO THE SDI ORGANIZATION'S OFFICIAL HISTORY, IN LATE 1989 PRESIDENT GEORGE BUSH

> …INITIATED A REVIEW OF THE SDI PROGRAM AS PART OF A BROADER EXAMINATION OF U.S. STRATEGIC REQUIREMENTS FOR A 'NEW WORLD ORDER' THAT WAS THOUGHT TO BE EMERGING. THE REVIEW WAS COMPLETED IN MARCH 1990 BY AMBASSADOR HENRY F. COOPER…(WHO) NOTED THAT AS THE COLD WAR WANED, THE MOST IMPORTANT THREAT TO THE U.S. WOULD BE FROM UNAUTHORIZED OR TERRORIST ATTACKS BY LIMITED NUMBERS OF MISSILES. ADDITIONALLY, THE AMBASSADOR NOTED, DEPLOYED U.S. FORCES WOULD FACE INCREASING THREATS FROM SHORTER-RANGED THEATER MISSILES AS THE TECHNOLOGY OF BALLISTIC MISSILES AND WEAPONS OF MASS DESTRUCTION PROLIFERATED. TO PREPARE FOR THESE NEW REALITIES, COOPER RECOMMENDED THAT THE SDI PROGRAM BE TRANSFORMED TO CONCENTRATE ON DEVELOPING DEFENSES AGAINST LIMITED ATTACKS RATHER THAN PREPARING FOR AN ATTACK BY THOUSANDS OF SOVIET WARHEADS.[264]

MANY NOTED THE PROPHETIC QUALITIES OF COOPER'S REPORT AFTER IRAQ INVADED KUWAIT IN

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[261] Missile Defense Agency, "Ballistic Missile Defense: A Brief History," *MDA Link*, n.p., on-line, Internet, 29 May 2005, available from http://www.mda.mil/mdalink/html/briefhis.html.
[262] DoD, *Strategic Defense Initiative: Progress and Promise*, 28.
[263] DoD, *Strategic Defense Initiative: Progress and Promise*, 27-28.
[264] MDA, "Ballistic Missile Defense: A Brief History," n.p.

AUGUST 1990, AND SUBSEQUENTLY ATTACKED DEPLOYED US TROOPS AND COALITION FORCES WITH SCUD MISSILES DURING DESERT STORM IN JANUARY THROUGH MARCH OF 1991. DURING THE CONFLICT, THE PATRIOT MISSILE SYSTEM'S SUCCESSFUL ENGAGEMENT AND DESTRUCTION OF INBOUND BALLISTIC MISSILES GAINED IT NOTORIETY AS WELL AS DEMONSTRATED AND FORESHADOWED THE HIGH VALUE OF THEATER MISSILE DEFENSE SYSTEMS. ON 29 JANUARY 1991 PRESIDENT BUSH ANNOUNCED THE OFFICIAL SHIFT IN THE MISSILE DEFENSE ORGANIZATION'S FOCUS FROM DEFENDING AGAINST A MASSIVE SOVIET MISSILE ATTACK TO A SYSTEM KNOWN AS GPALS (GLOBAL PROTECTION AGAINST LIMITED STRIKES).

IN A MOVE SIGNIFYING THE END OF THE SDI DECADE, THE NAME OF THE SDIO WAS OFFICIALLY CHANGED TO THE BALLISTIC MISSILE DEFENSE OFFICE (BMDO) ON 13 MAY 1993.[265] THE TRANSITION FROM THE BUSH ADMINISTRATION TO THE CLINTON ADMINISTRATION TOOK ITS TOLL ON THE BMDO BUDGET, REDUCING ITS FIVE-YEAR BUDGET FROM $39 BILLION TO $18 BILLION.[266] RESEARCH AND DEVELOPMENT CONTINUED AT FUNDING LEVELS OF APPROXIMATELY $3-4 BILLION A YEAR THROUGHOUT THE 1990S AND EARLY 2000S UNTIL THE 9/11 TERRORIST ATTACKS DRAMATICALLY REVEALED NEW THREATS TO AMERICAN SECURITY AND SAFETY. THE NEW BUSH ADMINISTRATION'S REASSESSMENT OF THE THREATS TO US NATIONAL SECURITY RESULTED IN A RENEWED COMMITMENT TO MISSILE DEFENSE WITH A NEW FOCUS ON PROTECTION AGAINST LIMITED ATTACKS ON THE US HOMELAND, THE RENAMING OF BMDO AS THE MISSILE DEFENSE AGENCY (MDA) IN JANUARY 2002, WITHDRAWAL FROM THE 1972 ABM TREATY IN JUNE 2002, AND SPIKED MISSILE DEFENSE FUNDING UP TO $8-9 BILLION PER YEAR IN THE FY02-FY05 BUDGETS.[267]

PRESIDENT REAGAN'S NATIONAL MISSILE DEFENSE SHIELD NEVER CAME TO FRUITION, HOWEVER, CONTINUOUS RESEARCH, DEVELOPMENT AND TESTING EXPLORED AND REFINED POTENTIAL TECHNOLOGIES TO PERFORM THIS MISSION AND GAVE RISE TO MANY OF TODAY'S CAPABLE MISSILE DEFENSE SYSTEMS. UNDER SDIO AND BMDO THE US ACQUIRED IMPRESSIVE AND PROMISING MISSILE DEFENSE CAPABILITIES, MOSTLY FOCUSED ON THEATER LEVEL THREATS. THESE CAPABLE SYSTEMS INCLUDE TODAY'S PATRIOT ADVANCED CAPABILITY-3 (PAC-3) AND MEDIUM EXTENDED AIR DEFENSE SYSTEM (MEADS), AS WELL AS THE AIR FORCE'S AIRBORNE LASER (ABL), THE TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD) SYSTEM, AND AEGIS BALLISTIC MISSILE DEFENSE SYSTEM.[268] MDA CONTINUED TO FIELD AND IMPROVE THESE SYSTEMS, AND WITHDRAWAL FROM THE 1972 ABM TREATY ALLOWED THEM TO FIELD PREVIOUSLY BANNED SYSTEMS SUCH AS THE NEW GROUND-BASED MIDCOURSE DEFENSE SYSTEM TO PROTECT THE CONTINENTAL US, AS WELL AS SYNERGISTICALLY INTEGRATE THESE SYSTEMS WITH EACH OTHER AND MANY SPACE-BASED AND FORWARD DEPLOYED

[265] MDA, "Ballistic Missile Defense: A Brief History," n.p.
[266] MDA, "Ballistic Missile Defense: A Brief History," n.p.
[267] Missile Defense Agency, "Historical Funding for MDA FY85-05," *MDA Link*, n.p., on-line, Internet, 29 May 2005, available from http://www.mda.mil/mdalink/html/guide.html.
[268] Missile Defense Agency, *A Historic Beginning: Ballistic Missile Defense System Booklet*, 2nd ed., on-line, Internet, 29 May 2005, available from http://www.mda.mil/mdalink/html/guide.html, 2-30.

sensors.[269] As of this writing, there are still no plans to field a comprehensive, national missile shield.

Analysis

Many of this case's salient points have already been drawn out in the discussion of the SDI debate. However, a few important observations still remain to be made about the decision making process which sparked the debate as well as a brief reinforcement of some of the high points of the debate concerning military strategy and its effects on strategic stability.

Decision making process

Interestingly, the decision making process in this case is both overly secretive and non-inclusive as well as all-inclusive and open. In spite of the fact that the president opened the issue up for national scrutiny and debate, the decision process which initiated the program was distinctly limited in scope and non-inclusive in character.

The president's small, inner circle of advisors exercised tremendous influence upon President Reagan's decision to initiate the SDI program. This is a classic case of policy entrepreneurs courting a decision maker to adopt their preferred (not to mention technological) solution to an existing problem. Had it not been for active efforts by highly credible and influential scientists like Edward Teller, retired general officers like Lt Gen Graham, and loyal inner circle advisors, it is doubtful the president would have acted so decisively so early to overcome his dissatisfaction with MAD. This small group surely had the best of intentions to explore the concept in secret to ensure strategic defense was within the realm of the possible before proceeding forward. However, by Anderson's own admission they "did something that, by the book, we should not have done," and formed a non-inclusive inner circle staffed only by the faithful. This extinguished any real possibility for critical analysis or debate, and built a self-reinforcing consensus towards a solution the group knew the leader already preferred.[270]

All knew Reagan's dissatisfaction with MAD and worked toward the solution they knew he already preferred without stopping to critically analyze and debate the issue. The examination and analysis which did occur was conducted by loyal insiders who already believed in and advocated for a technological strategic defense, which limited if not precluded real debate of its potential merits and consequences. For example, no where in Anderson's insider account of the events leading up to the president's famous address to the nation does one observe the inner group seek out and analyze the opinions of those who might argue against such a proposition, nor are they discussed with the president. All analysis and discussion occurs among hand-picked experts who already agree with the

[269] MDA, *A Historic Beginning: Ballistic Missile Defense System Booklet*, 2-30.
[270] Irving L. Janis, *Groupthink*, 2d ed. (Boston, Mass.: Houghton Mifflin Company, 1982), 2-13, 174-177.

PROPOSED SOLUTION, GUIDED BY A LEADER WHO HAS ALREADY SIGNALED HIS PREFERENCE FOR THIS SOLUTION AT THE BEGINNING OF THE PROCESS. IN SHORT, WHILE THERE IS PLENTY OF RIGOROUS RESEARCH AND ANALYSIS BY SOME VERY BRIGHT INDIVIDUALS, THERE IS NO HARD DEBATE. FURTHER, THE "EXPERTS" WHO PRESENT THE ISSUE FOR THE PRESIDENT INCLUDE VERY FEW OF THE ACTUAL OFFICIALS WHO WOULD HAVE TO SELL AND IMPLEMENT THIS PROGRAM TO THE REST OF THE GOVERNMENT, THE NATION, AND FOREIGN GOVERNMENTS.

FOR EXAMPLE, THE FIRST TIME THE NATION'S TOP MILITARY OFFICIALS WERE BROUGHT INTO THE DISCUSSION OCCURRED A MERE THREE MONTHS BEFORE THE PRESIDENT ANNOUNCED HIS VISION TO THE WORLD. SIMILARLY, THERE IS NO INDICATION THAT THE STATE DEPARTMENT WAS GIVEN ADEQUATE TIME TO EXAMINE THE FOREIGN POLICY IMPLICATIONS, CONSULT WITH ALLIES, OR SHAPE THE POLICY BEFORE ITS PUBLIC PROCLAMATION. ANDERSON'S ACCOUNT OF THE LAUNDRY LIST OF SENIOR ADMINISTRATION OFFICIALS WHO WERE "NOT CONSULTED" ABOUT THE POLICY ANNOUNCEMENT UNTIL MERE HOURS BEFORE THE SPEECH (OR NOT AT ALL) SPEAKS VOLUMES. HE CONTENDS THAT ALTHOUGH THE DECISION AND POLICY ANNOUNCEMENT "APPEARED TO BE AN IMPULSIVE, POSSIBLY DANGEROUS GESTURE," IN ACTUALITY IT WAS "A CLASSIC CASE OF THE SLOW, STEADY DEVELOPMENT OF AN IDEA…OVER MANY YEARS…WITH THE ADVICE…OF THE BEST NUCLEAR WEAPONS EXPERTS IN THE WORLD."[271] IF YOU WERE ONE OF THE MEMBERS OF THE SMALL GROUP OF WHITE HOUSE INSIDERS, THE PROCESS PROBABLY DID APPEAR TO BE A MOST DELIBERATE AND "CAREFULLY THOUGHT OUT PROPOSAL." HOWEVER, TO SENIOR STATESMEN IN KEY POSITIONS LEADING EXPERIENCED AGENCIES OF THE US GOVERNMENT, THERE APPEARED TO BE NO PROCESS AT ALL. THE "KITCHEN CABINET" REVIEW INTENTIONALLY CIRCUMVENTED THE NORMAL, INTERAGENCY POLICY PROCESS TO EXPEDITE ITS IN-TACT APPROVAL AND ISSUANCE. THIS PREVENTED WIDE REVIEW, ANALYSIS, AND TRUE DEBATE ON THE ISSUE AND FOCUSED ALL EFFORTS ON ONE PROPOSED SOLUTION VICE GENERATING A SET OF POTENTIAL OPTIONS THAT COULD MEET THE PRESIDENT'S STRATEGIC GOAL. THE SAVING GRACE TO THIS STORY IS REAGAN'S DECISION TO PUBLICLY ANNOUNCE THE STRATEGY WHICH THEN ALLOWED FOR A MUCH MORE COMPREHENSIVE AND BALANCED ANALYSIS AND ASSESSMENT OF THIS PROPOSED SOLUTION AS WELL AS OTHER POTENTIAL ALTERNATIVES.

THE PRESIDENT'S ANNOUNCEMENT SPAWNED NATIONAL-LEVEL DEBATE INSIDE AND OUTSIDE THE GOVERNMENT WHICH SHARPLY DEFINED THE TECHNICAL, ECONOMIC, SOCIAL, POLITICAL, AND STRATEGIC ASPECTS OF STRATEGIC DEFENSE AND ENABLED TRUE DEBATE. IT ALSO MOVED THE ANALYSIS BEYOND CONSIDERATION OF A SINGLE SOLUTION TO THE NATION'S STRATEGIC DILEMMA. THIS ALLOWED THE GENERATION OF A WIDE SET OF POTENTIAL ALTERNATIVES, CONSIDERATION OF ALL POTENTIAL MEANS WHICH COULD HELP ACHIEVE THE STRATEGIC GOAL, AND EXAMINATION OF THE CRITICAL, POTENTIAL, INTENDED AND UNINTENDED STRATEGIC CONSEQUENCES OF EACH ALTERNATIVE. THIS OPENNESS MAXIMIZED THE POTENTIAL ALTERNATIVE SET AND OPTIMIZED STRATEGIC CHOICE.

GRAND STRATEGY SPECIFIES A MILITARY STRATEGY

[271] Anderson, 99.

SDI WAS BELIEVED TO REDUCE THE MILITARY UTILITY OF NUCLEAR MISSILES AND PROVIDE SAFETY AND SECURITY FOR THE US. TAKING POSITIVE ACTIONS TO SECURE US NATIONAL SECURITY WAS CLEARLY PREFERRED OVER MEASURES WHICH RELIED UPON THE COOPERATION OF THE SOVIETS OR OTHERS. SDI WOULD FREE THE US FROM RELIANCE UPON SOVIET ACCEPTANCE OF THE STRATEGIC OPERATING PRINCIPLES OF MUTUALLY ASSURED DESTRUCTION AND PROVIDED INSURANCE AGAINST THE SOVIET'S CHEATING ON ARMS CONTROL AGREEMENTS.[272] UNFORTUNATELY, WHAT WAS NOT ADEQUATELY ADDRESSED BY THE PRESIDENT'S INNER CIRCLE OF ADVISORS WERE THE DRAMATIC, POTENTIAL, NEGATIVE POLITICAL AND STRATEGIC CONSEQUENCES THAT COULD RESULT FROM ADOPTION OF A DEFENSIVE STRATEGY WHICH ACTUALLY CONFERRED NUCLEAR SUPERIORITY UPON THE US. FORTUNATELY, THIS DYNAMIC AND ITS POTENTIAL CONSEQUENCES WERE WELL ARTICULATED IN THE ENSUING NATIONAL DEBATE.

