

PERSEVERANCE OF POWER:
THE RELEVANCY OF NUCLEAR DETERRENCE IN THE FUTURE

BY
DAVID P. GOODE, MAJOR, USAF

A THESIS PRESENTED TO THE FACULTY OF
THE SCHOOL OF ADVANCED AIR AND SPACE STUDIES
FOR COMPLETION OF GRADUATION REQUIREMENTS

SCHOOL OF ADVANCED AIR AND SPACE STUDIES

AIR UNIVERSITY

MAXWELL AIR FORCE BASE, ALABAMA

JUNE 2013

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE JUN 2013		2. REPORT TYPE		3. DATES COVERED 00-00-2013 to 00-00-2013	
4. TITLE AND SUBTITLE Perseverance of Power: The Relevancy Of Nuclear Deterrence In The Future				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) School Of Advanced Air And Space Studies,,Air University,,Maxwell Air Force Base,,AL				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT This study will examine the role of nuclear deterrence through historical case studies, applying lessons learned to anticipate the role nuclear deterrence might play in the most likely scenarios of the future. The role of nuclear deterrence has rarely been static, suited for all contexts. Instead, nuclear deterrence has evolved from its earliest use in the post-World War II multipolar environment, to the bipolar international order of the Cold War, through today's setting following the collapse of the Soviet Union. Further, this study demonstrates that while the characteristics of nuclear deterrence have evolved to meet the different contexts of nuclear rivalries, its nature is enduring. It will first present an examination of the elements of nuclear deterrence: credibility, rationality, and stability. It will then overlay these elements upon the types and characteristics of nuclear deterrence practiced throughout the nuclear era: extended and central nuclear deterrence, nuclear deterrence through punishment and denial, and immediate and general nuclear deterrence.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 99	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

APPROVAL

The undersigned certify that this thesis meets master's-level standards of research, argumentation, and expression.

COLONEL MELVIN G. DEAILE

25 April 2013

DR. STEPHEN E. WRIGHT

25 April 2013

DISCLAIMER

The conclusions and opinions expressed in this document are those of the author. They do not reflect the official position of the US Government, Department of Defense, the United States Air Force, or Air University.

ABOUT THE AUTHOR

Major David P. Goode enlisted in the Air Force in 1992 and served four years as a Bombing Navigation Systems Specialist at Castle Air Force Base, California, and Barksdale Air Force Base, Louisiana. He commissioned as a Distinguished Graduate through the Air Force Reserve Officer Training Corps at the University of Georgia in 1998. Following commissioning, David served in various aircraft maintenance and munitions flight commander positions at Nellis Air Force Base, Nevada, supporting F-16 aircraft. After two years, he transferred to Royal Air Force Lakenheath, United Kingdom, where he served in aircraft maintenance and munitions operations officer positions, supporting F-15C and F-15E aircraft. David participated in the Air Force Logistics Career Broadening Program and served in wholesale logistics development positions at Ogden Air Logistics Center, and subsequent operations officer positions at Hill Air Force, Utah. He subsequently served in the Headquarters Air Force Materiel Command Commander's Action Group at Wright-Patterson Air Force Base, Ohio, during which time he deployed to Bagram Air Base Afghanistan in support of Operation Enduring Freedom. David then attended Intermediate Developmental Education in Washington, D.C. as a Strategic Policy Intern in the Air Force Fellows Program. As a fellow, he served in the Chairman of the Joint Chiefs of Staff Chairman's Action Group and the Secretary of the Air Force for Acquisition Executive Action Group. Following his fellowship, he commanded a munitions squadron at Whiteman Air Force Base, Missouri, supporting the strategic mission of the B-2 Stealth Bomber. He holds a bachelor of business administration degree from the University of Georgia and a master of business administration degree from Auburn University. Major Goode will command the 380th Expeditionary Aircraft Maintenance Squadron in Southwest Asia following SAASS.

ACKNOWLEDGEMENTS

I would like to acknowledge several people without whose support I would never have completed this study. I want to thank Doctor James Forsyth for his exceptional guidance and for starting me down the path to a successful thesis. I would also like to thank Colonel Melvin Deaile for serving as an inspirational thesis advisor, stimulating ideas and motivating me to keep pushing forward. Further, I would like to extend my gratitude to Dr. Stephen Wright for providing encouragement and helpful advice—a LOT of helpful advice. To Dr. Forsyth, Colonel Deaile, and Dr. Wright, you have my most sincere appreciation.

Most importantly, I would like to thank my family. To my wonderful and extremely patient bride, I owe everything. She has taken on the role of a single parent over the past six months, allowing me to dedicate time to this process. She facilitated my research and study at home so I would be able to maintain a presence around our children. Meanwhile, I missed countless family events, worked through nights and weekends, and was often mentally absent even when physically present. To my daughters, I also owe my deepest gratitude. While at home, I spent most of my time alone locked in the office, or if present, with headphones on, buried under a stack of books and a laptop. Although I preferred to spend my time with them, I hope this process gave them a glimpse into the value of hard work and determination.

ABSTRACT

This study will examine the role of nuclear deterrence through historical case studies, applying lessons learned to anticipate the role nuclear deterrence might play in the most likely scenarios of the future. The role of nuclear deterrence has rarely been static, suited for all contexts. Instead, nuclear deterrence has evolved from its earliest use in the post-World War II multipolar environment, to the bipolar international order of the Cold War, through today's setting following the collapse of the Soviet Union.

Further, this study demonstrates that while the characteristics of nuclear deterrence have evolved to meet the different contexts of nuclear rivalries, its nature is enduring. It will first present an examination of the elements of nuclear deterrence: credibility, rationality, and stability. It will then overlay these elements upon the types and characteristics of nuclear deterrence practiced throughout the nuclear era: extended and central nuclear deterrence, nuclear deterrence through punishment and denial, and immediate and general nuclear deterrence.

Finally, it will apply the results of the historical examination of the types, characteristics, and elements of nuclear deterrence to likely future scenarios the United States will face. In doing so, it concludes that the US needs a nuclear deterrence strategy suitable for a multipolar world consisting of major nuclear powers, small nuclear states, and non-state actors with nuclear capabilities. A complex, multipolar world demands a responsive, integrated approach. As part of a grand strategy implementing the various elements of national power, the United States should adopt a tailored nuclear deterrence posture that integrates prevention and preemption where necessary, and incorporates focused elements of nuclear deterrence with active defense.