THE STAR WARS OPPONENTS' ARGUMENTS CLEARLY DELINEATED THE RISKS TO STRATEGIC STABILITY AND NATIONAL SECURITY THAT THE PRESIDENT'S STRATEGIC DEFENSE INITIATIVE WOULD CREATE. IN SPITE OF EARLY INTIMATIONS THAT NEW TECHNOLOGIES COULD, IN FACT, PRESENT AN IMPENETRABLE DEFENSE AGAINST BALLISTIC MISSILES, MOST EVENTUALLY ACCEPTED THE REALITY THAT NO SUCH PERFECT DEFENSE WOULD EVER BE TECHNICALLY OR OPERATIONALLY ACHIEVABLE. THIS SMALL FLAW IN THE ADMINISTRATION'S CASE REVEALS THAT LEAKY OR PARTIAL DEFENSES ARE THE BEST TECHNOLOGY COULD DELIVER AND UNRAVEL THE ENTIRE STRATEGIC ARGUMENT FOR SDI. STAR WARS OPPONENTS EXPLOITED THIS SEAM, AND DEMONSTRATED HOW LEAKY OR PARTIAL DEFENSES RESULT IN A SYSTEM THAT IS NOT COST-EFFECTIVE AT THE MARGIN AND CREATES EXCHANGE RATIOS UNFAVORABLE TO THE US DEFENSE. THE INHERENT ECONOMICAL AND OPERATIONAL ADVANTAGES FAVORING THE OFFENSE CREATE INCENTIVES FOR AN ADVERSARY TO BUILD OFFENSIVE SYSTEMS. THIS CREATES GREATER INSTABILITY DUE TO THE PROLIFERATION OF OFFENSIVE WEAPONS. THE HEAVY RELIANCE UPON SPACE-BASED SYSTEMS TO CONDUCT THE DEFENSE ALSO CREATES DESTABILIZING, FIRST-STRIKE INCENTIVES DUE TO POOR SURVIVABILITY OF SPACE ASSETS. THESE FIRST-STRIKE INCENTIVES ARE FURTHER INTENSIFIED BY THE POTENTIAL DUAL USE OF SPACE-BASED DEFENSES AS OFFENSIVE ANTI-SATELLITE WEAPONS. CUMULATIVELY, THE US' STRATEGIC DEFENSE WOULD GREATLY INCREASE ITS OFFENSIVE CAPABILITIES, CONFERRING NUCLEAR SUPERIORITY UPON THE US. REGARDLESS OF WHETHER OR NOT THIS WAS THE INTENTION, AN ADVERSARY IS FORCED TO ADDRESS ITS LATENT POTENTIAL CAPABILITY AND BUILD OFFENSES AND ADVANCED SPACE WEAPONRY TO COUNTER.

CONCLUSIONS

THE SDI CASE REVEALS MANY ENDURING LESSONS FOR US STRATEGISTS. OVERALL, IT DEMONSTRATES HOW THE BEST, MOST BENEVOLENT OF INTENTIONS WHICH SEEK ONLY DEFENSE, SECURITY, STABILITY, AND PEACE CAN PRODUCE THE ABSOLUTE OPPOSITE OF THE INTENDED EFFECTS. INTENTIONS, NO MATTER HOW GENUINE AND BENEVOLENT, OFFER LITTLE COMFORT TO OTHERS WHO HAVE A DUTY TO THEIR CITIZENS TO DEAL WITH THE CAPABILITIES ARRAYED AGAINST THEIR NATION OR

[272] DoD, *Strategic Defense Initiative: Progress and Promise*, 7.

THREATENING THEIR INTERESTS. FURTHER, THE CASE ILLUSTRATES THE DANGERS OF FOCUSING NARROWLY ON ONE POTENTIAL SOLUTION OR SPECIFICALLY EXCLUDING UNDESIRABLE OR DIFFICULT ALTERNATIVES FROM THE POTENTIAL SOLUTION SET (SUCH AS TREATIES, ARMS CONTROL AGREEMENTS, ETC.). IT ILLUSTRATES ANOTHER INSTANCE WHERE TECHNOLOGY WAS SOUGHT TO PROVIDE A FIX TO A COMPLEX NATIONAL SECURITY PROBLEM AND NEARLY MADE THE SITUATION WORSE. IN SUM, THE SDI CASE PROVIDES VIVID REMINDERS TO US STRATEGISTS TO LOOK BEYOND THE FIRST-ORDER EFFECTS OF ANY SYSTEM OR STRATEGY, THAT SUPERIORITY DOES NOT ALWAYS DELIVER SECURITY, THAT TECHNOLOGY IS A WONDERFUL TOOL BUT DOES NOT OFFER A QUICK, EASY SOLUTION TO EVERY COMPLEX NATIONAL SECURITY CHALLENGE, AND NO MATTER HOW HARD IT TRIES, THE US CANNOT SECURE ITS NATIONAL SECURITY BY ITSELF. US NATIONAL SECURITY IS ACHIEVED THROUGH A CAREFUL BALANCE OF OFFENSES, DEFENSES, AND MOST OF ALL, ENDURING RELATIONSHIPS WITH OTHER NATIONS. AS FRUSTRATING AS IT MAY BE, AMERICANS' SECURITY IS CONTINGENT (TO A DEGREE) UPON THE BEHAVIOR AND ACTIONS OF OTHERS. THIS IS NOT TO SAY THE US SHOULD BE HELD HOSTAGE TO THE DEMANDS OF OTHERS, BUT TO DENY THIS REALITY IS TO OUR DETRIMENT AS NO AMOUNT OF UNILATERAL, POSITIVE FORCE OF WILL OR ACTION WILL EVER ACHIEVE PERFECT US NATIONAL SECURITY. ANDERSON RIGHTLY CONCLUDES THAT THE EVENTS SURROUNDING SDI SHOULD BE "A CONSTANT REMINDER TO US ALL THAT THE ONLY COURSE PROMISING PEACE AND SECURITY TO THE UNITED STATES IS *SUFFICIENT* MILITARY STRENGTH" (EMPHASIS ADDED).[273] THERE IS NO PERFECT MISSILE SHIELD, NO PERFECT DEFENSE, AND NO POSSIBILITY OF ACHIEVING PERFECT SECURITY.

[273] Anderson, 79.

CHAPTER 4

HOW THE PAST INFORMS THE FUTURE: A CAUTIONARY TALE FOR SPACE

THE CASES PRESENTED HERE INFORM THE FUTURE IN TWO WAYS. FIRST, THE US DECISION MAKING PROCESSES DETAILED IN THE CASE STUDIES ARE ESSENTIALLY THE SAME TODAY AS THEY WERE THEN. MANY OF THE ORGANIZATIONAL AND DECISION MAKING DYNAMICS THAT SHAPED THE PROCESSES AND INFLUENCED THE ULTIMATE CHOICES IN EACH CASE ARE LIKELY TO EXERT SIMILAR INFLUENCES UPON MODERN-DAY DECISIONS. THUS, THEY REMAIN A FACTOR IN FORTHCOMING DECISIONS ON SPACE STRATEGY.[274] SECOND, THERE ARE SEVERAL COMMON THEMES AND ASSUMPTIONS THROUGHOUT THE CASES THAT CONSISTENTLY INFLUENCE THE STRATEGIC CALCULUS—THEMES THAT ARE CLOSELY ALIGNED WITH THOSE CURRENTLY SURROUNDING THE DEVELOPMENT OF US SPACE STRATEGY. THESE INCLUDE: AN UNQUESTIONED ASSUMPTION THAT ADVANCED TECHNOLOGICAL WEAPONS HAVE INHERENT MILITARY UTILITY AND WILL DELIVER INCREASED SECURITY; A BELIEF THAT DEVELOPMENT OF THESE WEAPONS SHOULD CONTINUE DESPITE THE FACT THE SPECIFIC MILITARY UTILITY, FIT WITHIN THE LARGER STRATEGY, AND POTENTIAL INTENDED AND UNINTENDED CONSEQUENCES OF THEIR ACQUISITION REMAIN UNDEFINED; A CLEAR PREFERENCE FOR OFFENSIVE STRATEGIES TO ACHIEVE NATIONAL SECURITY OBJECTIVES AND FAVORING OF SUPERIORITY (TO THE POINT OF OVERKILL) OVER EFFORTS TO DEFINE AND ACHIEVE MILITARY SUFFICIENCY; AN ENDURING BELIEF THAT OTHERS VIEW THE US AS A BENEVOLENT POWER, ARMING ITSELF ONLY FOR DEFENSIVE PURPOSES AND WIELDING POWER ONLY IN SELF DEFENSE OF ITSELF OR OTHERS, AS WELL AS RECOGNITION OF THE US' UNIQUE, INHERENT RESPONSIBILITY TO ACT AS TRUSTEE ON BEHALF OF OTHERS IN MATTERS OF INTERNATIONAL SECURITY.

SUBTLY UNDERLYING ALL OF THIS IS A STRIKING SIMILARITY BETWEEN NUCLEAR WEAPONS AND SPACE WEAPONS WHICH HELPS INFORM CURRENT SPACE STRATEGY. THE INTRINSIC QUALITY COMMON TO BOTH NUCLEAR MISSILE SYSTEMS AND MANY SPACE WEAPONS IS THAT THEIR MERE PRESENCE OR DEPLOYMENT GENERATES AN OFFENSIVE OMNIPRESENCE WHICH PUTS OTHERS UNDER A STATE OF CONSTANT THREAT. ADMITTEDLY, THE SPECIAL DESTRUCTIVE POWER AND STATUS OF NUCLEAR WEAPONS DOES NOT EASILY LEND ITSELF TO DIRECT COMPARISON WITH OTHER MEANS OF APPLYING COMBAT POWER. HOWEVER, THE COMMON EFFECT CREATED BY THE CONSTANT PRESENCE OF AN ORBITING WEAPONS PLATFORM IS, INDEED, HIGHLY SIMILAR TO THAT CREATED BY NUCLEAR MISSILES, GIVING THE CASE STUDIES AN EXTRA MEASURE OF INFORMATIVE POWER FOR THE DEVELOPMENT, CONSIDERATION, AND IMPLEMENTATION OF US SPACE STRATEGY.[275]

DECISION MAKING FACTORS

[274] Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision-Makers* (New York, New York: The Free Press, 1986), xi-xxii, 31-33, 132-133, 232-234.
[275] See Appendix A for more detailed discussion on the offensive omnipresence of space weapons.

In examining the case studies, several common factors come to light. First, secrecy.

Secrecy:

Secrecy plays an important role in protecting information about a weapon system's capabilities, vulnerabilities, and specific plans for deployment or employment. However, examination of the H-bomb decision and the MIRV case reveal that secrecy comes at a cost. The costs of secrecy are limited debate and a narrower scope of analysis of alternatives and consequences in the decision making process.[276] When it comes to national security decisions with uncertain outcomes, the US would be wise to ensure a sufficient degree of openness to generate meaningful debate and analysis of various courses of action. Arguably, the overarching decision to pursue an offensive or defensive space strategy and acquire systems that enable that strategy does not need the same level of security protection as the specific characteristics, capabilities and vulnerabilities of the systems themselves. Certainly full, open public debate of the issue represents the most extreme implementation, but is not the most manageable way to undertake this effort. Rather, the US would be better served to ensure, at the national strategy level, that decisions of this nature are formally analyzed, discussed, and debated by a wide audience of trusted government officials across all departments as well as trusted subject matter experts that work outside government channels. US national security is simply too important to give short shrift to a comprehensive and complete examination of potential benefits and consequences by the nation's best and brightest.

Bureaucratic factors:

As observed in all the case studies, large organizations have a tendency to act to secure their own interests and in ways that perpetuate their own prestige, power, needs, and survival.[277] This behavior is not exclusively present in government organizations; rather, it is a naturally occurring dynamic in all types of large organizations.[278] The implication of this phenomenon is that pursuit of a lower-level organization's interests sometimes preempts the greater organizational interest. In the case of national security, the potential implications are disastrous. As the case studies reveal, governmental departments can be blinded by their own organizational interests and take actions which undermine or work completely counter to larger, national strategic considerations. The H-bomb and MIRV cases exhibit the dramatic, negative consequences that can accrue, in the form of larger expenditures of the nation's resources which deliver far less national

[276] Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed. (New York, New York: Longman, 1999), 263-271.
[277] James G. March, *A Primer on Decision Making: How Decisions Happen* (New York, New York: The Free Press, 1994), 60-61, 71-73, 110-120; Allison and Zelikow, 255-263.
[278] March, 60-61, 71-73, 110-120.

SECURITY. WHEN CONSIDERING THE FUTURE CONTRIBUTIONS SPACE CAN MAKE TO NATIONAL SECURITY, IT WILL BE CRITICAL TO ENSURE THE STRATEGY CHOSEN FOR SPACE ULTIMATELY BEST SERVES THE LARGER, GRAND STRATEGY OF THE NATION VICE DEPARTMENTAL, SERVICE, FUNCTIONAL AREA, OR TRIBAL INTERESTS.

POLARIZATION

THE EVIDENCE IN ALL THE CASE STUDIES ALSO SHOWS THAT WHEN IT COMES TO CRITICAL ISSUES, PARTICIPANTS INVOLVED IN THE DEBATE SOMETIMES FOCUS MORE ON WHAT THEY ARE AGAINST THAN WHAT THEY ARE FOR, TAKING UP POSITIONS ON THE EXTREME ENDS OF THE SPECTRUM OF ALTERNATIVES.[279] EMOTION AND THE DESIRE TO WIN CAN DRAW EYES OFF OF MIDDLE GROUND POSITIONS OR SOLUTIONS THAT MIGHT PRESENT A BETTER OVERALL SOLUTION AND BETTER SERVE ALL INVOLVED. THE POLARIZATION OF THE SPACE WEAPONIZATION ISSUE IS ALREADY EVIDENT. IN FACT, THERE ARE FEW DEFENSE ISSUES THAT GENERATE AS MUCH INTENSE, EMOTIONAL DEBATE AS WHETHER OR NOT THE US SHOULD DEPLOY WEAPONS INTO SPACE. ALREADY WE SEE THOSE PUTTING FORTH IDEAS IN THE DEBATE BEING CLASSIFIED ALONG A CONTINUUM BOUNDED BY SUCH TERMS AS "SPACE DOVE" AND "SPACE HAWK" (AS WELL AS "INEVITABLE WEAPONIZER" AND "MILITARIZATION REALIST" WHICH RESIDE MORE TOWARD THE "SPACE HAWK" END OF THE SPECTRUM).[280] CONSTRUCTIVE DEBATE IS HEALTHY, BUT POLARIZATION OF THE SPACE STRATEGY ISSUE WILL RESULT IN THE LOSS OF OPTIONS AS PARTICIPANTS FOCUS ON THE ALL OR NOTHING EXTREME ENDS OF THE POTENTIAL ALTERNATIVES SPECTRUM.[281] US STRATEGISTS MUST GUARD AGAINST FUELING OR PARTICIPATING IN DEBATE THAT DOES NOT GENUINELY CONSIDER THE ENTIRE RANGE OF OPTIONS AND ALTERNATIVES, EVALUATING EACH AS OBJECTIVELY AS HUMANLY POSSIBLE ON ITS OWN MERITS.

BUREAUCRATIC/PROGRAMMATIC MOMENTUM

AS WITH ANY LARGE ORGANIZATION THAT INVESTS A SIGNIFICANT AMOUNT OF RESOURCES AND TIME INTO A VENTURE, THERE IS A NATURAL AVERSION TO ABANDONING THE VENTURE PRIOR TO COMPLETION, EVEN IN THE FACE OF COMPELLING DATA THAT INDICATES IT IS A LOSING PROPOSITION. THERE IS CONSIDERABLE PRESSURE TO SEE THE PROJECT COMPLETELY THROUGH TO THE FINISH AS THE ALTERNATIVE IS THE LOSS OF THE RESOURCES INVESTED TO DATE (OR "SUNK COSTS") WITH NO APPRECIABLE GAIN TO SHOW FOR IT. SIGNIFICANT INVESTMENT BUILDS A MOMENTUM IN THE PROGRAM THAT IS DIFFICULT, IF NOT IMPOSSIBLE, TO REVERSE.[282] THIS EFFECT IS UNDERSTANDABLE, BUT DANGEROUS. CONTINUING THE VENTURE PAST THE POINT WHERE IT IS RECOGNIZED TO LIKELY BE A BAD BUSINESS CASE OR STRATEGY ONLY RESULTS IN ADDITIONAL INVESTMENT AND SUBSEQUENT LOSS OF MORE RESOURCES. FURTHER, THERE ARE ALSO LOST OPPORTUNITIES FOR THE SAME RESOURCES AND

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[279] John W. Kingdon, *Agendas, Alternatives, and Public Policies*, 2nd ed. (New York, New York: Longman, 2003), 146-154.
[280] Peter L. Hays, *United States Military Space: Into the Twenty-First Century* (USAF Academy, Colorado: USAF Institute for National Security Studies and Maxwell AFB, Alabama: Air University Press, 2002), 98-100.
[281] Allison and Zelikow, 263-271.
[282] Allison and Zelikow, 143-185.