CONTENTS

Chapter	Page
Disclaimer.....	iii
About the Author.....	iv
Acknowledgements.....	v
Abstract.....	vi
1 Introduction.....	1
2 Nuclear Deterrence Theory and Strategy.....	7
3 Eisenhower's New Look through the Cuban Missile Crisis.....	14
4 Nixon's Strategic Sufficiency through the Cold War Arms Race.	30
5 The Modern Era of Nuclear Deterrence.....	59
6 The Role of Nuclear Deterrence in the Future.....	71
Bibliography.....	85

ILLUSTRATIONS

Table	Page
1 Analytical Framework Summary	10
2 Analytical Framework Summary—Eisenhower's New Look through the Cuban Missile Crisis.....	29
3 Analytical Framework Summary—Nixon's Strategic Sufficiency through the Cold War Arms Race.....	58
4 Analytical Framework Summary—The Modern Era of Nuclear Deterrence.....	70

Chapter 1

Introduction

Some argue that the spread of these weapons cannot be stopped, cannot be checked—that we are destined to live in a world where more nations and more people possess the ultimate tools of destruction. Such fatalism is a deadly adversary, for if we believe that the spread of nuclear weapons is inevitable, then in some way we are admitting that the use of nuclear weapons is inevitable.

-United States President Barack Obama

In his remarks in Prague's Hradcany Square in April 2009, President Barack Obama stated his conviction to seek a world free of nuclear weapons, proclaiming we “must ignore the voices who tell us that the world cannot change.”¹ The President repeated his vow one year later at the Global Zero Summit in Paris, where then-Russian President Dmitry Medvedev shared his sentiments. In Paris, President Obama said, “as long as the US maintains nuclear weapons, however, it would be committed to a safe, secure, and effective nuclear arsenal.”²

While a nuclear weapons-free world is appealing, it may not be practical in the near future. This study will examine the role of nuclear deterrence in historical context, and demonstrate that while, in Clausewitzian fashion, the characteristics of nuclear deterrence will evolve, the fundamental nature of nuclear deterrence will endure.³

Background

According to Greek and Roman mythology, Prometheus, taking pity on the plight of humans, stole the gift of fire from Vulcan's furnace,

¹ Zachary Roth, <http://www.theatlantic.com/politics/archive/2011/09/global-zero-obamas-distant-goal-of-a-nuclear-free-world/245806/>.

² Global Zero, "Statement from President Barack Obama," <http://www.globalzero.org/en/opening-day-statement-global-zero-leaders>.

³ C. Carl von Clausewitz, M.E. Howard, and P. Paret, *On War* (Princeton University Press, 2008), 89.

enraging the gods. To punish humanity, Zeus ordered his son, Vulcan, to forge a beautiful woman, Pandora, and the 'gift' of a box, with the warning never to open the gift. Pandora's curiosity bested her, and she opened the box, unleashing all the evils known to man.⁴

On 6 August 1945, the United States dropped the first atomic bomb on the Japanese city of Hiroshima, killing 66,000 immediately, with tens of thousands to perish in the aftermath. Three days later, a second bomb fell on Nagasaki, killing 40,000 immediately, many more spared only by the terrain of the city. The weapons achieved fourteen and twenty kilotons respectively, and signaled the opening of the atomic Pandora's Box to humankind.⁵

Since the splitting of the atom, the world has embarked upon a path of which there may only be one direction. That groundbreaking scientific discovery ultimately led to the development of the atomic bomb and its only use, by the United States, against Japan. With the escalating destructive capability of nuclear weapons came the realization of the power they conferred to the nations that possessed them, driving others to seek to either join the nuclear club, or ally with one that already has, in an effort to ensure security in a suddenly more dangerous world. The Soviet Union signaled its entry into the nuclear age with its detonation of an atomic bomb in 1949, the first salvo in an arms race that would last for over forty years.⁶ During that time, the count of nuclear weapons-possessing nations reached thirteen. South Africa and the former Soviet satellites of Belarus, Kazakhstan, and Ukraine have since abandoned their nuclear programs, leaving nine present day members of the nuclear club: United States, Russia, China, United

⁴ "Myths Encyclopedia: Myths and Legends of the World," <http://www.mythencyclopedia.com/Pa-Pr/Prometheus.html>.

⁵ Lawrence Freedman, *The Evolution of Nuclear Strategy*, 2nd ed. (New York: St. Martin's Press, 1989), xiii.

⁶ L. Douglas Keeney, *15 Minutes : General Curtis LeMay and the Countdown to Nuclear Annihilation*, 1st ed. (New York: St. Martin's Press, 2011), 58.

Kingdom, France, India, Pakistan, North Korea, and Israel, the latter being undeclared.⁷

Research Question

This paper will seek to answer the question, “*what role will nuclear deterrence play in the future?*” As will be addressed in the next chapter, the role of nuclear deterrence has rarely been static, suited for all contexts. Instead, the application of nuclear deterrence has evolved from its earliest use in the post-World War II multipolar environment to the bipolar international order of the Cold War through today’s setting following the collapse of the Soviet Union. As the world moves into the future, there are a number of potential scenarios of international order that may emerge, some more likely than others. This study will examine the role of nuclear deterrence through historical case studies, applying lessons learned to anticipate the role nuclear deterrence will play in the most likely scenarios of the future.

Limitations

The following examination concentrates on the role of nuclear deterrence from a decidedly American perspective. This approach does not discount the truly international characteristics of nuclear deterrence. In fact, there is no corner of the globe that would be unaffected by the use or threatened use of nuclear weapons.

Its focus is specifically the role of *nuclear* deterrence. Deterrence connotes a wide range of coercive actions, some involving the use or threatened use of military force, others purely diplomatic. Thus, the nuclear and non-nuclear variants of deterrence are distinctive and

⁷ Arms Control Association, "Nuclear Weapons: Who Has What at a Glance," <http://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat>.

require a separate examination. To properly frame this study, it is appropriate to limit the focus to the nuclear variant of deterrence.

Methodology

This study will focus on the concepts of credibility, rationality, and stability, as the basis of the analytical framework upon which it will take place. It focuses on these particular concepts because of their relative consistency across the range of deterrence literature. While interpretations differ slightly, experts mostly agree on the fundamental meaning of these terms. To help illuminate the subject matter, the study will begin by discussing the concept of nuclear deterrence as developed by leading theorists, while explaining common terminology that form the conceptual bases of nuclear deterrence.

It will then examine the historical role of nuclear deterrence through the analysis of case studies, both during and after the Cold War. Through this process, it will explore the strategic environment and the corresponding nuclear deterrence policy during each period, focusing on the relationship of the policy employed to the concepts of credibility, rationality, and stability. Finally, it will apply the results of this historical examination to the most likely prospective scenarios to anticipate the most appropriate future role of nuclear deterrence.

The first period examined includes Eisenhower's New Look through the Cuban Missile Crisis, a period of rapid learning as US nuclear deterrence strategy evolved to meet the growing Soviet threat. Next, the focus shifts to President Nixon's program of Strategic Sufficiency, and the Soviet and American arms race, when the basic dynamics of nuclear deterrence became somewhat understood to both sides. The study will then focus on modern era since the fall of the Soviet Union. While the basic dynamics of nuclear deterrence theory remain unchanged, the Cold War no longer serves as a valid model for examining the role of modern

nuclear deterrence. Finally, the essay concludes by examining the future role of nuclear deterrence based upon the most likely future scenarios. It will anticipate the role of nuclear deterrence in the future, and conclude by demonstrating how the US might employ a rational approach to establish a credible threat in order to maintain stability in a complex future environment.

The Problem and its Setting

President Obama's desire to see a world free of nuclear weapons is one shared by many, but its possibility seems unlikely.⁸ The cost of maintaining national interests would be unaffordable if another nation gained a nuclear advantage in the absence of a United States nuclear arsenal. To this point, maintaining a viable stockpile has proven the most effective method of dissuading other nations from developing their own nuclear arsenal.⁹

Therefore, the focus should be the proper form of nuclear deterrence to meet the future challenges of a complex international environment. In addition, one must address the range of potential threats, as well as the combination of military and diplomatic elements best suited to coerce potential adversaries and provide security for allies. Although the Cold War ended and nuclear deterrence no longer seems "en vogue," the US nuclear arsenal and its associated deterrent value remains essential to national security. The challenge is to determine the likely scenarios for the future international order and the role of nuclear weapons and nuclear deterrence in that setting.

There are two sides to the debate as to the efficacy of nuclear deterrence and its ability to maintain peace. One argument is that

⁸ Herbert F. York, *Arms and the Physicist*, Masters of Modern Physics (Woodbury, NY: American Institute of Physics, 1995), 288.

⁹ York, *Arms and the Physicist*: 288.

nuclear weapons have kept the peace for over 65 years, preventing general wars while discouraging the escalation of regional conflicts.¹⁰ The opposing view is that other factors—economic trading ties, alliances, and the growth of liberal democracies—have served as the true bases for peace. Skeptics suggest that the effectiveness of nuclear deterrence may not be provable, as one could only achieve it through a non-event—the lack of nuclear war.¹¹ In other words, proof of the effectiveness of nuclear deterrence is, in a sense, proof by absence.¹²

Through the examination of historical case studies and the application of nuclear deterrence during each period examined, this study will show that nuclear deterrence has indeed played a major role over the past six and a half decades, and that conditions are not likely to be such that nuclear deterrence will diminish in any meaningful way. While the characteristics of the strategic environment have changed, the volatile nature of international relations remains relatively consistent. For these reasons, nuclear deterrence will continue to serve a vital, although more complex role, for as long as nuclear weapons capability exists. By applying the concepts of credibility, rationality, and stability, one is able to understand the enduring nature of nuclear deterrence, and anticipate the role of nuclear deterrence in the future.

¹⁰ John Lewis Gaddis, *The Long Peace: Inquiries into the History of the Cold War* (New York: Oxford University Press, 1987), 33-43.

¹¹ James E. Dougherty and Robert L. Pfaltzgraff, *Contending Theories of International Relations : A Comprehensive Survey*, 4th ed. (New York: Longman, 1997), 392.

¹² Lawrence Freedman, *Deterrence* (Cambridge, UK ; Malden, MA: Polity Press, 2004), 29.

Chapter 2

Nuclear Deterrence Theory and Strategy

While the character of nuclear deterrence has varied throughout its existence, its nature has remained remarkably consistent. Accordingly, there are basic concepts that undergird what we have come to understand as nuclear deterrence. The idea of nuclear deterrence began conceptually as an attempt to influence “the behavior of others through conditional threats”; yet, in the nuclear age, it grew into something more.¹ The nuclear age elevated deterrence into a general theory of strategic relationships with superpowers seeking to manipulate each other’s behavior in an effort to render their relationship somewhat less terrifying.² The intensity of the Cold War and the presence of nuclear weapons elevated nuclear deterrence as a practice into an elaborate strategy and generated a complicated theory in its own right.³

Compellence and deterrence taken together comprise the essential components of coercion.⁴ Compellence involves a threat to seek a change to the status quo, while deterrence is concerned with maintaining it. Where compellence is concerned with *producing action* against one’s will, deterrence is about *inducing inaction*.⁵ Maybe more important than the distinctions between compellence and deterrence strategies is their interrelatedness, the idea that one exists in concert with the other. While the two concepts differ conceptually, in practice they overlap. In fact, when viewed from the different perspectives of parties to a conflict,

¹ Freedman, *Deterrence*: 6.

² Freedman, *Deterrence*: 12-15.

³ Patrick Morgan, "The Practice of Deterrence," in *International Practices*, ed. Emanuel Adler and Vincent Pouliot (Cambridge New York: Cambridge University Press, 2011), 150.

⁴ Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 2008), 4-5.

⁵ Freedman, *Deterrence*: 110.

the presence of both concepts may be present simultaneously, depending on perspective.⁶

Nuclear deterrence possesses physical and psychological dimensions, with the physical focused on the means to inflict harm, and the psychological focused on the impact on perceptions and decisions. The psychological aspect gets to the heart of nuclear deterrence, and the manipulation of an opponent's thought processes and decision calculus.⁷ By threatening them with an unacceptable response, the adversary's cost-benefit calculus leads them to conclude an attack not to be the best choice, thus maintaining the status quo.⁸

While nuclear deterrence is primarily concerned with influencing behavior through the threat of harm, these threats come in various forms. Freedman lists three types and characteristics of nuclear deterrence that this study will use to illuminate the following discussion: extended and central, punishment and denial, and immediate and general.⁹

Types and Characteristics of Nuclear Deterrence

Extended nuclear deterrence involves threatening nuclear retaliation for a nuclear or non-nuclear attack on an ally, while *central* nuclear deterrence is primarily concerned with a nuclear response to an attack on one's homeland.¹⁰ The credibility of extended nuclear deterrence was a source of concern for decision makers throughout the Cold War, and remains a source of debate today. Notably, central deterrence faces a significantly lower threshold of credibility for a response when considering a reaction to an attack. Further, the scrutiny

⁶ Patrick M. Morgan, *Deterrence Now*, Cambridge studies in international relations (Cambridge England ; New York: Cambridge University Press, 2003), 2-3.

⁷ Morgan, *Deterrence Now*: 13.

⁸ Morgan, *Deterrence Now*: 44.

⁹ Freedman, *Deterrence*: 32.

¹⁰ Freedman, *Deterrence*: 35.

provided extended nuclear deterrence is largely absent, as the capability and will to defend one's most vital interests are largely unquestioned.

Nuclear deterrence through *punishment* involves a countervalue strategy, by threatening to punish what the enemy values most, its population and economic assets. Conversely, nuclear deterrence through *denial* involves a counterforce strategy, denying the enemy any gains it might achieve by threatening an attack on its military forces.¹¹ During the early stages of the Cold War, punishment strategies served as the basis for US deterrent strategy, yet that trend permanently reversed in the 1960s.