TIME THAT COULD HAVE BEEN COMMITTED TO SOME OTHER VENTURE THAT WAS PRODUCTIVE AND ADVANCED THE ORGANIZATION'S INTERESTS AND GOALS. WHEN IT COMES TO THE US GOVERNMENT, THE PRODUCT IS NATIONAL SECURITY AND THE BUSINESS VENTURES THAT PROVIDE THIS SERVICE TO THE CITIZENS EMANATE FROM A HOST OF VENTURES WITHIN A MULTITUDE OF DEPARTMENTS. THE MIRV CASE IS THE BEST EXAMPLE OF HOW A SMALLER, EARLIER DECISION TO DEVELOP THE WEAPON TECHNOLOGY AND A COMMENSURATE INVESTMENT OF RESOURCES SET IN MOTION A NEARLY UNSTOPPABLE SEQUENCE OF EVENTS. ADDITIONALLY, COMMITMENT TO TESTING THESE SYSTEMS ADDS CONSIDERABLY MORE (AND POTENTIALLY IRREVERSIBLE) MOMENTUM TO THE ACQUISITION OF THESE WEAPONS AND COMMITMENT TO THE STRATEGY THEY SUPPORT. MIRV WAS PRACTICALLY A FOREGONE CONCLUSION FROM THE TIME THE SECRETARY OF DEFENSE, UPON THE ADVICE OF AN INFLUENTIAL SUBORDINATE ORGANIZATION, COMMITTED THE US TO MIRV, AND THE OFFENSIVE STRATEGY AND CONSEQUENCES THAT ACCOMPANIED IT. KISSINGER'S AND MCNAMARA'S REFLECTIONS YEARS LATER CLEARLY INDICATE THEIR REGRET THAT THE TREMENDOUS COSTS AND STRATEGIC IMPLICATIONS OF MIRV HAD NOT BEEN BETTER ANALYZED, THOUGHT THROUGH, AND UNDERSTOOD.[283] THE HISTORICAL PROPENSITY FOR BUREAUCRATIC AND PROGRAMMATIC MOMENTUM TO PREMATURELY COMMIT THE US TO A SPECIFIC COURSE OF ACTION AND STRATEGY PRESENTS THE SAME DANGEROUS POTENTIAL IN THE DEVELOPMENT AND FIELDING OF SPACE SYSTEMS TODAY AND IN THE FUTURE.

IN SUM, THE CASE STUDIES PROVIDE A USEFUL FRAMEWORK; INFORMING AND HELPING STRATEGISTS BETTER UNDERSTAND THE IMPACTS AND INFLUENCES OF DECISION MAKING FACTORS UPON THE CONSIDERATION, DEVELOPMENT, TESTING, AND DEPLOYMENT OF WEAPON SYSTEMS AND ADOPTION OF STRATEGIES AS WELL AS THEIR POTENTIAL INTENDED AND UNINTENDED CONSEQUENCES.[284] IN ADDITION TO THESE INSIGHTS, SEVERAL KEY ASSUMPTIONS AND COMMON BELIEFS THAT INFLUENCED THE STRATEGIC CALCULUS FOR THESE DECISIONS ARE LIKELY TO INFLUENCE THE IMMINENT DECISIONS FOR SPACE STRATEGY.

IMPLICATIONS FOR SPACE STRATEGY

IN COMING TO TERMS WITH WHAT ALL OF THIS MEANS FOR SPACE, ONE MUST CONSIDER THE MAJOR ARGUMENTS THAT ARE "OUT THERE." CURRENTLY, THE DOMINANT ARGUMENTS FOR SPACE CAN BE THOUGHT OF IN TERMS OF THE SPECIAL MILITARY UTILITY OF SPACE WEAPONS THAT WILL ENHANCE US SECURITY AND THE UNIQUE POSITION THE US FINDS ITSELF IN AS THE POTENTIAL "TRUSTEE" OF SPACE. ARGUMENTS FOR ADOPTING AN OFFENSIVE STRATEGY IN SPACE HAVE NOT ESTABLISHED THE MILITARY UTILITY OF WEAPONS THAT ARE PURPORTED TO SUPPORT THEIR STRATEGY AND MANY SIMPLY ASSUME THAT THE TECHNOLOGICAL SUPERIORITY OF SPACE WEAPONS MUST CERTAINLY EQUATE TO GREATER MILITARY UTILITY. AS IN THE H-BOMB AND MIRV CASE STUDIES, LINKAGE BETWEEN A GRAND, OVERARCHING STRATEGY AND THE SPECIFIC FIT OF ADVOCATED WEAPON SYSTEMS WITHIN THAT STRATEGY ARE NOTICEABLY WEAK OR ABSENT. IN ADDITION TO THE ASSUMED BENEFITS OF WEAPONS

[283] Robert McNamara, *Blundering Into Disaster: Surviving the First Century of the Nuclear Age* (New York, New York: Pantheon Books, 1986), 64-66.
[284] Neustadt and May, xi-xxii, 31-33, 132-133, 232-234.

AND STRATEGIES THAT RENDER SPACE DOMINANCE FOR THE US IS THE BELIEF IN THE BENEVOLENT HEGEMONIC POWER OF THE US, REQUIRING THE US TO ASSERT ITSELF IN SPACE ON BEHALF OF ALL PEOPLES AS THE TRUSTEE OF THE MEDIUM.

MILITARY UTILITY/STRATEGY:

ALL THREE CASE STUDIES INDICATED THE CRITICAL IMPORTANCE OF UNDERSTANDING THE SPECIFIC MILITARY UTILITY AND A WEAPON'S FIT WITHIN THE LARGER STRATEGY BEFORE COMMITTING TO THEIR DEVELOPMENT, TESTING, OR FIELDING. IN THE CASE OF THE H-BOMB, GOVERNMENT AND DEFENSE OFFICIALS ERRONEOUSLY ASSUMED THAT LARGER EXPLOSIVE POWER WOULD EQUAL GREATER MILITARY UTILITY OVER WHAT WAS THEN CURRENTLY AVAILABLE WITH THE A-BOMB. LACKING A HARD AND FAST STRATEGIC REQUIREMENT FOR THE H-BOMB, THE DESIRE TO RETAIN NUCLEAR SUPERIORITY OVER SOVIET ARSENALS DROVE THE WEAPON'S DEVELOPMENT. OFFICIALS BELIEVED A MORE CONCRETE FIT WOULD EMERGE OR COULD BE WORKED OUT LATER. SIMILARLY, MIRV WAS NOT DEVELOPED TO FULFILL A PARTICULAR STRATEGIC NEED. IN SPITE OF THIS, MIRV WAS STILL AGGRESSIVELY PURSUED AND ITS LARGE RESEARCH AND DEVELOPMENT EFFORTS PREMATURELY COMMITTED THE US TO THIS WEAPON AND STRATEGY BEFORE ITS MILITARY UTILITY AND STRATEGIC FIT WERE COMPLETELY ANALYZED AND UNDERSTOOD. AS A RESULT MIRV FUELED A DESTABILIZING SUPERIORITY STRATEGY DESPITE THE FACT THAT MCNAMARA HAD TRIED TO SPECIFICALLY AVOID SUCH A STRATEGY. SDI IS THE ONLY CASE STUDY WHERE THE WEAPON SYSTEM WAS A SPECIFIC ENABLER OF A CLEAR NATIONAL STRATEGY; ENABLING THE US TO ABANDON AN OFFENSIVE CONSTRUCT—MAD—FOR A DEFENSIVE ONE. SDI'S MAJOR DRAWBACK WAS THAT SPACE-BORNE WEAPONS AND THE STRATEGY FOR DEFENSE ACTUALLY DELIVERED GREATLY INCREASED OFFENSIVE CAPABILITY AS THE STRATEGIC FIT AND CONSEQUENCES WERE NOT WELL UNDERSTOOD UNTIL THE DEBATE ILLUMINATED THESE RELATIONSHIPS. THE DUAL USE AND OFFENSIVE POTENTIAL OF THESE WEAPONS CREATED VERY DIFFERENT STRATEGIC CONSEQUENCES FROM WHAT WAS INTENDED, AND THE STABILIZING, DEFENSIVE SHIELD PRESIDENT REAGAN SOUGHT ACTUALLY DESTABILIZED THE SECURITY ENVIRONMENT. THE DEFENSIVE SHIELD CREATED GREAT INCENTIVES FOR A POTENTIAL ADVERSARY TO INCREASE THEIR OFFENSES TO SATURATE THE SYSTEM AND PENETRATE ITS SEAMS, AND ALSO CREATED INCENTIVES FOR ADVERSARIES TO STRIKE PREEMPTIVELY BEFORE IT WAS FULLY DEPLOYED.

SIMILARLY, THE US HAS NOT DEFINED A COMPREHENSIVE, OVERARCHING STRATEGY FOR SPACE THAT DELINEATES SPECIFIC STRATEGIC REQUIREMENTS. THESE REQUIREMENTS SHOULD DRIVE THE DEVELOPMENT OF SPECIFIC TYPES OF WEAPONS OR SYSTEMS WHICH ARE THE "MEANS" TO BE EMPLOYED TO ACHIEVE US SECURITY OBJECTIVES WHICH ARE THE STRATEGY'S "ENDS." HOWEVER, AS SEEN IN THE CASE STUDIES, THIS HAS NOT SLOWED OR PREVENTED THE MILITARY FROM MOVING FORWARD WITH EFFORTS TO ARTICULATE AND EMPLOY A MILITARY STRATEGY. THE US MILITARY HAS ADOPTED A STRATEGY AND DOCTRINE TO GAIN AND MAINTAIN SPACE SUPERIORITY THROUGH SPECIFIC DEFENSIVE COUNTERSPACE (DCS) ACTIONS TO DEFEND FRIENDLY ACCESS TO SPACE AND OFFENSIVE

COUNTERSPACE (OCS) EFFORTS TO DENY THE ADVERSARY THAT SAME ACCESS.[285] FURTHER, WEAPONS HAVE BEEN FIELDED TO FULFILL SOME OF THE ELEMENTS OF THIS STRATEGY, AND DEVELOPMENT OF MORE CONTINUES. THE DANGEROUS PARALLELS TO THE CASE STUDIES ARE OBVIOUS. IF THE H-BOMB, MIRV, AND SDI WERE BELIEVED TO DELIVER GREATER SECURITY, YET, DELIVERED THE OPPOSITE OF THEIR INTENDED SECURITY EFFECTS, IS THE US MILITARY CURRENTLY ACQUIRING WEAPONS WHICH MAY UNDERMINE THE LARGER, GRAND STRATEGY OF THE NATION? IT IS ENTIRELY POSSIBLE THAT THIS LATENT POTENTIAL FOR REAL PROBLEMS RESIDES IN TODAY'S TERRESTRIALLY-BASED SPACE WEAPONS (ASAT) AND IN FUTURE ORBITAL WEAPON SYSTEMS BEING RESEARCHED AND ASPIRED TO. YET, DEVELOPMENT AND FIELDING OF THESE WEAPONS CONTINUES DESPITE THE FACT THEIR UTILITY IS NOT WELL UNDERSTOOD AND THESE CHOICES ARE NOT GUIDED BY HIGHER STRATEGY, YIELDING THE POTENTIAL TO GENERATE SERIOUS, NEGATIVE, STRATEGIC CONSEQUENCES. IN THE MEANTIME, THE SAME STRATEGIC ASSUMPTION IS OBSERVED TODAY AS EXISTED IN THE CASE STUDIES—THE UNQUESTIONED BELIEF AND ASSUMPTION THAT THESE WEAPONS AND THE SPACE SUPERIORITY CAPABILITY THEY DELIVER WILL YIELD INCREASED NATIONAL SECURITY. THIS BELIEF IS PARTICULARLY PREVALENT WHEN DISCUSSING THE FUTURE CAPABILITIES AND POTENTIAL OF ORBITAL SPACE WEAPON SYSTEMS.

WEAPONS PLATFORMS IN ORBIT CERTAINLY REPRESENT A GREAT LEAP IN TECHNOLOGY AND PROVIDE NEW AND IMPROVED CAPABILITIES, BUT ARE NOT A PANACEA FOR US DEFENSE NEEDS. THIS CATEGORY OF WEAPON IS OFTEN TOUTED FOR ITS ABILITY TO RESPONSIVELY STRIKE TARGETS ANYWHERE ON THE GLOBE OR IN SPACE. IF SUCH SYSTEMS WERE DEVELOPED AND EMPLOYED AS CONCEIVED, THEY WOULD PROVIDE A SIGNIFICANT INCREASE IN RESPONSIVE STRIKE, BUT ONLY IF SUFFICIENT NUMBERS OF THEM WERE DEPLOYED. FURTHER, THE TIMELINESS OF EACH STRIKE WOULD BE TOTALLY DEPENDENT UPON OPTIMAL ORBITAL GEOMETRY IN REFERENCE TO THE DESIRED TARGET AT THE TIME THE STRIKE IS NEEDED. HOWEVER, IT DOES NOT APPEAR AT THIS TIME THAT THE COST-BENEFIT OF ORBITAL SYSTEMS OVER THE CAPABILITIES OF CURRENT CONVENTIONAL, TERRESTRIAL FORCES WARRANTS TAKING THIS STEP. IN SPITE OF THIS, THERE IS STILL A GREAT DEAL OF ENTHUSIASM AND SUPPORT FOR THIS MOVE TO ORBITAL WEAPONS AND ALL THEY ARE EXPECTED/PROMISE TO DELIVER VIS-À-VIS INCREASED NATIONAL SECURITY. MANY ALSO BELIEVE THAT ATTAINING THIS CAPABILITY WOULD PROVIDE A SIGNIFICANTLY ENHANCED DETERRENT, AS THE US COULD APPLY FORCE ANYWHERE IN SPACE OR ON THE PLANET POTENTIALLY WITHIN MINUTES OF DECIDING IT IS REQUIRED. THE PARALLELS BETWEEN THESE ARGUMENTS AND THOSE OF SEVERAL NUCLEAR WEAPONS DECISIONS IN THE 1950S AND 1960S ARE INESCAPABLE.

JUST AS US ADVANTAGES IN NUCLEAR WEAPONS THROUGHOUT HISTORY COULD NOT DETER ALL CONFLICT, SO IT WILL BE WITH ORBITAL WEAPON SYSTEMS. THE SOPHISTICATED TECHNOLOGICAL SOLUTION DEFINITELY SHOWCASES AMERICAN POWER AND MAY DISSUADE SOME POTENTIAL

[285] Joint Publication (JP) 3-14, *Joint Doctrine for Space Operations*, 9 Aug 02, GL-6; Air Force Doctrine Document (AFDD) 2-2, *Space Operations,* 27 November 2001, 54; Air Force Doctrine Document (AFDD) 2-2.1, *Counterspace Operations,* 2 August 2004, 1-5.

ADVERSARIES, BUT IT CANNOT COMPLETELY DETER ALL OF THEM FROM AGGRESSION. THE SOVIETS BLOCKADED BERLIN IN 1948 DESPITE THE FACT THE US HAD A MONOPOLY ON NUCLEAR WEAPONS AND HAD SHOWN THEIR WILLINGNESS TO EMPLOY THEM. DESPITE THE FACT THE US HAD A CLEAR SUPERIORITY IN NUMBERS AND QUALITY OF NUCLEAR WEAPONS IN THE 1950S, THE SOVIETS AND CHINESE SUPPORTED THE NORTH KOREAN'S INVASION OF SOUTH KOREA AND PARTICIPATED IN THE CONFLICT THEMSELVES. THE US NUCLEAR SUPERIORITY OF THE 1960S DID NOT PREVENT NORTH VIETNAM FROM INVADING SOUTH VIETNAM AND THE SOVIETS SUPPORT OF THAT DIRECT CONFLICT WITH THE UNITED STATES. OVER THE PAST SEVERAL DECADES, THERE ARE NUMEROUS OTHER EXAMPLES WHICH ILLUSTRATE HOW POSSESSION OF GREATLY SUPERIOR NUCLEAR AND CONVENTIONAL WEAPONS AND CAPABILITY DID NOT COMPLETELY DETER, FURTHER REINFORCING THE CONCLUSION THAT THERE IS NO BASIS FOR A MODERN-DAY ASSUMPTION THAT HIGHLY RESPONSIVE, NON-NUCLEAR STRIKE CAPABILITY FROM SPACE WOULD PROVIDE ANY GREATER DETERRENT EFFECT. IT IS UNREALISTIC FOR US STRATEGISTS TO ASSUME DEPLOYMENT OF "RODS FROM GOD" (KINETIC, TUNGSTEN RODS) OR ANY OTHER ORBITAL WEAPONS PLATFORM WILL DRIVE POTENTIAL ADVERSARIES TO BEHAVE OR BEND TO US WILL ANY MORE THAN PRESENT WEAPON SYSTEMS DO.

THE VALUE OF FULLY ANALYZING AND UNDERSTANDING THE UTILITY OF NEW WEAPON SYSTEMS FOR SPACE IS CLEAR, AS IS THE NEED TO CAREFULLY CRAFT A STRATEGY AND PULL SPECIFIC TECHNOLOGY AND SYSTEMS TO MEET THE NEEDS OF THE DESIRED STRATEGY. EVIDENCE IN THE CASE STUDIES REVEALS HOW THE ABSENCE OR MISUNDERSTANDING OF A WEAPON'S MILITARY UTILITY AND FIT WITHIN THE LARGER STRATEGY HAD SERIOUS, NEGATIVE, STRATEGIC CONSEQUENCES. THE CASES ALSO REVEAL HOW CERTAIN ASSUMPTIONS FACTOR INTO THE STRATEGIC CALCULUS TO INFLUENCE THE OVERALL DECISION AND OUTCOME. MOST NOTABLE OF ALL THE ASSUMPTIONS AFFECTING THE STRATEGIC CALCULUS IS THE BELIEF THAT THAT THE US IS A BENEVOLENT HEGEMONIC POWER AND IS "CALLED" TO SERVE AS THE TRUSTEE FOR THE WORLD'S MOST DANGEROUS WEAPONS AND MATTERS, FURTHERING WORLD SECURITY.

TRUSTEE:

ADVOCATES OF THIS LINE OF THINKING ARGUE THAT THE US SHOULD CAPITALIZE ON ITS GREAT TECHNOLOGICAL ADVANTAGE AND ASSERT ITSELF IN SPACE ON BEHALF OF FREE PEOPLES EVERYWHERE, ACTING AS THE BENEVOLENT, HEGEMONIC TRUSTEE OF THE MEDIUM. THE ARGUMENT CONTENDS THAT THE US SHOULD IMMEDIATELY DEPLOY SUFFICIENT WEAPONS IN LOW EARTH ORBIT TO SECURE ALL OF SPACE AND ASSURE ACCESS TO IT FOR PEACEFUL PEOPLES, AND DENY SIMILAR ATTEMPTS BY THOSE WITH HOSTILE INTENTIONS.[286]

WHILE COMPELLING AND WELL-ARGUED, THE WEAKNESSES ARE PROFOUND. FIRST, TRUSTEE ADVOCATES ASSUME AWAY THE CONSEQUENCES BACK HERE ON EARTH. EVEN IF THE US WAS CAPABLE OF SUCCESSFULLY EXECUTING A HEGEMONIC GRAB OF LOW EARTH ORBIT, THEREBY ADVANCING ITS

[286] Everett Carl Dolman, "Space Power and US Hegemony: Maintaining a Liberal World Order in the 21st Century," available from http://www.gwu.edu/%7Espi/spaceforum/Dolmanpaper%5B1%5D.pdf, 29-32.

ABILITY TO SINGLE-HANDEDLY CONTROL AN IMPORTANT MEDIUM, LIFE CONTINUES ON OR IN THE OTHER THREE MEDIUMS. IT IS HIGHLY UNLIKELY THAT THE REST OF THE WORLD WOULD PERCEIVE THAT THE US ACTION WAS IN EVERYONE'S BEST INTERESTS. TRUMAN BELIEVED THE US WOULD BE THE BENEVOLENT TRUSTEE OF ATOMIC POWER, WHICH DID LITTLE TO SOOTHE THE SOVIET'S ANXIETIES OVER HOW THE US WOULD BEHAVE. THIS IS NOT TO SUGGEST THAT THE US SHOULD ALLOW ITSELF TO BE HELD HOSTAGE TO THE WILL OF THE INTERNATIONAL COMMUNITY. THE US MUST RESERVE THE OPTION TO ACT IN SELF DEFENSE OR TO SECURE ITS VITAL INTERESTS, BUT UNILATERAL ACTS TO SECURE INTERESTS OFTENTIMES INCUR NEGATIVE COSTS IN OTHER AREAS. SPECIFICALLY, WHILE OTHER NATIONS MAY BE POWERLESS TO STOP A HEGEMONIC SPACE GRAB, THEY CAN STILL EXERT POWER AND INFLUENCE OVER THE US THROUGH DIPLOMATIC AND ECONOMIC MEANS. THERE WOULD BE A SUBSEQUENT LOSS OF LEGITIMACY FOR THIS AND OTHER US ACTIONS AND AN ACCOMPANYING DECREASE IN SOFT POWER WHICH ENABLES THE US TO INFLUENCE OTHER NATIONS SHORT OF RESORTING TO VIOLENCE OR THE THREAT OF VIOLENCE. ANALYSIS OF THE CASE STUDIES DOES NOT GIVE ANY INDICATION THAT OTHER STATE'S EVER PUT FAITH IN BENEVOLENT HEGEMONIC CONTROL OF SOMETHING THAT ALL COULD BENEFIT FROM. THEREFORE, THE US SHOULD EXPECT A SIMILAR RESPONSE TO ANY OFFENSIVE ACTIONS IN SPACE.

SECOND, THE ARGUMENT GOES FURTHER, ASSERTING THAT BEING IN SUCH A POSITION ENABLES THE US TO PROVIDE PROTECTION FROM BALLISTIC MISSILE LAUNCHES, AIR RAIDS, AND EVEN LAND INVASIONS BY AGGRESSOR NATIONS AGAINST THEIR NEIGHBORS. IT ENVISIONS THAT THIS MAY EVEN ALLOW THE US TO PUT AN END, ONCE AND FOR ALL, TO INTERSTATE CONFLICT.[287] ABM DISCUSSIONS IN THE MIRV AND SDI CASE STUDIES REVEAL THE WEAKNESSES IN THIS ARGUMENT. ASSUMING ONE COULD DEPLOY A PERFECT, IMPENETRABLE DEFENSIVE SHIELD THAT ALSO HAD THE CAPABILITY TO AFFECT OTHER TARGETS IN SPACE, IN THE AIR, ON LAND, OR AT SEA, THERE IS NO EVIDENCE THAT SUCH A CAPABILITY WOULD HAVE ANY ABILITY TO PREVENT CROSS BORDER INCURSIONS OR CONFLICTS. THE MONOPOLY ON NUCLEAR WEAPONS DID NOT PREVENT SUCH ACTS, THEREFORE, WHY WOULD THE US ASSUME THAT ORBITING SPACE WEAPONRY WOULD? ANALYSES OF THESE CASES INDICATE THAT DEPLOYMENT OF AN IMPENETRABLE DEFENSE IS ALSO HIGHLY UNLIKELY. EVEN IF THE US COULD DEPLOY A SYSTEM THAT WAS 99.9999% RELIABLE, THESE MACHINES STILL WILL HAVE SOME ASSOCIATED, FINITE MEAN TIME BETWEEN FAILURES. ESSENTIALLY, THE QUESTION BECOMES "WHEN" NOT "IF." THE US WOULD CERTAINLY NOT FIND ITSELF IN A TENABLE POSITION IF IT HAD PUBLICLY STATED IT WOULD SHOOT DOWN ALL BALLISTIC MISSILE LAUNCHES ONLY TO EXPERIENCE A SYSTEM FAILURE OR SIMPLY MISS WHEN COUNTRY A FIRED A MISSILE ON COUNTRY B. WORLD OPINION WOULD BE MORE APT TO BELIEVE THE US ALLOWED THE IMPACT OF COUNTRY A'S MISSILE ON COUNTRY B'S SOVEREIGN TERRITORY VICE THE TRUTH THAT THE SYSTEM SIMPLY MALFUNCTIONED. THE US WOULD IMMEDIATELY BE VIEWED AS HAVING TAKEN A SIDE IN THE CONFLICT AND WOULD BE SUBJECT TO THE ACCOMPANYING STRATEGIC IMPLICATIONS OF THAT PERCEIVED SUPPORT OR NON-SUPPORT. THEREFORE, THERE IS NO EVIDENCE TO

[287] Dolman, 29-30.

SUPPORT A CONCLUSION OR BELIEF THAT AN OFFENSIVE SPACE STRATEGY ENABLED BY ORBITAL WEAPONS WOULD BE WELCOMED BY THE REST OF THE INTERNATIONAL COMMUNITY WHO WOULD ACCEPT THE US AS THE BENEVOLENT TRUSTEE OF SPACE.

AS THERE ARE CURRENTLY NO WEAPONS IN SPACE, THE UNITED STATES CANNOT CREDIBLY CLAIM IT IS DEPLOYING THEM AS A NECESSARY MEASURE FOR DEFENSIVE PURPOSES; RATHER, IT WILL APPEAR ENTIRELY OFFENSIVE. FURTHER, THE OMNIPRESENCE OF ORBITAL WEAPON SYSTEMS AND THEIR DUAL USE POTENTIAL RENDERS ANY WEAPON DEPLOYED INTO ORBIT AS INHERENTLY OFFENSIVE. TERRESTRIAL-BASED WEAPON SYSTEMS THAT TARGET ORBITAL SYSTEMS ALSO PRESENT AN OFFENSIVE, DESTABILIZING THREAT IN PEACETIME AS THEY ARE CONTINUALLY POSTURED AND PRIMED TO INFLICT DAMAGE MEANT TO DENY AND DESTROY ENEMY CAPABILITY VICE PROTECT ONE'S OWN. DUE TO THE ORBITAL DEPLOYMENT OF THEIR INTENDED TARGET, THESE WEAPONS EXHIBIT SOME OF THE OFFENSIVE, OMNIPRESENT CHARACTERISTICS SEEN IN ORBITAL WEAPON SYSTEMS. UNABLE TO SECURE THE PERCEPTION THAT THESE WEAPONS ARE INTENDED FOR DEFENSIVE PURPOSES, THE UNITED STATES MUST DEAL WITH THE DISTINCT DISADVANTAGE THAT OFFENSIVE WEAPONS BRING, NAMELY: SECURITY DILEMMAS.

Security dilemmas

ADDITIONAL WEAPONS AND FORCES CAN INCREASE A STATE'S SECURITY UNTIL THE BUILD-UP REACHES A TURNING POINT WHERE NEIGHBORING STATES FEAR THE OFFENSIVE POTENTIAL OF THE NEW FORCES. THIS SPURS A NATURAL REACTION TO THE POTENTIAL THREAT, AND THREATENED STATES ADD WEAPONS AND FORCES TO INCREASE THEIR SECURITY, THEREBY DIMINISHING THE SECURITY BENEFIT SOUGHT BY THE ORIGINAL STATE.[288] IF THE PERCEPTION OF DANGER IS SEVERE, IT MIGHT EVEN SERVE AS THE CATALYST FOR AN ARMS RACE THAT GREATLY INCREASES COSTS (WITHOUT ADDED SECURITY) AS COMPETITORS ATTEMPT TO MATCH THE NEW CAPABILITY. EVEN MORE DANGEROUS THAN AN EXPENSIVE ARMS RACE OR MARGINALIZATION OF THE ORIGINAL SECURITY BENEFIT IS THE POSSIBILITY OF PROVOKING A PREEMPTIVE ATTACK. FACED WITH WHAT APPEARS TO BE AN UNTENABLE SITUATION OR IMMINENT ATTACK, THERE ARE CLEAR ADVANTAGES FOR A THREATENED STATE TO STRIKE PREEMPTIVELY, AND NEUTRALIZE THE NEW THREAT BEFORE IT ACHIEVES A STATE OF FULL DEPLOYMENT OR OPERATIONAL CAPABILITY. DECISIONS TO INCREASE WEAPONS DURING PERIODS OF RELATIVE PEACE DRAW THE GREATEST AMOUNT OF SUSPICION, ESPECIALLY WHEN UNDERTAKEN BY A DOMINANT MILITARY POWER.

THE UNITED STATES CANNOT EXPECT THAT THE ENTIRE WORLD WILL SIT IDLY BY AS IT DEPLOYS WEAPONS IN SPACE WHICH, EFFECTIVELY, BORDER EVERY STATE ON THE PLANET. IF THE UNITED STATES HAD UNLIMITED ARMIES, NAVIES, AND AIR FORCES, WOULD IT SURROUND EVERY BORDER AND COASTLINE WITH THEM, READY TO PUT DOWN POTENTIAL AGGRESSION OR IMPLEMENT UNITED STATES POLICY OBJECTIVES AT A MOMENTS NOTICE? ADVERSARIES AND ALLIES ALIKE WOULD CERTAINLY FIND SUCH ACTION OFFENSIVE, POSSIBLY SPURRING THEM TO RESPOND. PUTTING WEAPONS IN SPACE WILL

[288] Robert Jervis, "Offense, Defense, and the Security Dilemma," in *International Politics: Enduring Concepts and Contemporary Issues,* 6th ed., ed. Robert J. Art and Robert Jervis (New York, New York: Longman Publishers, 2003), 180-199.

ELICIT A SIMILAR REACTION AND/OR COUNTERMEASURES WHICH DECREASE OR NEGATE THE INTENDED SECURITY BENEFITS. EVEN WITHOUT THE INTENSE BIPOLAR COMPETITIVE ENVIRONMENT OF THE COLD WAR, WEAPONS IN SPACE COULD SPARK AN ARMS RACE WHERE OTHERS (ALONE OR COOPERATIVELY) ATTEMPT TO MATCH THE NEW CAPABILITY TO ENSURE THEIR INTERESTS ARE SIMILARLY SECURED IN SPACE. WHILE THE LIKELIHOOD OF SPURRING A PREEMPTIVE ATTACK APPEARS LOW, IT REMAINS A POSSIBILITY THAT A STRATEGIST MUST CONSIDER.

PUTTING WEAPONS IN SPACE MAY ELICIT A PREEMPTIVE ATTACK FROM A THREATENED STATE OR STATES. STRIKING IN THE EARLY PHASES OF A SPACE WEAPON DEPLOYMENT IS ADVANTAGEOUS BECAUSE THE NEW WEAPON SYSTEM MAY NOT HAVE ITS FULL CAPABILITY. ADDITIONALLY, STRIKING BEFORE THE UNITED STATES COULD POTENTIALLY PREPARE AND MASS FOR A FIRST-STRIKE GIVES THE THREATENED STATE ITS BEST CHANCE FOR SUCCESS. ASIDE FROM THE MILITARILY NEGATIVE CONSEQUENCES OF DEPLOYING WEAPONS INTO SPACE, THERE ARE ALSO DISTINCT NON-MILITARY DISADVANTAGES.

WEAPONIZING SPACE ALSO DECREASES THE UNITED STATES' ABILITY TO INFLUENCE ADVERSARIES AND ACHIEVE POLICY OBJECTIVES SHORT OF MILITARY ACTION (SOFT POWER). IT UNDERMINES THE LEGITIMACY OF THE UNITED STATES' ACTIONS AND ITS ROLE AS THE LEADER OF THE FREE WORLD. HOW CAN THE UNITED STATES ASSUME THE MANTLE OF WORLD LEADERSHIP IF IT CONTINUES TO ACT UNILATERALLY AT THE EXPENSE OF THE INTERNATIONAL COOPERATION, PEACE, AND INTERESTS IT CLAIMS TO VALUE? PUTTING WEAPONS IN SPACE IS THE ULTIMATE UNILATERAL ACT AND AFFORDS NO OPPORTUNITY TO FORM "COALITIONS OF THE WILLING."[289] THE UNITED STATES CURRENTLY ENJOYS A SIGNIFICANT SUPERIORITY IN AIR/LAND/SEA COMBAT POWER, ROBUSTLY ENHANCED AND ENABLED BY SPACE CAPABILITIES. IN THIS POSITION OF ADVANTAGE, IT MAKES LITTLE STRATEGIC SENSE TO DISRUPT THE STATUS QUO WITH THE DEPLOYMENT OF DESTABILIZING, OFFENSIVE WEAPONS IN SPACE. PUTTING WEAPONS IN SPACE OR PURSUING AN OFFENSIVE SPACE STRATEGY UPSETS AN ADVANTAGEOUS STATUS QUO AND OVERPLAYS THE UNITED STATES' HAND, SHORTENING THE PERIOD OF ADVANTAGE. MOREOVER, IF, AS SOME BELIEVE, THE WORLD IS ON A PATH TO THE INEVITABLE WEAPONIZATION OF SPACE, THERE ARE CLEAR ADVANTAGES IN ASSUMING THE FOLLOWER ROLE.