Immediate nuclear deterrence describes deterrence at a time of significant crisis, where "time is short and passions are high."¹² It describes a relationship among states where general deterrence has failed and one is considering an attack while the other is actively mounting opposition to prevent it.¹³ Conversely, *general* nuclear deterrence involves a deterrent relationship in the absence of an immediate crisis. The Cuban Missile Crisis notwithstanding, this was the case through most of the Cold war, as nations regulated their relationships to the point where neither considered mounting an attack.

Elements of Nuclear Deterrence

Three interrelated elements are central to the challenges of nuclear deterrence and, therefore, are considered: credibility, rationality, and stability. Throughout the case studies examined, the interplay between these three components is a consistent theme. US leaders continually adjusted deterrence policy to strike a balance using degrees of rationality

¹¹ Steven Lee, *Morality, Prudence, and Nuclear Weapons*, Cambridge Studies in Philosophy and Public Policy (Cambridge England ; New York, NY, USA: Cambridge University Press, 1993), 161.

¹² Freedman, *Deterrence*: 40.

¹³ Patrick M. Morgan, *Deterrence: A Conceptual Analysis*, 2nd ed., Sage library of social research (Beverly Hills: Sage Publications, 1983), 28-30, 40-43.

in order to convey a credible threat, and achieve stability. These concepts serve as the basis for the following framework summary used throughout the study.

Table 1: Analytical Framework Summary

	Analytical Framework Summary					
	Type & Characteristics of Nuclear Deterrence					
	Bipolar					Unipolar
	Eisenhower	Kennedy	Nixon	Arms Race-Carter	Arms Race-Reagan	Modern
Extended &/or Central						
Punishment &/or Denial						
Immediate &/or General						
Credibility						
Rationality						
Stability						

Source: Author's original work

Credibility is fundamental to the concept of nuclear deterrence. It is, in essence, the “quality of being believed.”¹⁴ In this sense, it is not only a country’s *capacity* to harm that supports its credibility, but also its ability to convince others it has the *will* to do so if necessary.¹⁵ For nuclear deterrence to work, the threat of harm must be persuasive. To be persuasive, one must convince an adversary that it is able to follow through with action if necessary, and that the threat is not likely a bluff.¹⁶

¹⁴ Morgan, *Deterrence Now*: 15.

¹⁵ Morgan, *Deterrence Now*: 15.

¹⁶ Schelling, *Arms and Influence*: 35.

One establishes credibility by communicating a threat, making it credible to potential foes, and controlling it. To maintain credibility, he must not get into a situation where he fails to act as promised, lest he exposes his credibility. Uncertainty plays a central role in maintaining credibility as well, with the threat that leaves “something to chance,” and possibility of things getting “out of hand” serving to dissuade an adversary from aggression.¹⁷

Another element central to nuclear deterrence is that of *rationality*. During the Cold War, nuclear deterrence emerged as an application of a broadly rational decision approach. In essence, it assumes states will act in accordance with “expected-utility models and cost-benefit calculations.”¹⁸ Assuming a rational value-maximizing mode of behavior, nuclear deterrence focuses on the fact that each participant’s choice depends largely on what he expects the other to do.¹⁹ While nuclear deterrence theory assumes both a rational challenger and a rational deterrer, a paradox is that deterrers are apt to *appear* irrational, a trait possibly helpful for achieving successful nuclear deterrence. Simply, the willingness to annihilate an adversary and, in the process, ensure self-annihilation, causes an adversary to pause, despite its apparent irrationality.²⁰

While credibility assumes rationality to demonstrate capacity and will, *stability* is concerned with maintaining the status quo and preventing the occurrence of war. Failing that, if war occurs, stability is concerned with the prevention of escalation.²¹ Nuclear weapons produce strategic effects, and theoretically through their presence compel political

¹⁷ Thomas C. Schelling, *The Strategy of Conflict* (Cambridge,: Harvard University Press, 1960), 189, 200.

¹⁸ Dougherty and Pfaltzgraff, *Contending Theories of International Relations : A Comprehensive Survey*: 377.

¹⁹ Schelling, *The Strategy of Conflict*: 15.

²⁰ Morgan, *Deterrence Now*: 78.

²¹ Morgan, "The Practice of Deterrence," 150-54.

leaders to behave cautiously. This behavior produces restraint, and reinforces international stability.²² Through most of the Cold War, nations offset stability concerns by maintaining the ability to inflict unacceptable damage on an opponent with threats to escalate large-scale retaliatory destruction.²³

Conclusion

At its core, nuclear deterrence is concerned with influencing the behavior of others. To exert this influence, decision makers manipulate many elements to include credibility, rationality, and stability. These interrelated concepts form the bases for the case study analyses that will take place in subsequent chapters.

As demonstrated through the following case studies, establishing credibility has been a consistent challenge in the ever-changing nuclear deterrence policies implemented by US decision makers. Throughout the nuclear era, these leaders have grappled with the philosophical struggle between an 'all-or-nothing' punishment strategy and the desire for flexible options below the threshold of total nuclear war.

In addition, the following examples will demonstrate the role, and sometimes the paradox, of demonstrating rationality in establishing nuclear deterrence. While rationality amongst rivals in a bipolar environment appears facilitative to stability, a degree of irrationality also appears contributory in establishing credibility. For instance, one's willingness to engage in seemingly irrational behavior, such as committing to the use of nuclear weapons and risking self-annihilation, might bolster credibility and cause an adversary to pause. As is the case

²² James Wood Jr. Forsyth, B. Chance Saltzman, and Gary Jr. Schaub, "Remembrance of Things Past," *Strategic Studies Quarterly* (Spring 2010): 75.

²³ Morgan, "The Practice of Deterrence," 152.

with credibility and stability, rationality appears spectrally and contextually based.

Finally, stability was an aim of the nuclear policies implemented by the superpowers during the Cold War. Their relationship was stable, for the most part, because leaders in Moscow and Washington established mutually accepted strategic norms of behavior that discouraged the direct use of military force.²⁴ In the post-Cold War era, despite the loss of balance provided by bipolarity, the United States maintained stability while diminishing the role of nuclear weapons in its national security posture. Whereas the US and Soviet Union sought to maintain the status quo, however, new powers might find it beneficial to challenge it, at the expense of stability.

²⁴ William James Murphy, ""The Elusive Essence: Theorizing Cold War Stability and the Story of the US-Soviet Encounter During the October War"," <http://repository.upenn.edu/dissertations/AAI3043919>

Chapter 3

Eisenhower's New Look through the Cuban Missile Crisis

This chapter will focus on President Dwight Eisenhower's New Look National Security Policy through the Cuban Missile Crisis under the Kennedy Administration. During this period, the US experienced a process of rapid learning as its nuclear deterrence strategy evolved from an all-or-nothing approach of massive retaliation to an approach that allowed flexible options short of the nuclear threshold.

Eisenhower's New Look

During this time, nuclear deterrence served a pinnacle role in underwriting Eisenhower's New Look policy and its corresponding threat of massive nuclear retaliation. Eisenhower's somewhat inflexible and seemingly irrational policies were ultimately credible and achieved stability in a volatile environment.

Background

Eisenhower's concern over military costs served as the impetus for his New Look policy and his nuclear deterrence strategy of massive retaliation, as he sought to establish an affordable, yet credible nuclear threat to counter the Soviet's conventional advantage. His reliance on nuclear superiority to control military costs and counter Soviet conventional strength depended largely on his ability to make the nuclear threat credible to the Soviets.

Eisenhower's policy of massive retaliation grew out of the writings of John Foster Dulles, and hinged on the threat of a punishment strategy.¹ While not specific, Dulles suggested the West should launch a

¹ Campbell Craig, *Destroying the Village : Eisenhower and Thermonuclear War* (New York: Columbia University Press, 1998), 41.

nuclear attack ‘where it hurts’ in response to an act of significant communist aggression.² After Dulles became Secretary of State, he reflected his ideas in NSC-162/2, where he deemed developing and maintaining a strong military posture to inflict massive retaliatory damage essential.³ It was widely believed that US doctrine then meant a response to aggression would involve massive retaliation with nuclear weapons.⁴ The new policy served as a clear signal to others of the willingness of the United States to again use atomic weapons if necessary to achieve national objectives.⁵

After the development of the thermonuclear bomb, Eisenhower realized the complete destructiveness of nuclear weapons and believed there would be no winners in a nuclear war, and that “the destruction might be such that we might have ultimately to go back to bows and arrows.”⁶ Believing that military commanders would always use every weapon available rather than be defeated, he was concerned that World War III would be an all-out thermonuclear confrontation, and planning for other scenarios in such a context would serve no purpose. Eisenhower, therefore, determined that the primary objective of his presidency was the avoidance of nuclear war with the Soviet Union.⁷

Extended and Central Nuclear Deterrence

Extended nuclear deterrence and the US commitment to Europe were dominant during Eisenhower’s national security policy. The US President overtly signaled US commitment in National Security Council Paper Number 162/2, developed in 1953. This document stated that US strategy served *mutual* security and defense against the Soviet threat,

² Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 43.

³ Freedman, *The Evolution of Nuclear Strategy*: 77.

⁴ Freedman, *The Evolution of Nuclear Strategy*: 81.

⁵ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 48.

⁶ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 56.

⁷ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 61.

proclaiming that a Soviet attack on allies would involve the United States in war with the USSR. Further, it explicitly stated that deterrence to Soviet aggression against Western Europe was, “the manifest determination of the United States,” and that the US would “use its atomic capability and massive retaliatory striking power if the area is attacked.”⁸

As had been the case during the Truman Presidency, Berlin continued to symbolize US commitment to Europe under Eisenhower.⁹ To bolster the US’ extended deterrence posture, his administration drafted a series of policy documents that symbolized US commitment. In 1954, the NSC developed NSC-5404/1, concluding that an attack upon West Berlin was tantamount to an attack on a North Atlantic Treaty Organization (NATO) nation.¹⁰ Subsequently in 1957, NSC-5727 stated even more explicitly that Soviet aggression in Berlin would result in “immediate and forceful action to counter the Soviet challenge.”¹¹

To reinforce his commitment to allies and ultimately contain Soviet aggression, Eisenhower built a nuclear force consisting of a small deployment of tactical nuclear weapons in Europe, a modest Civil Defense force, and an integrated bomber force, the centerpiece of the New Look.¹² Throughout the 1950s, he would grow the bomber force by over three hundred fifty percent and begin a massive buildup of forward-based US Air Forces in Europe, bolstering NATO capabilities against the Soviet-led Warsaw Pact.¹³

⁸ "National Security Council Paper Number 162/2," <https://www.fas.org/irp/offdocs/nsc-hst/nsc-162-2.pdf>.

⁹ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 14.

¹⁰ NSC 5404/1, "Progress Report on U.S. Policy Towards Berlin," DDC 1993.

¹¹ Supplement I to NSC-5727, "U.S. Policy Towards Germany," DDC 1993 (December 13, 1957), 1-2.

¹² Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 45-46.

¹³ Archive of Nuclear Data, "Table of US Strategic Bomber Forces," <http://www.nrdc.org/nuclear/nudb/datab7.asp>

Nuclear Deterrence through Punishment and Denial

Eisenhower's nuclear deterrence policy rested upon a punishment strategy. This approach might have reflected less a matter of will than of capabilities during the timeframe, based on the heightened demands of counterforce targeting. In line with massive retaliation, the first Single Integrated Operation Plan, SIOP-62, implemented during the final months of the Eisenhower Administration, called for attacks on all major Soviet and other Communist cities in the event of war, in addition to industrial, command, and military targets. In some instances, the plan targeted a single city with ten bombs. In the event of war, it estimated up to 525 million casualties.¹⁴

Immediate and General Nuclear Deterrence

Eisenhower based his nuclear deterrence strategy on a posture of general deterrence. General deterrence exists when an actor possesses a broad military capability and issues wide-ranging threats of a punitive response to deter an opponent from attacking.¹⁵ The Eisenhower Administration established a general deterrence posture by sending a clear message to the Soviets that any incursion would result in massive retaliation. The administration pursued this messaging through materiel means, such as the growth of its bomber force and military basing posture in Europe, and through verbal signaling, such as Secretary of State Dulles' 1954 speech to the Council on Foreign Relations. For his part, Dulles proclaimed, "the way to deter aggression is for the free community to be willing and able to respond vigorously at places and with means of its own choosing."¹⁶ The Secretary went on to emphasize

¹⁴ Desmond Ball and Jeffrey Richelson, *Strategic Nuclear Targeting*, Cornell Studies in Security Affairs (Ithaca, N.Y.: Cornell University Press, 1986), 238-40.

¹⁵ Morgan, *Deterrence Now*: 9.

¹⁶ "The Strategy of Massive Retaliation," Speech of Secretary of State John Foster Dulles before the Council on Foreign Relations, <http://www.freerepublic.com/focus/f-news/1556858/posts>.

the deterrent value of massive retaliatory power, after which the phrase *massive retaliation* gained widespread attention.