SPUTNIK'S LAUNCH BESTOWED THE HONOR AND PRESTIGE OF BEING FIRST IN ORBIT UPON THE SOVIET UNION, BUT WAS FORTUITOUS FOR UNITED STATES POLICY MAKERS, AS WELL. WHETHER OR NOT THE SOVIETS BEAT THE UNITED STATES OUTRIGHT OR THE UNITED STATES ALLOWED THE SOVIETS TO GO FIRST IS IRRELEVANT. THE CRITICAL POINT IS THE SOVIETS *DID* GO FIRST. IN ONE STROKE, SPUTNIK SOLVED THE COMPLICATED, POLITICALLY CHARGED OVERFLIGHT ISSUE THAT US POLICY MAKERS GRAPPLED WITH AND COULD NOT RESOLVE.[290] THIS ENABLED THE UNITED STATES TO PURSUE ITS SPACE RECONNAISSANCE PROGRAM FREE FROM THE LEGAL AND POLICY QUAGMIRE THAT

[289] Michael Krepon, *Space Assurance or Space Dominance?: The Case Against Weaponizing Space* (Washington, D.C.: The Henry L. Stimson Center, 2003), 79.
[290] Walter A. McDougall, *The Heavens and the Earth: A Political History of the Space Age* (Baltimore, Maryland: The Johns Hopkins University Press, 1985), 134.

ACCOMPANIED LAUNCHING FIRST, AND AVOIDED APPEARING AS AN AGGRESSOR. RESPONDING TO THE SOVIET CAPABILITY FUELED AND LEGITIMIZED THE UNITED STATES' SPENDING ON ITS SPACE PROGRAM, AND GARNERED UNPRECEDENTED PUBLIC SUPPORT.[291] ROBUST FUNDING COMPLEMENTED BY INTERNATIONAL LEGITIMACY AND PUBLIC SUPPORT PROVIDED THE UNITED STATES SPACE PROGRAM A SIGNIFICANT ADVANTAGE. IF, AS SOME ARGUE, WEAPONIZATION OF SPACE IS TRULY INEVITABLE, THE UNITED STATES SHOULD MANAGE RISK, RESEARCH AND DEVELOP IN SECRET, ALLOW AN ADVERSARY TO CROSS THE WEAPONS IN SPACE THRESHOLD FIRST, AND REAP THE SPUTNIK-LIKE REWARDS OF BEING A CLOSE SECOND. IN SPITE OF THE APPARENT ADVANTAGES THIS STRATEGY OFFERS, IT IS LIKELY MUCH EASIER SAID THAN DONE. ADVOCATING OR SUPPORTING ANY SECOND-FOLLOWER STRATEGY WOULD BE AN EXTREMELY DIFFICULT POSITION FOR AN ELECTED OFFICIAL OR MILITARY OFFICER, CONSIDERING THE US' CLEAR, LONGSTANDING PREFERENCE FOR POSITIVE ACTION AND OFFENSIVE SOLUTIONS.

PREFERENCE FOR THE OFFENSE

AS "TRUSTEES" MAKE CLEAR, A CASE CAN BE MADE FOR ADOPTING OFFENSIVE MEASURES, BUT THE CASE STUDIES INDICATE THAT THERE ARE NO SIMPLE, STRAIGHTFORWARD SOLUTIONS TO NATIONAL SECURITY ISSUES—ESPECIALLY IN AN AGE OF HIGH TECHNOLOGY. THESE STRATEGIC DECISIONS PRESENT EXTREMELY COMPLEX PROBLEMS THAT DECISION MAKERS MUST ANALYZE AND ATTEMPT TO MAKE THE BEST CHOICE. THE HIGH STAKES NATURE OF THESE DECISIONS ADDS PRESSURE AND COMPLICATES THE ENTIRE PROCESS AS THE CONSEQUENCES FOR MISCALCULATION GROW. WITH SO MUCH TO CONSIDER AND THE THOUSANDS OF SHADES OF GRAY THAT COLOR THESE HIGH STAKES DECISIONS, THERE IS A SAFETY IN THE POSITIVE AIM AND THE OFFENSIVE STRATEGY. THIS IS NOT TO SAY THAT ALL SELECTIONS OF AN OFFENSIVE STRATEGY ARE THE RESULT OF INTELLECTUAL LAZINESS OR INABILITY TO COMPREHEND THE ISSUES. CERTAINLY THERE ARE TIMES WHEN AN OFFENSIVE STRATEGY IS THE BEST COURSE OF ACTION. HOWEVER, THERE IS A STRONG PREFERENCE FOR OFFENSIVE SOLUTIONS WHICH MAY BE THE RESULT OF THE COMPLEXITY OF THE ISSUES AND THE RELATIVE SAFETY OF TAKING THE POSITIVE AIM AS INSURANCE AGAINST THE POSSIBILITY THAT SOMETHING WAS OVERLOOKED OR MISCALCULATED. INDIVIDUALLY, THE POSITIVE AIM AND OFFENSIVE STRATEGY GIVES A COMFORT AND HELPS AN INDIVIDUAL LIVE UP TO HIS/HER RESPONSIBILITIES TO THE LARGER BODY OF CITIZENS THAT RELY ON THE DEFENSE STRATEGIST'S JUDGMENT AND SKILL.

FROM A PSYCHOLOGICAL POINT OF VIEW, IT IS TYPICALLY MORE DESIRABLE TO BE PERCEIVED AS BEING STRONG ON DEFENSE AND COMMITTED TO NATIONAL SECURITY.[292] THIS DESIRE IS HELD EQUALLY BY THE ELECTED OFFICIAL, CIVILIAN APPOINTEE, AND THE MILITARY MEMBER AS THEIR REPUTATIONS ARE DEPENDENT UPON HOW OTHERS PERCEIVE THEY ARE PERFORMING THEIR DUTIES. AFTER ALL, THE MASSES WHO EMPLOY THESE OFFICIALS AND OFFICERS HAVE ENTRUSTED THEM WITH THEIR COLLECTIVE SAFETY. CONSIDERING THIS, HOW DOES ONE VOTE AGAINST OR NOT SUPPORT IMPROVED, TECHNOLOGICALLY ADVANCED WEAPON SYSTEMS OR OFFENSIVE STRATEGIES THAT PROMISE TO SECURE

[291] McDougall, 130-183.
[292] Robert Jervis, *Perception and Misperception in International Politics* (Princeton, New Jersey: Princeton University Press, 1976), 58-113.

THE NATION'S INTERESTS BY POSITIVE FORCE OF ACTION AND RETAIN ONE'S STANDING WITH THEIR PEERS AND THE PUBLIC? FOR THIS REASON, THE DESIRES TO MAINTAIN ONE'S REPUTATION CAN INFLUENCE THE DECISIONS TO PURSUE OFFENSIVE STRATEGIES AND WEAPON SYSTEMS. NO ONE WANTS TO BE THE "SUCKER" WHO COULD OR SHOULD HAVE DONE SOMETHING TO PROTECT THE NATION, BUT FAILED TO ACT. THROUGHOUT THE CASE STUDIES, POPULARITY HAS GENERALLY FOLLOWED LEADERS WHO TOOK THE POSITIVE AIM OR ACTION WHICH ALMOST ALWAYS REQUIRED AN OFFENSIVE STRATEGY AND THE ACCOMPANYING ACQUISITION OF NEWER, BETTER WEAPON SYSTEMS TO ENABLE THAT STRATEGY. TRUMAN WAS FAVORABLY REGARDED FOR PURSUING THE H-BOMB AS WERE JOHNSON AND NIXON FOR THEIR MIRVING OF MISSILES, AND REAGAN FOR HIS EFFORTS ON SDI, ALL OF WHICH CONSTITUTED POSITIVE ACTIONS TO MAKE THE US THE SOLE DETERMINANT OF ITS OWN NATIONAL SECURITY. WHEN A POLITICIAN OR MILITARY OFFICER ADVOCATES POSITIVE MEASURES TO SECURE AND ENSURE NATIONAL SECURITY, HE OR SHE IS GENERALLY PRAISED AND WIDELY REGARDED AS TAKING POSITIVE STEPS TOWARD SAID GOAL. SOME MAY QUESTION THE COSTS OF SUCH A VENTURE AND ADVOCATE A DIFFERENT PRIORITY OF RESOURCE ALLOCATION BETWEEN MILITARY AND DOMESTIC PROGRAMS, BUT RARELY DOES ANYONE QUESTION THE BASIC UNDERLYING ASSUMPTION THAT POSITIVE MEASURES INCREASE SECURITY. THERE IS A POLITICAL AND PERSONAL SAFETY IN THE OFFENSE THAT RARELY EXISTS IN THE ARMS CONTROL, TREATY, OR DEFENSIVE SPHERE.

WHEN A POLITICIAN, APPOINTED GOVERNMENT OFFICIAL, OR MILITARY OFFICER ADVOCATES RESTRAINT LIKE FOREGOING THE PURCHASE OF A PARTICULAR WEAPON SYSTEM, SEEKING AN ARMS CONTROL AGREEMENT, OR NOT ENGAGING OR EMPLOYING FORCES UNTIL A MORE FULL UNDERSTANDING OF THE STRATEGIC IMPLICATIONS IS GAINED, HE OR SHE IS GENERALLY PERCEIVED AS BEING WEAKER ON DEFENSE, LESS COMMITTED TO THE NATION'S SECURITY, AND POSSIBLY EVEN UNPATRIOTIC (AS WAS THE CASE IN OPPENHEIMER AND OTHERS). POLITICALLY, IT IS CLEARLY BETTER TO ERR ON THE SIDE OF ACQUIRING THE IMPROVED TECHNOLOGY, WEAPON, OR OFFENSIVE STRATEGY THAN TO BE FOREVER REGARDED AS THE ONE WHO WAS WEAK ON DEFENSE. HOW CAN A MILITARY OFFICER MAINTAIN A WARRIOR'S REPUTATION BY ADVOCATING RESTRAINT, EVEN WHEN IT IS TRULY IN THE NATION'S BEST INTERESTS? ONE HAS TO LOOK NO FURTHER THAN HOW MANY JOURNALISTS AND HISTORIANS REGARD FORMER CHAIRMAN OF THE JOINT CHIEFS OF STAFF GENERAL COLIN POWELL. POWELL'S INSISTENCE UPON SENDING MILITARY FORCES INTO SITUATIONS ONLY WHEN VITAL NATIONAL INTERESTS WERE AT STAKE AND OBJECTIVES WERE DEFINED GAINED FAME AS THE "POWELL DOCTRINE" AND GARNERED HIM THE UNFLATTERING REPUTATION AS THE "RELUCTANT WARRIOR."[293] IS THIS A FAIR ASSESSMENT OF HIS CONTRIBUTIONS? IT IS ALWAYS EASIER TO ARGUE FOR INCREASING OFFENSE, BUT AS THE CASES INDICATE, THIS SOMETIMES RESULTS IN LESS NATIONAL SECURITY. STILL, OFFENSIVE STRATEGIES REMAIN A POPULAR AND RELATIVELY SAFE POLITICAL COURSE OF ACTION AS THEY RENDER THE APPEARANCE OF INCREASING SECURITY BECAUSE POSITIVE ACTION IS BEING TAKEN. THIS PHENOMENON PRESENTS A REAL DANGER THAT US STRATEGISTS MUST BE AWARE OF AS THEY BEGIN TO CRAFT US

[293] Colin L. Powell, *My American Journey* (New York, New York: Random House, 1995), 434, 576-577

SPACE STRATEGY. IT WILL BE IMPORTANT FOR US STRATEGISTS TO GUARD AGAINST THE NATURAL PREDISPOSITION FOR OFFENSIVE SOLUTIONS THAT IS SOMETIMES DRIVEN BY POLITICAL AND PERSONAL SAFETY AND COMFORT, INTELLECTUAL LAZINESS, OR MILITARY CULTURE AND TRADITION, AND ENSURE ALL STRATEGIC OPTIONS ARE EQUALLY AND ADEQUATELY ANALYZED TO YIELD THE BEST POSSIBLE COURSE OF ACTION AND STRATEGIC CHOICE.

RECOMMENDATIONS

ANALYSIS OF THE CASE STUDY EVIDENCE AND THE RESULTING CONCLUSIONS POINT TO SEVERAL THINGS THE US COULD DO TO OPTIMIZE ITS SPACE STRATEGY. THE FOLLOWING RECOMMENDATIONS ARE BUT A STARTING POINT TO HELP US STRATEGISTS AND DECISION MAKERS SELECT A SPACE STRATEGY WHICH BALANCES ITS ABILITY TO SECURE MILITARY AIMS IN WARTIME WITHOUT CAUSING UNDUE NEGATIVE IMPACT THE NATION'S LARGER STRATEGIC POSITION AND GOALS IN PEACETIME.

ATTEND TO THE DECISION MAKING PROCESS

IN FORMULATING US SPACE STRATEGY, GREAT CAUTION AND CARE SHOULD BE TAKEN TO ATTEND TO THE *PROCESS* BY WHICH SPACE STRATEGIES AND ALTERNATIVES ARE CONSIDERED, ANALYZED, EVALUATED, AND SELECTED AS THE STAKES ARE EXTREMELY HIGH. THIS INCLUDES SETTING THE BEST CONDITIONS POSSIBLE FOR OBJECTIVE, INCLUSIVE DEBATE AS WELL AS FORMAL REVIEW WHICH BRING THE FULL, INTELLECTUAL RESOURCES OF THE NATION TO BEAR ON THE PROBLEM, PRESENTING VIABLE, THOUGHTFUL SOLUTIONS TO THE MOST SENIOR LEVELS OF THE US GOVERNMENT FOR DECISION. ATTENDING TO THE PROCESS CAN WIDEN THE WIN SET AND POTENTIALLY MITIGATE THE EFFECTS OF MANY OF THE PITFALLS (PLACING DECISION MAKING AUTHORITY WITHIN A SINGLE DEPARTMENT, ALLOWING ORGANIZATIONAL INTERESTS TO TAKE PRECEDENCE OVER THE LARGER INTERESTS OF THE NATION, POLARIZATION OF THE ISSUE, ETC.).[294] FURTHER, SECRECY OF NATIONAL SECURITY MATTERS CERTAINLY HAS ITS PLACE AND VALUE, BUT THE EVIDENCE SHOWS HOW OPEN DISCUSSION OF THE OVERARCHING STRATEGIC ALTERNATIVES DOES NOT PRESENT THE SAME THREAT TO NATIONAL SECURITY POSED BY DISCLOSURE OF SPECIFIC WEAPON SYSTEM CAPABILITIES, VULNERABILITIES, OR OPERATIONAL EMPLOYMENTS. INCLUSIVENESS IN THE ANALYSIS OF POTENTIAL ALTERNATIVES HAS THE BEST CHANCE TO GENERATE THE BEST SOLUTION AND STRATEGY.

HAVE THE DEBATE:

THE US CURRENTLY HAS THE WORLD'S MOST DOMINANT MILITARY, WHICH AFFORDS IT PLENTY OF OPPORTUNITY AND TIME TO EXHAUSTIVELY EXAMINE THE ISSUES, OPTIONS, AND POTENTIAL STRATEGIC CONSEQUENCES OF SPACE STRATEGIES. THE NATIONAL DEBATE OVER SDI CORRECTLY STEERED THE US AROUND A HIGHLY DESTABILIZING WEAPON SYSTEM AND STRATEGY, REVEALING THE CLEAR BENEFITS OF THIS TYPE OF OPEN, NATIONAL DEBATE. A SIMILAR NATIONAL DEBATE ON SPACE STRATEGY COULD YIELD SIMILAR RESULTS. THE CURRENT AND FUTURE ECONOMIC, MILITARY, AND SOCIAL BENEFITS OFFERED BY SPACE ARE SIMPLY TOO GREAT, AS ARE THE POTENTIAL NEGATIVE STRATEGIC CONSEQUENCES, TO NOT HAVE THIS DEBATE. IN THE PROCESS OF DEBATING THE ISSUE,

[294] Allison and Zelikow, 264-271.

SPECIAL CARE MUST BE TAKEN NOT TO RENDER THE DEBATE IRRELEVANT BY UNINTENTIONALLY OR PREMATURELY COMMITTING THE US TO A SPECIFIC COURSE OF ACTION.

GUARD AGAINST UNINTENTIONAL OR PREMATURE COMMITMENT:

THE CAUTIONS DISCUSSED ALSO EXTEND TO THE DEVELOPMENT, TESTING AND FIELDING OF WHAT SOMETIMES APPEAR TO ONLY BE ONE-OF-A-KIND, RESEARCH AND DEVELOPMENT PROJECTS FOR SPACE WEAPON SYSTEMS. SOME OF THESE WEAPON SYSTEMS HAVE THE POTENTIAL TO UNINTENTIONALLY PROPEL OR PREMATURELY COMMIT THE US DOWN A SPECIFIC COURSE OF ACTION—ONE THAT THE US MAY COME TO REGRET. POLICY AND STRATEGY SHOULD DRIVE WHERE DOLLARS ARE SPENT, AND WHICH WEAPONS ARE DEVELOPED, TESTED, AND FIELDED. WEAPON SYSTEMS AND RESOURCE ALLOCATION SHOULD NOT BE ALLOWED TO DRIVE THE NATION'S STRATEGY OR POLICY. AS THE CASE STUDIES INDICATE, THIS IS OFTEN FACILITATED BY THE NATURAL PREDISPOSITION AND PREFERENCE FOR OFFENSIVE SOLUTIONS.

RECOGNIZE AND TEMPER OUR OFFENSIVE BIAS

IN CRAFTING STRATEGIC ALTERNATIVES AND WEIGHING THE BENEFITS AND DRAWBACKS OF EACH, IT IS IMPORTANT TO RECOGNIZE AND TEMPER THE TENDENCY TO GRAVITATE TOWARD OFFENSIVE SOLUTIONS TO EVERY PROBLEM. THE US DOES NEED OFFENSES WITHIN ITS SPACE STRATEGY, BUT CONSIDERATION OF THESE POTENTIAL SOLUTIONS SHOULD NOT BE ALLOWED TO SUBSUME ALL CONSIDERATION OF OTHER POTENTIAL ALTERNATIVES. EQUAL ATTENTION SHOULD BE PAID TO POTENTIAL DEFENSIVE MILITARY SOLUTIONS OR THOSE OFFERED BY OTHER INSTRUMENTS OF POWER TO INCLUDE DIPLOMATIC EFFORTS TO SECURE ARMS CONTROL AGREEMENTS AND TREATIES, ECONOMIC, AND INFORMATIONAL OPERATIONS TO PRESSURE AGGRESSIVE ACTORS TO COMPLY WITH INTERNATIONAL NORMS.

WEIGH MILITARY UTILITY VS. IMPACT ON NATIONAL STRATEGY:

WHEN CONSIDERING SPACE STRATEGIES AND THE WEAPON SYSTEMS THAT ENABLE THEM, IT IS CRITICAL TO FULLY UNDERSTAND THE SPECIFIC MILITARY UTILITY AND THE LARGER, STRATEGIC REQUIREMENT TO SEEK THAT SPECIFIC WEAPON, TECHNOLOGY, OR CAPABILITY. THERE ARE SIGNIFICANT, UNANSWERED QUESTIONS ABOUT THE SPECIFIC UTILITY OF MANY SPACE WEAPONS, ESPECIALLY WHEN WEIGHED AGAINST EXISTING, CONVENTIONAL CAPABILITIES THAT COULD EASILY SUBSTITUTE FOR THE CAPABILITIES MANY OFFER. IT IS ALSO DIFFICULT TO SEE THE STRATEGIC REQUIREMENT FOR THEIR DEVELOPMENT, AS THE US SPACE STRATEGY REMAINS UNCLEAR. MOST IMPORTANTLY, TECHNOLOGICALLY ADVANCED WEAPON SYSTEMS THAT PERFECTLY FULFILL US MILITARY STRATEGY TO DOMINATE THE MEDIUM ARE OF LITTLE VALUE TO THE US IF THEY WORK COUNTER TO THE LARGER NATIONAL STRATEGY. SUPERIORITY IS AN EXCELLENT MILITARY STRATEGY THAT LARGELY DELIVERS VICTORY IN THE BATTLESPACE. HOWEVER, CERTAIN CASES OF SUPERIORITY FAIL TO DELIVER THE SECURITY, PEACE, AND STABILITY SOUGHT, AS WAS THE CASE FOR NUCLEAR SUPERIORITY AND IS LIKELY THE CASE FOR OMNIPRESENT, ORBITAL SPACE WEAPONS WHICH DESTABILIZE. IF THE US UNILATERALLY SEEKS SUPERIORITY AND WEAPONIZES SPACE FIRST, IT WON'T BE VIEWED AS THE

BENEVOLENT, HEGEMONIC TRUSTEE NO MATTER HOW MUCH IT BELIEVES IT IS OR SHOULD BE. EVEN IF OTHERS ACCEPTED THE US AS THE TRUSTEE, THE POSSIBILITY OF MAINTAINING THE STATUS OF NOBLE PROTECTOR OF OTHERS IS LOW. ANY POTENTIAL ORBITING SPACE DEFENSE WEAPON SYSTEM EMPLOYED BY THE US IS BOUND TO FAIL, MISS A TARGET, OR HAVE SOME EXPLOITABLE FLAW THAT DRIVES OTHERS TO BUILD OFFENSES TO EXPLOIT THESE SEAMS. THE POTENTIAL FOR AN ORBITAL SYSTEM TO BE MISUSED AND EMPLOYED FOR OFFENSIVE PURPOSES IS ALSO DESTABILIZING. SIMILARLY, TERRESTRIAL-BASED ANTI-SATELLITE WEAPONS HAVE SOME OF THE OMNIPRESENT CHARACTERISTICS OF ORBITAL WEAPONS, HAVE THE POTENTIAL TO UPSET THE DELICATE STRATEGIC BALANCE IN CONDUCTING THEIR OCS MISSION, AND START THE US DOWN SLIPPERY SLOPE OF OFFENSIVE SPACE STRATEGY.

MILITARY PLANNERS AND STRATEGISTS CANNOT OPERATE IN THE VACUUM OF MILITARY STRATEGY GUIDED BY PRINCIPLES OF WARFARE, DOCTRINES AND TRADITIONS OF SUPERIORITY AND THE OFFENSE. RATHER, THEY MUST LOOK BEYOND VICTORY IN THE BATTLESPACE AND DEVELOP STRATEGIES AND WEAPON SYSTEMS THAT TAKE INTO ACCOUNT THE CONTEXTUAL FACTORS OF THE CURRENT SECURITY ENVIRONMENT AND THE LARGER NATIONAL SECURITY STRATEGY AND GOALS. AS UNSAVORY AS IT MAY BE TO MANY MILITARY STRATEGISTS, THIS INCLUDES LOOKING AT POTENTIAL ARMS CONTROL AGREEMENTS, LEGAL REGIMES, DIPLOMATIC ACTION, AND CREATIVE STRATEGIES AND TACTICS FOR DEFENSES.

FOCUS ON DCS TO PROTECT OUR ASYMMETRIC ADVANTAGE IN SPACE FOR AS LONG AS POSSIBLE:

INDEPENDENT OF WHAT THE US DOES FOR OCS, IT STILL REQUIRES DCS TO PROTECT AND ENSURE ITS ACCESS TO SPACE. SPACE REMAINS A CRITICAL ENABLER OF THE US MILITARY'S WAY OF WAR. SPACE PROVIDES US DECISION MAKERS CRUCIAL INTELLIGENCE AND INSIGHTS INTO WORLD EVENTS WHICH UNDERPIN NATIONAL SECURITY AND FOREIGN POLICY DECISIONS. MILITARY, GOVERNMENTAL, AND COMMERCIAL SPACE ALSO MAKE IMPORTANT CONTRIBUTIONS TO THE US ECONOMY. THEREFORE, IT IS CRITICAL THAT US STRATEGISTS PUT THE LION'S SHARE OF THEIR TIME AND EFFORT INTO CRAFTING CREATIVE DEFENSIVE STRATEGIES AND TACTICS. CONGRESS' OFFICE OF TECHNOLOGY ASSESSMENT ACCURATELY SUMMED UP THE FACT THAT "A COMMITMENT TO SATELLITE SURVIVABILITY IS IMPORTANT WHETHER OR NOT ASAT DEVELOPMENT, OR ARMS CONTROL, OR BOTH, ARE PURSUED."[295] OFFENSES TO DENY AN ADVERSARY'S ACCESS REMAIN IMPORTANT, BUT DO NOT CARRY THE SAME URGENCY OR REQUIRE NEAR THE WEIGHT OF EFFORT IN THE CURRENT CONTEXT THAT DEFENSES DO. MOREOVER, THE US HAS MANY POTENTIAL ALTERNATIVE MEANS TO CONDUCT OCS IN ITS ARSENAL TODAY AS WELL AS OFFENSES THAT ARE SUFFICIENT SUBSTITUTES FOR POTENTIAL CAPABILITY THAT COULD BE GAINED BY PUTTING WEAPONS IN ORBIT OR TARGETING ORBITAL ASSETS FROM THE EARTH.

SUFFICIENCY OF AIR/LAND/SEA/SOF FORCES FOR OCS AND OFFENSE:

[295] US Congress, Office of Technology Assessment, *Anti-Satellite Weapons, Countermeasures, and Arms Control*, OTA-ISC-281 (Washington, D.C.: Government Printing Office, September 1985), 9.

The US military's outright dominance in all areas ensures a plethora of sufficient, substitute capabilities are available for prosecution of the OCS and other offensive missions. It is essential to remember that everything in space eventually connects to the ground. An adversary's telemetry, tracking, and commanding sites, mission control centers, mission data receivers and other end-user equipment all present excellent targets for offensive counterspace strikes by special operations forces, air forces, surface to surface missiles, etc. Why risk the destabilizing effects of attacking the orbital segment of a space system when there are plenty of suitable, terrestrial-based forces that can conduct OCS operations against these targets? Similarly, the potential offensive capabilities of orbital weapon systems are currently being performed by conventional air, land, and sea forces. Orbital weapons may, best case, provide some improvement in responsiveness, but will have a whole new set of limitations and problems to overcome not germane to modern-day terrestrial forces, and perform essentially the same mission. Further, it makes little strategic sense to increase reliance upon orbiting weapon systems which have the same survivability issues the US seeks to exploit with ASAT weapons development and fielding. Once again, why risk the destabilizing effect of placing offensive, omnipresent weapons in orbit when modern-day conventional forces provide a less threatening, sufficient substitute capability? However, this is not to say that the US should sit on its haunches and allow world events and technological innovation to overcome it.

<u>Hedge against technological/strategic surprise:</u>

The US is better off conducting sufficient research on potential ways to deploy weapons in space to mitigate the effects of strategic, technological surprise from a peer, but must stop short of development and fielding. Continuing to research hedges against strategic surprise and positions the US to capitalize on second-mover status, should an adversary cross the weaponization of space threshold. Maintaining the ability to be a close second extends the US asymmetric advantage in space as long as possible, maximizes international legitimacy if or when the US moves weapons into space (as a response to an aggressive action), and leverages domestic support for funding, as occurred post-Sputnik.

These recommendations do not assure successful strategic choice, but they will certainly help strategists take note of and hopefully avoid potential pitfalls. The US needs to analyze, debate, and deliberately select its desired space strategy before development efforts for unique, promising space weapons inadvertently make that selection for us. Strategic aims and requirements must be articulated to drive specific weapon system development, or weapon systems will begin to drive US strategy. Throughout this process US strategists must continually seek understanding of the

SPECIFIC MILITARY UTILITY OF PROPOSED WEAPONS SYSTEMS AND ENSURE THEIR FIT WITHIN THE STRATEGY TO ENSURE CONGRUENCE WITH AND SUPPORT OF THE LARGER, GRAND STRATEGY. FINALLY, STRATEGISTS SHOULD EXERCISE CAUTION: IN RELYING ON TECHNOLOGY AS A SOLUTION TO COMPLEX SECURITY NEEDS; IN ADOPTING ERRONEOUS ASSUMPTIONS WHICH DRIVE THE STRATEGIC CALCULUS (SUCH AS TRUSTEESHIP AND THAT MILITARY SUPERIORITY ALWAYS RENDERS INCREASED SECURITY); AND REMAIN MINDFUL OF THE US TENDENCY TO EXCLUDE CONSIDERATION OF DEFENSIVE STRATEGIES IN FAVOR OF PREFERRED OFFENSIVE STRATEGIES. THE NEXT CHAPTER PROVIDES A SUMMARY OF CONCLUSIONS.

CONCLUSION

In the current context, weaponizing space is detrimental to United States national security due to its destabilizing effects. It shortens the period of military and political advantage the United States currently enjoys and makes it more expensive as the investment in space weapons starts sooner rather than later. United States strategists must resist the seductive, immediately visible military advantages of orbital weapons, and seek understanding of the larger strategic implications. Further, terrestrial-based weapons to deny an adversary's access to space start the US down the slippery slope of offensive space strategy when the US clearly has the most to lose, and have some potential to destabilize, as well.

Strategy needs to drive weapons development and resource allocation, not the other way around. Hence, a clear understanding of the military utility of a potential weapon and its fit within the larger strategy must exist as a prerequisite to weapons development. The reason this is so critical is because it is entirely possible for the military establishment to develop weapons that fit within and fulfill the military strategy, but push the US into a course of action that works counter to and undermines the larger, grand strategy of the nation. The adoption of offensive strategies (most especially during peacetime) fueled by particularly offensive weapon systems can have unintended, negative strategic consequences that cancel out expected gains in security. Former Secretary of Defense McNamara notes that

> A new weapon cannot be viewed in isolation. Anyone who has been exposed to so-called brochuremanship knows that even the most outlandish notions can be dressed up to look superficially attractive. Instead, each new weapon must be considered against a wide range of issues: its place in the complex of missions to be performed; its effects on the stability of the military situation in the world; other alternatives available.[296]

He goes on to accurately note that "adding a weapon to our inventory is not necessarily synonymous with adding to our national security."[297] As the case studies reveal, the US has acquired weapons that did not add to its national security when the military utility of the weapon was not well understood, when there was no strategic requirement for the weapon which called for its development, and especially when the weapon systems had a characteristic offensive omnipresence.

The offensive omnipresence of orbital weapons systems is likely to elicit the same destabilizing effects that were evident in the adoption of several offensive nuclear

[296] Robert S. McNamara, *The Essence of Security: Reflections in Office* (New York, New York: Harper & Row, 1968), 93.
[297] McNamara, *Essence of Security*, 91.

STRATEGIES AND WEAPON SYSTEMS. IN SPITE OF THE FACT THAT A WEAPON MAY BE DEPLOYED TO ORBIT WITH PURELY DEFENSIVE INTENTIONS, THE DUAL USE POTENTIAL OF ANY WEAPON DEPLOYED IN ORBIT RENDERS IT INHERENTLY OFFENSIVE. FURTHER, THE EFFECTS GENERATED BY TWO DISTINCT EMPLOYMENT MODES OF TERRESTRIAL-BASED WEAPONS ARE LIKELY TO HAVE SIMILAR CHARACTERISTICS. THE FACT THAT ORBITAL WEAPONS ARE NEARLY CONSTANTLY SUSCEPTIBLE TO TERRESTRIAL-BASED ASATS AND BALLISTIC MISSILE DEFENSES WITH ASAT CAPABILITY GIVES THEM A SORT OF OFFENSIVE OMNIPRESENCE WITH RESPECT TO THE TARGETS (IN ORBIT) THEY HOLD AT RISK. IN THESE CASES, THE OMNIPRESENCE IS GENERATED BY THE DEPLOYMENT CONFIGURATION OF THE TARGET, VICE THE WEAPON, WHICH LITERALLY COMES TO THE WEAPON OR EASILY FALLS WITHIN ITS LINE OF SITE. THE US MUST SEEK A CLEARER UNDERSTANDING OF MORE THAN JUST THE FIRST ORDER EFFECTS THAT THESE WEAPONS DELIVER AND HOW THEY FIT INTO THE LARGER US STRATEGY FOR SPACE.