Credibility, Rationality, and Stability

The Eisenhower Administration successfully communicated massive retaliation as a credible, believable threat. Patrick Morgan includes Eisenhower as a member of the *Massive Destruction School*, adherent to the idea that nuclear deterrence is most stable under the threat of complete destruction.¹⁷ Certainly, Eisenhower's nuclear deterrence posture in responding to the Soviet threat supports this idea, as his administration openly deliberated the use of nuclear weapons, both in policy statements and strategic planning documents. Further, the US president restructured US conventional forces and removed limited non-nuclear planning from defense policy, so that any war directly between the US and the Soviet Union would seemingly escalate automatically into an all-out nuclear war.¹⁸ Moreover, during his presidency, Eisenhower grew the US nuclear stockpile by over one thousand percent.¹⁹ Through these efforts, Eisenhower sought to convince Soviet leaders of the certainty of retaliation to their hostile actions, believing they would not act aggressively if they perceived their regime and national survival to be at risk.²⁰ In doing so, he successfully established credibility by projecting massive nuclear capability and effectively communicating the will to employ nuclear weapons if necessary.

Further, while Eisenhower's approach might appear irrational on the surface, a closer look reveals its reasonableness. Eisenhower

¹⁷ Morgan, *Deterrence Now*: 23-24.

¹⁸ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 55.

¹⁹ "National Resources Defense Council: Archive of Nuclear Data," <http://www.nrdc.org/nuclear/nudb/datainx.asp>.

²⁰ Robert R. Bowie and Richard H. Immerman, *Waging Peace : How Eisenhower Shaped an Enduring Cold War Strategy* (New York: Oxford University Press, 1998), 248.

understood the devastating potential of nuclear weapons, but also believed that leaders would use whatever weapons were at their disposal in the event of war.²¹ Therefore, to avoid a progression of events that might lead to nuclear devastation, he determined to appear willing to use nuclear weapons.²² This highlights the paradox of effective nuclear deterrence—in this case, massive retaliation appears irrational, yet by that very appearance, becomes effective.²³ Dulles' proclamation that the US would reinforce its defenses through the deterrent of massive retaliatory power, and that it would maintain the capacity to retaliate through any means, reinforced the administration's apparent willingness to use nuclear weapons.²⁴ Similarly, Eisenhower made his intentions clear by proclaiming that the US would make plans to use the bomb if necessary, in order to preserve peace and achieve victory.²⁵ Additionally, the administration took steps to publicize its nuclear strategy, specifically its willingness to consider the use of nuclear weapons in the event of hostilities.²⁶ While massive retaliation might not have been an entirely rational approach, with benefit of hindsight, it certainly appears a sensible solution to the issues facing US security policy during the 1950s.²⁷

Finally, Eisenhower effectively used the threat of nuclear weapons to achieve strategic results, compelling Soviet leaders to behave cautiously and reinforcing international stability. By demonstrating a willingness to use nuclear weapons through public gestures and policy statements, the administration established the credibility of its nuclear deterrent and influenced Soviet behavior. Dulles' massive retaliation

²¹ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 60.

²² Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 69.

²³ Morgan, *Deterrence Now*: 78.

²⁴ "The Strategy of Massive Retaliation".

²⁵ Saki Dockrill, *Eisenhower's New-Look National Security Policy, 1953-61* (Houndmills, Basingstoke, Hampshire, New York: Macmillan Press; St. Martin's Press, 1996), 60.

²⁶ Dockrill, *Eisenhower's New-Look National Security Policy, 1953-61*: 54.

²⁷ Dockrill, *Eisenhower's New-Look National Security Policy, 1953-61*: 272.

speech and subsequent statements emphasized that the administration was giving significant emphasis to nuclear weapons in US strategy.²⁸ Additional public enunciations of US nuclear policy by other administration officials further demonstrated willingness to use nuclear weapons if necessary, as codified in NSC-162/2.²⁹ Moreover, Eisenhower's removal of limited options from defense policy ensured that any major attack would quickly escalate and be so devastating that decision makers would shrink away from it.³⁰ Ultimately, the evidence suggests that Eisenhower's efforts bolstered the strategic effects of US nuclear deterrence, and subsequently influenced Soviet leaders to exercise restraint. As a result, Eisenhower's policies reinforced international stability and maintained the status quo.

Kennedy and the Cuban Missile Crisis

The Kennedy administration implemented a policy that included flexible options as the foundation of its defense posture.³¹ While nuclear deterrence still played a pivotal role, the new policy sought to provide the administration with options short of nuclear holocaust.³² During his 1962 State of the Union Address, Kennedy stated his intent to maintain a capacity to resist non-nuclear or limited attacks, while rejecting an all-or-nothing posture that leaves, "no choice but inglorious retreat or unlimited retaliation."³³

²⁸ Freedman, *The Evolution of Nuclear Strategy*: 72.

²⁹ Dockrill, *Eisenhower's New-Look National Security Policy, 1953-61*: 167.

³⁰ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 110-11.

³¹ Ronald E. Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present* (New York: Oxford University Press, 1987), 95.

³² Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 121.

³³ John F. Kennedy, "Annual Message to the Congress on the State of the Union, 1962," <http://www.presidency.ucsb.edu/sou.php>.

Background

Having campaigned against what it considered the questionable credibility of Eisenhower's inflexible policies, the Kennedy administration came into office hoping to implement a more flexible approach that presented strategic options below the nuclear threshold.³⁴ Criticisms of Eisenhower's policy came from such notable critics as retired Army Chief of Staff Maxwell Taylor. Taylor and others argued that the Soviet Union would be emboldened to move against lesser objectives without fear of US retaliation, and that an alternative policy of flexible response would be more effective.³⁵

Despite their desire to adopt a contingency plan to fight in Berlin in a flexible, escalatory manner, the administration remained undecided about whether the defense of Berlin justified nuclear war in any case.³⁶ While Eisenhower had left little room for interpretation as to his unyielding policy on Berlin, the Kennedy administration's initially irresolute policy allowed Khrushchev to threaten actions to remove the West from the city. The crisis over Berlin, however, forced the Kennedy administration to develop a more defined position over the city. Diplomatically, the US would commence negotiations with the Soviets. In the event of diplomatic failure, the West would react with nonmilitary initiatives, escalating to military action if necessary.³⁷ Although the Berlin Wall reduced Kennedy's near-term fears of war, it did not alleviate the tensions over Berlin that would once again surface during the Cuban Missile Crisis.³⁸

³⁴ David M. and Lawson Kunsman, Douglas B., "A Primer on US Strategic Nuclear Strategy," (Albuquerque, N.M.: Sandia National Laboratories, 2001), 44.

³⁵ Keeney, *15 Minutes : General Curtis LeMay and the Countdown to Nuclear Annihilation*: 167.

³⁶ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 143.

³⁷ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 134-35.

³⁸ Michael Dobbs, *One Minute to Midnight : Kennedy, Khrushchev, and Castro on the Brink of Nuclear War*, 1st ed. (New York: Alfred A. Knopf, 2008), 216.

In 1962, the Soviets deployed ballistic missiles, supporting equipment and personnel to Cuba.³⁹ Kennedy's response to the Soviet threat in Cuba was a naval blockade to prevent further buildup. He understood that one misstep in Cuba could light a fuse that would lead the world into thermonuclear war. The choice of blockade over air strike was a "middle course between inaction and attack, aggressive enough to communicate firmness of intention, but still not as precipitous as a strike."⁴⁰ Through intense negotiations and backchannel communications, Khrushchev chose to retreat from the precipice of nuclear war by agreeing to remove the missiles from Cuba, but only after 'sweetening the deal' and including the removal of American Jupiter missiles from Turkey.⁴¹

In the end, the Cuban Missile Crisis proved a watershed event in history, with effects felt long after. Both the US and Soviet Union realized they had moved unacceptably close to the brink of nuclear disaster, resulting in a "mutual desire to reduce Cold War tensions."⁴² The Kennedy administration would henceforth seek options to avoid direct confrontation with the Soviet Union, realizing that conflict with the Soviets carried the possibility of absolute destruction on a scale never before imagined.⁴³ Yet the effects of the crisis were not all positive. Despite a desire to avoid direct confrontation, the Soviet Union determined never again to allow themselves to get into a position of strategic inferiority with the United States.⁴⁴

³⁹ Dobbs, *One Minute to Midnight : Kennedy, Khrushchev, and Castro on the Brink of Nuclear War*: 7.

⁴⁰ Graham T. Allison and Philip Zelikow, *Essence of Decision : Explaining the Cuban Missile Crisis*, 2nd ed. (New York: Longman, 1999), 120.

⁴¹ Allison and Zelikow, *Essence of Decision : Explaining the Cuban Missile Crisis*: 125.

⁴² Mark J. White, *Missiles in Cuba : Kennedy, Khrushchev, Castro, and the 1962 Crisis*, The American ways series (Chicago: Ivan R. Dee, 1997), 150.

⁴³ White, *Missiles in Cuba : Kennedy, Khrushchev, Castro, and the 1962 Crisis*: 151.

⁴⁴ White, *Missiles in Cuba : Kennedy, Khrushchev, Castro, and the 1962 Crisis*: 349.

Extended and Central Nuclear Deterrence

Kennedy's flexible response policy was largely an effort to create options for the President in dealing with the Soviet threat in Europe. The underlying basis of central deterrence, preventing an attack on the US homeland, was ever-present. Yet, the administration primarily focused on its extended nuclear deterrence posture to meet the threat of ongoing tensions in Western Europe.

Extended deterrence of Western Europe remained a focal point of the Kennedy administration throughout his Presidency. In Kennedy's 1962 and 1963 State of the Union Addresses, both before and after the Cuban Missile Crisis, freedom and security of Europe were a central theme. Kennedy mixed no words in his 1962 remarks while referring to Berlin, when he asserted that, "we are prepared to talk, where appropriate, and to fight, if necessary."⁴⁵ In 1963, with a somewhat more conciliatory tone, the US President reasserted US commitment to the, "freedom and security of West Berlin."⁴⁶

The evidence suggests that Kennedy, as well as Khrushchev, considered Berlin the most dangerous spot in the world, and acted accordingly.⁴⁷ For the Soviets part, the reasoning for placement of missiles in Cuba appears to have included an attempt to improve their hand in the ongoing dispute over Berlin.⁴⁸ By sending missiles to Cuba, Khrushchev believed he would gain leverage to remove Western powers from Berlin, while gaining a boost for Soviet missile power.⁴⁹ Ultimately, Kennedy's stick-and-carrot approach, employing a naval blockade

⁴⁵ Kennedy, "Annual Message to the Congress on the State of the Union, 1962".

⁴⁶ John F. Kennedy, "Annual Message to the Congress on the State of the Union, 1963," <http://www.presidency.ucsb.edu/sou.php>.

⁴⁷ Dobbs, *One Minute to Midnight : Kennedy, Khrushchev, and Castro on the Brink of Nuclear War*: 216.

⁴⁸ White, *Missiles in Cuba : Kennedy, Khrushchev, Castro, and the 1962 Crisis*: 38.

⁴⁹ Allison and Zelikow, *Essence of Decision : Explaining the Cuban Missile Crisis*: 107.

combined with the threat of further action, rebuffed Soviet adventurism in Cuba and ended the crisis.⁵⁰

Nuclear Deterrence through Punishment and Denial

The Kennedy administration, upon entering office, had sought to adopt more of a denial strategy relying on a counterforce approach. Kennedy, as well as his Secretary of Defense, Robert McNamara had rejected the SIOP inherited from the Eisenhower administration, which called for firing nuclear weapons in a single flush in the event of a Soviet attack. As a result, the administration shifted official targeting doctrine to counterforce shortly after Kennedy took office.⁵¹ SIOP-63 allowed for more flexibility and emphasized counterforce targets, focusing on the destruction of Soviet forces vice civilian population. In the new SIOP, Soviet forces accounted for over eighty percent of targets, with the remainder including cities and industry.⁵²

Yet, the *no-cities* doctrine was short lived for a number of reasons: unfavorable American reaction, an expanding Soviet nuclear capability, rejection by NATO allies, and exploitation of it by the military services.⁵³ Following the Cuban Missile Crisis, a punishment strategy would again assume primacy as the administration abandoned counterforce for a countervalue targeting approach.⁵⁴

Immediate and General Nuclear Deterrence

Like Eisenhower before him, Kennedy sought to establish a general nuclear deterrence posture and avoid immediate crisis. However, the Cuban Missile Crisis presented the administration with just such a

⁵⁰ Allison and Zelikow, *Essence of Decision : Explaining the Cuban Missile Crisis*: 129.

⁵¹ John T. Correll, "The Ups and Downs of Counterforce," *Air Force Magazine* 88, no. 10 (October 2005).

⁵² Joint Strategic Target Planning Staff, "Single Integrated Operational Plan-63," <http://www.gwu.edu/~nsarchiv/nukevault/ebb236/SIOP-63.pdf>.

⁵³ Ball and Richelson, *Strategic Nuclear Targeting*: 67-68.