SATELLITES AS THEY ARE EMPLOYED TODAY ARE VERY STABILIZING. ON-ORBIT ASSETS PROVIDE TRANSPARENCY FOR THE US AND OTHER NATIONS THROUGH THE INTELLIGENCE, SURVEILLANCE, RECONNAISSANCE, COMMUNICATIONS, EARLY WARNING, AND OTHER FUNCTIONS. WHILE DENYING AN ADVERSARY'S USE OF THESE SYSTEMS IN WARTIME IS DESIRABLE AND USEFUL, THE PROLIFERATION OF THESE LESS EXPENSIVE WEAPONS IS DESTABILIZING DUE TO SPACECRAFT VULNERABILITY AND, IN LARGE PART, DUE TO THE INABILITY TO PROPERLY ASSESS, CHARACTERIZE, AND ATTRIBUTE ATTACKS AGAINST SATELLITES IN PEACETIME. IT MAKES LITTLE STRATEGIC SENSE FOR THE US TO LEAD EFFORTS IN ADVANCING THIS TECHNOLOGY BEFORE TAKING EQUAL OR GREATER MEASURES TO ENSURE ITS MILITARY AND COMMERCIAL SPACE ASSETS ARE AS WELL PROTECTED AS POSSIBLE FROM THESE EFFECTS.

THE US IS CLEARLY THE MOST DEPENDENT UPON AND MILITARILY INTEGRATED WITH SPACE, BUT IS ALSO THE MOST VULNERABLE. THIS INTEGRATION CREATES SYNERGIES BETWEEN FORCES THAT YIELDS UNMATCHED COMBAT POWER AND AN INCREDIBLE ASYMMETRIC ADVANTAGE OVER ANY POTENTIAL ADVERSARY. PUSHING TECHNOLOGY AND WEAPONS DEVELOPMENT TO DENY AN ADVERSARY'S ACCESS TO SPACE SYSTEMS DOES LITTLE TO NOTHING TOWARDS ENSURING US ACCESS TO SPACE. CONSIDERING MOST COUNTRIES' LOW DEPENDENCE UPON AND INTEGRATION WITH SPACE SYSTEMS MAKES SUCH A MOVE EVEN MORE STRATEGICALLY QUESTIONABLE. THERE MAY, INDEED, COME A DAY WHEN THE US NEEDS TO DENY THE ENTIRE ENVIRONMENT OF SPACE AS AIRCRAFT DO FOR AIR, PROVIDING DEFENSE OF US SYSTEMS THROUGH THE PROSECUTION OF OFFENSE, BUT THAT DAY HAS NOT YET ARRIVED. THEREFORE, THE US HAS A BETTER CHANCE TO RETAIN THE CURRENT SECURITY STABILITY AND PROLONG/EXTEND ITS POSITION OF ADVANTAGE IN SPACE BY PURSUING A STRATEGY THAT COMBINES FEWER OFFENSIVE ELEMENTS AND MORE DEFENSIVE ASPECTS.

THE BEST STRATEGY FOR THE US IS ONE THAT COMBINES NON-OFFENSIVE ACTIVE DEFENSIVE COUNTERSPACE (ACTIONS WHICH AVOID HOSTILE EFFECTS VICE THOSE WHICH REMOVE HOSTILE EFFECTS), PASSIVE DEFENSIVE COUNTERSPACE, AND ARMS CONTROL AGREEMENTS OR THE

ESTABLISHMENT OF PROTECTIVE REGIMES FOR SPACE.[298] THE STRATEGY SHOULD PLACE THE HEAVIEST PRIORITY ON DCS EFFORTS TO SECURE US ACCESS TO SPACE AND RELY UPON LESS DESTABILIZING FORCES TO CONDUCT OCS MISSIONS, WHEN REQUIRED. AS SPACE BECOMES A MORE MATURE, WARFIGHTING MEDIUM, IT IS ENTIRELY LIKELY THE NEED TO DENY THE MEDIUM WILL EMERGE, REQUIRING THE US TO ADJUST ITS STRATEGY TO A MORE OFFENSIVE ONE WHERE THE BEST DEFENSE MAY, IN FACT, BE A STRONG OFFENSE, BUT THE CURRENT CONTEXT DOES NOT SUPPORT SUCH A STRATEGY. THE CURRENT EMPHASIS ON FIELDING COUNTERSPACE SYSTEMS THAT ONLY DELIVER REVERSIBLE EFFECTS IS A GOOD ONE, BUT US STRATEGISTS SHOULD NOT LET THE MORE BENIGN EFFECTS LEAD THEM TO BELIEVE THAT THESE SYSTEMS ARE NOT WEAPONS OF WAR. THESE SYSTEMS ARE ANTI-SATELLITE WEAPONS AND MUST BE EVALUATED AS SUCH. THE US ALWAYS RETAINS THE CAPABILITY TO GO OFFENSIVE, BUT CAN DO SO THROUGH LESS DESTABILIZING, CONVENTIONAL WEAPONS THAT ATTACK A SPACE SYSTEM'S CHOKE POINTS.

MANY WHO LOOK TO THE POTENTIAL OF BATTLE IN AND AMONG THE STARS OFTEN FORGET A KEY COMPONENT OF ALL MODERN-DAY SPACE SYSTEMS—THAT IS, EVERY SPACE SYSTEM, EVENTUALLY, SOMEHOW, CONNECTS TO THE GROUND. THE EXISTENCE OF THE EVENTUAL TERRESTRIAL LINK IS HOW A SPACE SYSTEM'S UTILITY IS DERIVED, AND PRESENTS A CHOKE POINT WHICH THE US CAN EXPLOIT, DEGRADE, DISRUPT, DENY, OR DESTROY. AS DISCUSSED EARLIER, MISSION CONTROL CENTERS, GROUND ANTENNAS AND SUPPORT NETWORKS, END-USER TERMINALS/EQUIPMENT SUITES, ETC., ALL REPRESENT LUCRATIVE, VULNERABLE TARGETS WHICH CAN DENY AN ADVERSARY'S ACCESS TO SPACE. THEREFORE, THE US HAS SUFFICIENCY WITH CURRENT, CONVENTIONAL WEAPONS TO PROSECUTE OFFENSIVE COUNTERSPACE OPERATIONS TO DENY AN ADVERSARY'S USE OF SPACE IF IT DEEMS IT NECESSARY, AND HAS LESS NEED TO PURSUE POTENTIALLY DESTABILIZING MEANS OF DOING SO. SIMILARLY, IT HAS SUFFICIENCY WITH THESE SAME CONVENTIONAL FORCES TO CONDUCT ACTIVE DEFENSIVE COUNTERSPACE MISSIONS FOR SUPPRESSION OF ADVERSARY COUNTERSPACE CAPABILITY TO PROTECT US SYSTEMS.

US STRATEGISTS MUST CRITICALLY ANALYZE THE POTENTIAL GAINS, LOSSES, RISKS, AND POTENTIAL UNINTENDED CONSEQUENCES OF TECHNOLOGICAL SOLUTIONS TO COMPLEX NATIONAL SECURITY ISSUES. THE DECISIONS TO ADOPT THE H-BOMB AND MIRV US NUCLEAR MISSILES CLEARLY DEMONSTRATE HOW MILITARY STRATEGY CAN UNDERMINE GRAND STRATEGY. MEMBERS OF THE DEFENSE ESTABLISHMENT PURSUED THESE WEAPONS BECAUSE THEY GENUINELY BELIEVED THEY WOULD PROVIDE GREATER SECURITY FOR THE US. IN ADDITION TO THE GREAT SUMS OF NATIONAL TREASURE INVESTED TO DEVELOP AND FIELD THESE CAPABILITIES, THE US HAS SPENT UNTOLD BILLIONS MORE UNDOING THEIR DEPLOYMENT TO REGAIN STABILITY IT HAD BEFORE THEIR DEVELOPMENT AND DEPLOYMENT. TECHNOLOGY IS A WONDERFUL TOOL, BUT IS NOT A PANACEA FOR ALL US DEFENSE NEEDS OR A SUBSTITUTE FOR THE INTELLECTUAL RIGORS WHICH PROPERLY FRAME DEFENSE ISSUES,

[298] US Congress, Office of Technology Assessment, *Anti-Satellite Weapons, Countermeasures, and Arms Control*, OTA-ISC-281 (Washington, D.C.: Government Printing Office, September 1985), 11-12; Air Force Doctrine Document (AFDD) 2-2.1, *Counterspace Operations,* 2 August 2004, 1-5, 25-34.

CONSIDER AND WEIGH WIDE SETS OF POTENTIAL ALTERNATIVES, AND DELIBERATELY SET IN MOTION A DESIRED COURSE OF ACTION TO INCREASE SECURITY AND STABILITY. LILIENTHAL CAME TO A SIMILAR CONCLUSION IN THE THROES OF THE DEBATE OVER THE H-BOMB, NOTING IN HIS JOURNAL:

> AT PRESENT THE ISSUE SEEMS TO ME FAIRLY SIMPLE, AND FAIRLY CONCLUSIVE: THIS WOULD *NOT* FURTHER THE COMMON DEFENSE, AND IT MIGHT HARM US, BY MAKING THE PROSPECTS OF THE OTHER COURSE—TOWARD PEACE—EVEN LESS GOOD THAN THEY NOW ARE…THERE IS NO SCIENTIFIC OR NON-MILITARY BY-PRODUCT—IT IS STRAIGHT GADGET-MAKING.[299]

STEIN SIMILARLY CONCLUDES THAT "MORE OFTEN THAN NOT—EVEN FOR CONVENTIONAL WEAPONS PROGRAMS—THE TECHNICAL FIX PROVES TO BE THE ILLUSORY, SHORT-LIVED, AND AT BEST A POOR SUBSTITUTE FOR CREATIVE STRATEGY AND TACTICS."[300] AS SEEN, MANY TIMES, THE RELIANCE ON TECHNOLOGY IS OFTEN COUPLED WITH A TENDENCY TO FAVOR THE POSITIVE AIM AND OFFENSIVE STRATEGY.

IN CRAFTING US SPACE STRATEGY, THERE SHOULD BE NO SPACE HAWKS, SPACE DOVES, INEVITABLE WEAPONIZERS, OR MILITARY REALISTS—ONLY STRATEGISTS. CATEGORIZATIONS OF THIS TYPE LEAD TO SINGLE OPTION SET THINKING AND PREDISPOSITIONS TOWARD CERTAIN TYPES OF SOLUTIONS. TRUE STRATEGISTS BEST SERVE THE NATION BY AVOIDING MANY OF THE PITFALLS DESCRIBED, AND AS OBJECTIVELY AS POSSIBLE SEEKING OUT GOOD SOLUTIONS WHICH EXTEND THE US POSITION OF ADVANTAGE FOR AS LONG AS POSSIBLE IN A CONTROLLED, STABLE SECURITY ENVIRONMENT. THE US MUST PUSH THE STATUS QUO WITHOUT PERTURBING STRATEGIC STABILITY AND EMPLOY A STRATEGY WHICH RETAINS THE POLITICAL, MILITARY, AND ECONOMIC ADVANTAGES THE US HAS WORKED SO HARD TO GET. TRUMAN'S DECISION TO PURSUE THE H-BOMB AND SUBSEQUENT STATEMENT THAT "WE HAD NO OTHER COURSE" IS CONTRARY TO STRATEGY—THERE IS ALWAYS ANOTHER OPTION.[301]

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[299] David E. Lilienthal, *The Journals of David E. Lilienthal*, vol. II, *The Atomic Energy Years 1945-1950* (New York, New York: Harper & Rowe, 1965), 582.
[300] Jonathan B. Stein, *From H-Bomb to Star Wars: The Politics of Strategic Decision Making* (Lexington, Massachusetts: Lexington Books, 1984), 81.
[301] Stein, 36.

APPENDIX A – OFFENSIVE OMNIPRESENCE OF SPACE WEAPONS AND STRATEGIC STABILITY

EXAMINATION OF SPACE'S CLOSE COUSIN, NUCLEAR WEAPONS UPON THE ADVENT OF MISSILE DELIVERY SYSTEMS, PROVIDES FURTHER, SPECIAL INSIGHT INTO FUTURE DECISIONS FOR SPACE STRATEGY. AT FIRST GLANCE, IT MIGHT SEEM DIFFICULT TO FIND SIMILARITIES BETWEEN SPACE AND NUCLEAR STRATEGIES WHICH MAKE THEM USEFUL TO INFORM THE MODERN DAY STRATEGIST; HOWEVER, THERE IS AN INTRINSIC QUALITY COMMON TO BOTH NUCLEAR AND SPACE WEAPONS. THE COMMONALITIES THAT MAKE NUCLEAR STRATEGY DECISIONS SO USEFUL IN INFORMING THE MODERN DAY STRATEGIST ON SPACE STRATEGY DECISIONS IS THAT BOTH CREATE AN OFFENSIVE, OMNIPRESENT THREAT TO OTHER STATES AND BOTH INVOLVE EXTREMELY HIGH STAKES NATIONAL SECURITY STRATEGY DECISIONS WITH UNCERTAIN OUTCOMES.

OFFENSIVE OMNIPRESENCE

MISSILE TECHNOLOGY GAVE NUCLEAR WEAPONS A VIRTUAL, OMNIPRESENT, FORWARD-DEPLOYED POSTURE. WITH INTERCONTINENTAL REACH, CONUS-BASING DOESN'T MAKE ICBMS LESS THREATENING TO NEIGHBORING OR DISTANT STATES. NUCLEAR MISSILES ARE OFFENSIVE WEAPONS DUE TO THE LACK OF ANY MEANINGFUL DEFENSE AGAINST THEM, THEIR OMNIPRESENT, FORWARD-DEPLOYED POSTURE, AND THEIR ABILITY TO STRIKE WITH LITTLE OR NO WARNING. THEY ARE INTENDED TO DETER THROUGH THEIR OFFENSIVE POWER, VICE PARRY AN ENEMY BLOW. NATURALLY, THOSE WHO OWN NUCLEAR MISSILES CLAIM THEY SERVE A DEFENSIVE PURPOSE, BUT ALL WHO FACE THEM FULLY SEE THE INHERENTLY OFFENSIVE CHARACTERISTICS OF THESE WEAPONS. ORBITAL WEAPON SYSTEMS EXUDE THE SAME CHARACTERISTICS.

OFFENSIVE OMNIPRESENCE OF ORBITAL SPACE WEAPON SYSTEMS

THE DEPLOYMENT OF WEAPONS IS ORBIT GENERATES THE SAME OMNIPRESENT POSTURE OBSERVED IN NUCLEAR MISSILES. THE OMNIPRESENCE OF WEAPONS IN SPACE CREATES THE PERCEPTION THAT THEY ARE FOR OFFENSIVE PURPOSES, NO MATTER WHAT THEIR STATED OR INTENDED PURPOSE. SPACE WEAPONS ARE A DAMOCLEAN SWORD, HANGING BY A HAIR OVER THE HEAD OF EVERY WORLD LEADER AND CITIZEN EVERY MOMENT OF EVERY DAY. DEPLOYING WEAPONS IN SPACE FUELS THE PERCEPTION THAT THE UNITED STATES WANTS TO DOMINATE AND CONTROL THE PLANET. THE DUAL USE POTENTIAL OF THESE WEAPONS FURTHER FUELS THE PERCEPTION THEY SERVE OFFENSIVE AIMS. EVEN IF AN ORBITAL WEAPON IS DEPLOYED FOR DEFENSIVE PURPOSES SUCH AS MISSILE DEFENSE OR ACTIVE DEFENSE OF ITSELF OR OTHER ORBITAL SPACECRAFT, THE POTENTIAL ALWAYS EXISTS TO EMPLOY THE WEAPON IN AN OFFENSIVE MANNER. ADVERSARIES AND OTHERS WILL MOST LIKELY PERCEIVE THE WORST CASE SCENARIO, AND BELIEVE THE WEAPONS ARE PRIMARILY INTENDED FOR OFFENSIVE PURPOSES. UNLIKE ARMIES, NAVIES, AND AIR FORCES, WHICH HAVE THE STRATEGICALLY ADVANTAGEOUS ABILITY TO FOSTER EITHER OFFENSIVE OR DEFENSIVE PERCEPTIONS, ALL ORBITAL WEAPONS PRESENT AN INHERENTLY OFFENSIVE THREAT AND DESTABILIZE THE SECURITY ENVIRONMENT.

AIR, LAND, AND SEA WEAPONS/FORCES CAN BE WITHDRAWN TO THE CONUS TO APPEAR LESS THREATENING, AND RE-DEPLOYED FORWARD TO PROJECT POWER WHEN NEEDED. MULTIPLE DEPLOYMENT OPTIONS ENABLE THESE FORCES TO SHIFT BETWEEN MORE THREATENING AND LESS THREATENING POSTURES, FOSTERING EITHER OFFENSIVE OR DEFENSIVE PERCEPTIONS. UNLIKE AIR, LAND, AND SEA FORCES, ORBITAL SPACE WEAPONS HAVE A SINGLE DEPLOYMENT OPTION—ORBIT. ORBITAL DEPLOYMENT KEEPS SPACE WEAPONS PERMANENTLY FORWARD-DEPLOYED AND PERCEIVED AS INHERENTLY OFFENSIVE, LIKE A KNIFE HELD AT THE THROAT. BUT ALL SPACE WEAPONS AREN'T DEPLOYED IN ORBIT.

TERRESTRIAL-BASED SPACE WEAPONS

TERRESTRIAL-BASED SPACE WEAPONS HAVE AN ADVANTAGE OVER ORBITAL WEAPONS IN THAT MOST, LIKE OTHER TERRESTRIAL FORCES, HAVE MULTIPLE DEPLOYMENT OPTIONS WHICH CAN FOSTER EITHER OFFENSIVE OR DEFENSIVE PERCEPTIONS. WE HAVE ALL OBSERVED MODERN-DAY AIR, LAND, AND SEA FORCES DEPLOY FORWARD TO THREATEN VIOLENCE, OR EMPLOYED TO ACHIEVE A POLITICAL AIM, AND SUBSEQUENTLY WITHDRAWN TO CONUS OR ANOTHER DEPLOYMENT LOCATION THAT IS LESS THREATENING. AS THE EXISTENCE OF THESE FORCES IS NOT, IN AND OF ITSELF, DESTABILIZING ON A DAY-TO-DAY BASIS, ONE CONCLUDES THAT THEY DESTABILIZE ONLY WHEN DEPLOYED FORWARD OR EMPLOYED. IN THESE CASES, INSTABILITY IS A NECESSARY SIDE EFFECT OF ACHIEVING A SPECIFIC POLITICAL OBJECTIVE TO REGAIN STABILITY AND SECURITY, WHEREUPON THE FORCES ARE ONCE AGAIN WITHDRAWN. ONE CAN THEREFORE CONCLUDE THAT UNLESS TERRESTRIALLY-BASED SPACE WEAPONS INTENDED TO EFFECT AN ADVERSARY'S ON-ORBIT SPACECRAFT, SUB-ORBITAL MISSILES/VEHICLES, OR SATELLITE GROUND STATIONS, MISSION CONTROL CENTERS, LAUNCH FACILITIES, OR END-USER EQUIPMENT TERMINALS AND PERSONNEL, ARE FORWARD DEPLOYED OR EMPLOYED AGAINST THESE TARGETS, THESE WEAPONS LIKELY PRESENT LESS OF AN OFFENSIVE THREAT TO OTHERS AND ARE NOT INHERENTLY DESTABILIZING. HOWEVER, DEVELOPMENT AND FIELDING OF TERRESTRIAL-BASED WEAPONS WHICH EFFECT ORBITAL TARGETS MAY BE A SPECIAL CASE WHICH HAS A HIGHER POTENTIAL TO DESTABILIZE.[302]

LAND-, AIR-, AND SEA-BASED WEAPONS THAT CREATE EFFECTS WHICH DENY AN ADVERSARY'S ACCESS TO ORBITAL SPACE SYSTEMS ARE, ESSENTIALLY, ANTI-SATELLITE WEAPONS NO MATTER WHAT MEANS THEY EMPLOY TO DO THE JOB. DESPITE THE FACT THAT THESE TERRESTRIAL-BASED WEAPONS DO NOT HAVE THE DESTABILIZING, OFFENSIVE OMNIPRESENCE OF ORBITAL WEAPON SYSTEMS, THEIR DEVELOPMENT AND FIELDING MAY HAVE A DESTABILIZING EFFECT DUE TO THEIR INTENDED TARGET'S DEPLOYMENT LOCATION. IN SPITE OF THE FACT ASAT WEAPONS CAN BE CONUS-DEPLOYED TO LOWER THE PERCEPTION OF THE POTENTIAL THREAT THEY POSE, EVERY ADVERSARY SPACECRAFT WILL PASS OVER THESE WEAPONS OR, IN THE CASE OF GEOSTATIONARY SPACECRAFT OR THOSE WITH SPECIAL ORBITAL GEOMETRIES, CAN BE TARGETED FROM MANY NON-THREATENING DEPLOYMENT LOCATIONS. AT

[302] In addition to terrestrially-based ASAT weapons, ICBMs constitute a second special case of terrestrially-based weapons with higher potential to destabilize the security environment.

ALTITUDES OF AT LEAST 90 MILES ABOVE THE EARTH'S SURFACE, A SOVEREIGN NATION'S SPACECRAFT EASILY FALLS WITHIN THE LINE-OF-SIGHT OF SYSTEMS INTENDED TO DENY ACCESS TO THEIR INFORMATION AND EFFECTS. THUS, THERE IS LITTLE TO NO NEED TO FORWARD DEPLOY WEAPONS TO THREATEN OR AFFECT ADVERSARY TARGETS—THE TARGETS LITERALLY COME TO THE WEAPON, OR AT LEAST EASILY FALL WITHIN LINE OF SIGHT OF ONE THAT IS PLACED IN A NON- OR LESS-THREATENING DEPLOYMENT LOCATION. IN SPITE OF THIS CLEAR ADVANTAGE, ACTUALLY EMPLOYING AN ASAT WEAPON AGAINST AN ORBITAL TARGET IS HIGHLY LIKELY TO GENERATE THE SEVERE DESTABILIZING EFFECTS ENCOUNTERED WITH ORBITAL WEAPON SYSTEMS.

MODERN CAPABILITIES OF THESE DEPLOYABLE, COUNTERSPACE SYSTEMS ARE TOUTED FOR THEIR REVERSIBLE AND TEMPORARY EFFECTS, BUT IT IS DOUBTFUL AN ADVERSARY WILL BE AS IMPRESSED BY THE NOBLE MANNER THE US EMPLOYS TO DENY HIS/HER ACCESS TO THE EXPENSIVE SPACECRAFT JUST WHEN HE/SHE NEEDS IT MOST. THE US HAS STATED THAT IT CONSIDERS PURPOSEFULLY INTERFERENCE WITH ONE OF ITS SPACE SYSTEMS AS A DIRECT INFRINGEMENT UPON SOVEREIGN RIGHTS.[303] FURTHER, IT "MAY TAKE ALL APPROPRIATE SELF-DEFENSE MEASURES, INCLUDING…THE USE OF FORCE, TO RESPOND TO SUCH AN INFRINGEMENT ON U.S. RIGHTS."[304] IN MAKING THESE PRONOUNCEMENTS AND TAKING THIS HARD LINE, THE US HAS ESTABLISHED A PRECEDENT AND CUSTOM THAT OTHER NATIONS WILL EXPECT IT TO ABIDE BY, AS WELL. EVEN WITH THE TOUGH STANCE AGAINST THOSE THAT MIGHT CONSIDER OR ATTEMPT TO INTERFERE WITH US SPACE SYSTEMS, IT IS HIGHLY UNLIKELY THE US CAN ATTRIBUTE ATTACKS ON ITS SATELLITES TO ANY PARTICULAR AGGRESSOR AND RESPOND.

THOSE THAT OPERATE SATELLITE SYSTEMS AND ARE FAMILIAR WITH SPACE OPERATIONS KNOW THE DIFFICULTIES IN DETERMINING THE EXACT CAUSE OF MANY SATELLITE MALFUNCTIONS OR "ANOMALIES." IT IS OFTENTIMES DIFFICULT IF NOT IMPOSSIBLE TO DETERMINE IF SATELLITE FAILURES OR PROBLEMS ARE DUE TO AN EVERYDAY SYSTEM ANOMALY, A NATURAL EVENT CAUSED BY THE HARSH SPACE ENVIRONMENT, THE RESULT OF UNINTENTIONAL INTERFERENCE, OR DUE TO A MALICIOUS ATTACK. IF THE US FIELDS WEAPONS THAT CAN INTERFERE WITH SPACECRAFT, FAILURES ON ADVERSARY SPACECRAFT MAY BE ATTRIBUTED AS A US ATTACK EVEN WHEN NO SUCH ATTACK OCCURRED. THIS WOULD OBVIOUSLY HEIGHTEN TENSIONS WHICH COULD ESCALATE INTO LARGER CONFLICT, AND BE QUITE DESTABILIZING. MOREOVER, THIS IS ALREADY BEGINNING TO OCCUR. ACCORDING TO A GAO REPORT, IN 1997 "INDONESIA INTENTIONALLY INTERFERED WITH AND DENIED THE SERVICES OF A COMMERCIAL SATELLITE BELONGING TO THE SOUTH PACIFIC ISLAND KINGDOM OF TONGA BECAUSE OF A SATELLITE ORBITAL SLOT DISPUTE."[305] ATTRIBUTION OF THIS ATTACK WAS EASY BECAUSE INDONESIA ADMITTED TO

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[303] DoD Directive (DoDD) 3100.10, *Space Policy*, 9 July 1999, 3, 6. Note: this DoD policy implements PDD-NSC-49/NSTC-8, "National Space Policy," 14 September 1996 detailed in White House Fact Sheet "National Space Policy," 19 September 1996 available from http://www.au.af.mil/au/awc/awcgate/sep96.htm.

[304] DoD 3100.10, 3, 6.

[305] General Accounting Office, *Report to the Ranking Minority Member, Permanent Subcommittee on Investigations, Committee on Governmental Affairs, U.S. Senate: Critical Infrastructure Protection:*

THE ATTACK, BUT IS NOT LIKELY TO BE SO EASY FOR MOST CASES. ACCURATE ATTRIBUTION MAY, HOWEVER, BE IRRELEVANT IN FUTURE CASES WHERE COUNTRY A MERELY PERCEIVES THAT A SATELLITE FAILURE OR DENIAL IS THE RESULT OF AN ATTACK BY RIVAL COUNTRY B. WHETHER OR NOT AN ATTACK ACTUALLY OCCURRED, THE RESULT WILL BE THE SAME AS IF IT HAD. INCREASED TENSIONS BETWEEN THE TWO COUNTRIES WILL RESULT, AND COUNTRY A IS LIKELY TO ACT/RESPOND, CAUSING A COUNTER REACTION BY COUNTRY B AND SO ON. IN THE END, THERE WILL BE NO PROOF THAT THE FAILURE WAS SIMPLY A SYSTEM ANOMALY, AN ACTUAL ATTACK BY COUNTRY B, OR POSSIBLY EVEN AN ATTACK BY A THIRD PARTY, COUNTRY C, TO INSTIGATE A CONFLICT BETWEEN A AND B FOR THEIR OWN PURPOSES. ONCE MEASURES ARE EMPLOYED AGAINST THESE SPACECRAFT, IT ALSO SETS AN INTERNATIONAL PRECEDENT FOR THE USE OF SUCH SYSTEMS AS AN ACCEPTED, LEGAL FORM OF WARFARE. ONE CAN ONLY EXPECT PROLIFERATION OF THESE SYSTEMS AND THEIR USE TO BECOME MORE COMMON, AS SEEN IN THE INDONESIAN CASE AND OTHERS THAT HAVE OCCURRED SINCE THAT TIME. MOST IMPORTANTLY, THE MERE DEVELOPMENT AND DEPLOYMENT OF THESE SYSTEMS STARTS THE US DOWN THE SLIPPERY SLOPE OF OFFENSIVE SPACE STRATEGY THAT MAY HAVE SERIOUS, NEGATIVE, UNINTENDED CONSEQUENCES THAT MAKE IT HARDER FOR THE US TO PROTECT ITS OWN SYSTEMS AND ACCESS TO SPACE.

DEVELOPMENT AND FIELDING US ASAT SYSTEMS CERTAINLY FACILITATES PROLIFERATION OF SIMILAR WEAPONS—AND THE US HAS THE MOST TO LOSE. THIS IS NOT TO SAY THAT ASATS WILL NOT CONTINUE TO BE DEVELOPED AND FIELDED BY OTHERS IF THE US FOREGOES SIMILAR FIELDING. RATHER, IT IS AN OBSERVATION OF THE CRITICAL NEED TO FULLY ANALYZE AND SEEK UNDERSTANDING OF THE POTENTIAL CONSEQUENCE THAT STRETCH BEYOND THE FIRST ORDER EFFECT GAINED (I.E. ABILITY TO DENY ADVERSARY USE OF SPACE WITH THIS OR THAT STAND ALONE, PROTOTYPE SYSTEM). IT IS ALSO SIMPLY TO POINT OUT THE FACT THAT US RESEARCH, DEVELOPMENT, AND FIELDING WILL LIKELY FACILITATE SIMILAR ADVANCES AND DEVELOPMENT IN OTHER COUNTRIES AND WHAT APPEAR TO BE LOW-THREAT, "R&D," ONE-OF-A-KIND SYSTEMS HELP POTENTIAL ADVERSARIES ASYMMETRICALLY COUNTER ONE OF THE US'S BIGGEST ADVANTAGES.

FACILITATING THE PROLIFERATION OF THESE SYSTEMS IS THE FACT THAT THEY ARE RELATIVELY INEXPENSIVE. WHEREAS DEPLOYING AND EMPLOYING THESE DENIAL, ANTI-SATELLITE SYSTEMS GIVES THE US A GREAT CAPABILITY, IT ALSO COMES WITH A SERIOUS PRICE TAG THAT NEEDS TO BE FULLY CONSIDERED AND UNDERSTOOD BEFORE PREMATURELY COMMITTING TO A COURSE OF ACTION THAT MAY YIELD TERRIBLY NEGATIVE, DESTABILIZING STRATEGIC CONSEQUENCES. THE US MAY BE GIVING AWAY ITS ASYMMETRIC ADVANTAGE IN SPACE BY DEPLOYING AND EMPLOYING SUCH SYSTEMS. IN THE PAST, THE US HAS MAINTAINED ITS ASYMMETRIC ADVANTAGE IN SPACE BECAUSE THE ENTRY BARRIERS IN TERMS OF TECHNOLOGY AND COST WERE SO HIGH THAT THEY PRECLUDED ALL BUT GREAT POWERS FROM THREATENING US SPACE SYSTEMS. SETTING THE PRECEDENT FOR INTERFERENCE WITH SOVEREIGN

Commercial Satellite Security Should Be More Fully Addressed, GAO-02-781 (Washington, D.C.: General Accounting Office, August 2002), 14, on-line, Internet, 8 May 2005, available from http://www.gao.gov/new.items/d02781.pdf.

NATIONAL SPACECRAFT WITHOUT FIRST ENSURING THE REQUISITE PROTECTION OF ONE'S OWN SYSTEMS FROM SUCH ATTACKS IS STRATEGICALLY QUESTIONABLE, AT BEST. IF THE CAPABILITY IS SO IMPORTANT, ONE WOULD THINK THE REQUISITE PREPARATIONS WOULD BE MADE TO PROTECT THE US'S OWN SPACECRAFT AGAINST THE EFFECTS OF THESE TYPES OF WEAPONS BEFORE LIFTING THE VEIL OF SECRECY THAT THE US DOES, IN FACT, HAVE THEM AND WHAT THEY DO.

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