⁵⁴ George Fink, *Stress of War, Conflict and Disaster* (Amsterdam ; Boston: Academic Press, 2010), 321.

crisis, and shifted its nuclear deterrence focus to an immediate posture. The crisis presented the Kennedy team with a direct nuclear threat, challenging them to find a way to force the Soviets to back pedal, even if meant threatening nuclear war.⁵⁵

Whereas in general deterrence, an actor maintains a broad deterrence posture to prevent attack, in immediate deterrence, the actor issues threats to a specific opponent that appears to be contemplating an attack.⁵⁶ The former describes the pre-crisis status quo relationship of the US and Soviet Union, while the latter characterizes the relationship during the Cuban Missile Crisis. The period leading up to the crisis, while tense, was far less volatile and anxious, as there was little immediate threat of an attack. However, as general deterrence transitioned into immediate with the Soviet missile buildup in Cuba, American forces shifted to DEFCON 3 alert, nuclear-tipped weapons were equipped on aircraft, and the US prepared for possible war in an immediate crisis.⁵⁷ As a testament to the volatility of the crisis in 1962, the crisis stands to this day as the clearest example of immediate deterrence.

Credibility, Rationality, and Stability

Kennedy's initial irresolute policies on Berlin led him initially to suffer from the very same credibility problem he had campaigned against.⁵⁸ As a candidate, he had believed massive retaliation in response to every crisis simply not credible, and so in departing from it as national policy, he hoped to make US nuclear deterrence more believable.⁵⁹ While an all-or-nothing approach of massive retaliation too drastic for practical use except in extreme circumstances, a flexible

⁵⁵ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 151.

⁵⁶ Morgan, *Deterrence Now*: 9.

⁵⁷ Allison and Zelikow, *Essence of Decision : Explaining the Cuban Missile Crisis*: 238-39.

⁵⁸ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 112-13.

⁵⁹ Kunsman, "A Primer on US Strategic Nuclear Strategy," 44.

approach might enhance deterrence credibility by giving the US low-intensity choices.⁶⁰ Khrushchev's perception that Kennedy was irresolute regarding Berlin, however, drove the former to rekindle superpower confrontation by issuing renewed calls for Western withdrawal during their first summit in Vienna.⁶¹

The Cuban Missile Crisis changed everything, including the view of Kennedy's resolution and his credibility in the eyes of the world. Kennedy's keen awareness of the critical importance of credibility is evident in his remarks to the American people during a television address. Kennedy maintained that the missiles in Cuba represented a challenge that the US would have to answer, "if our courage and commitments are ever to be trusted again by friend or foe."⁶² Kennedy clearly understood that there was no way out of the crisis altogether, and that weakness would only threaten the credibility of the US deterrent.⁶³ Thus, while the administration's extended deterrence posture might have initially suffered credibility, its unyielding application of immediate deterrence removed any doubt the Soviets may have held as to its resolve.

Further, Kennedy maintained credibility and navigated the Cuban Missile Crisis through a rational, escalatory approach. He signaled his willingness to respond through a rational course of action with a high degree of credibility—a low level of initial response and the threat of an ascending sequence of steps just short of nuclear action. The option chosen in response to the crisis, a naval blockade, placed upon Khrushchev the burden of choice for the next move. It initiated a response at a low level, and in an escalatory manner short of the nuclear

⁶⁰ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 112.

⁶¹ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 129.

⁶² John F. Kennedy, "Address on the Cuban Crisis," Modern History Sourcebook, <http://www.fordham.edu/halsall/mod/1962kennedy-cuba.html>.

⁶³ Allison and Zelikow, *Essence of Decision : Explaining the Cuban Missile Crisis*: 104.

threshold.⁶⁴ It demonstrated American determination to see the missiles removed while allowing the Soviets an opportunity to withdraw without humiliation. Ultimately, Kennedy's choice of a naval blockade over volatile alternatives reflects a measured, rational approach to crisis resolution.⁶⁵

Finally, Kennedy achieved greater stability through a flexible policy that ultimately drove the two sides further from nuclear conflict, allowing room for limited, conventional hostilities without an automatic nuclear response. While the volatility of the crisis over Berlin initially challenged stability, the real value of Kennedy's approach became evident through the immediate danger of the Cuban Missile Crisis, as it demonstrated options to diffuse crises short of the nuclear threshold.

From a strategic perspective, the Cuban Missile Crisis was a turning point in US-Soviet relations and in the Cold War. Because the world had come so close to nuclear war, the superpowers were inspired to find other ways to diffuse hostile relations.⁶⁶ Following the crisis, tangible actions resulted that led to a more stable superpower relationship. Officials established a hot line between Washington and Moscow, making possible instantaneous communications not available during the crisis.⁶⁷ Both nations signed a limited test ban, curtailing nuclear testing. Meanwhile, they explored collaborative government projects, increased trade, and defense cuts, as a sense of greater stability grew and an era of *détente* emerged.⁶⁸ Thus, Kennedy's response to the Soviet threat and the recognition of how close the superpowers came to a nuclear conflict produced a mutual desire to reduce tensions with an increasingly stable environment as a result.

⁶⁴ Allison and Zelikow, *Essence of Decision : Explaining the Cuban Missile Crisis*: 110.

⁶⁵ White, *Missiles in Cuba : Kennedy, Khrushchev, Castro, and the 1962 Crisis*: 154.

⁶⁶ Craig, *Destroying the Village : Eisenhower and Thermonuclear War*: 231.

⁶⁷ "Cuban Missile Crisis," <http://www.jfklibrary.org/JFK/JFK-in-History/Cuban-Missile-Crisis.aspx>.

⁶⁸ White, *Missiles in Cuba : Kennedy, Khrushchev, Castro, and the 1962 Crisis*: 150-51.

Conclusion

The Cold War period from President Dwight Eisenhower's New Look National Security Policy through the Cuban Missile Crisis was a period of rapid learning, as nuclear deterrence strategy evolved from an all-or-nothing approach of massive retaliation to an approach that allowed flexible options short of the nuclear threshold. During this time, nuclear deterrence played a primary role in international relations, and heavily influenced the policies of both the Eisenhower and Kennedy administrations. While both administrations used nuclear deterrence as cornerstones of their national security strategy, each continued to develop and refine its role in US policy.

As illustrated in Table 2, the interplay of credibility, rationality, and stability, is evident throughout the period. Eisenhower's massive retaliation policy faced the challenge of establishing credibility in light of the seemingly irrational retaliatory threat it imposed. Eisenhower's policy is an example of the rationality paradox, in that a modicum of irrationality is often helpful in establishing credibility, thus achieving successful deterrence. Eisenhower's apparent willingness to engage in a possibly annihilative conflict caused the Soviets pause, and in doing so, drove stability. By building the capabilities to support his strategy, and demonstrating the will to carry it out, Eisenhower established a level of credibility sufficient to cause doubt amongst the Soviets and prevent a failure of nuclear deterrence. Thus, as indicated in Table 2, Eisenhower's policy was a reasonable, albeit not entirely rational approach to nuclear deterrence, achieving a sufficient level of credibility, and maintaining a relative level of stability amidst an otherwise potentially volatile environment.

The Kennedy administration, in an effort to counter perceived deficiencies in the credibility and rationality of Eisenhower's policies,

pursued a flexible approach with escalatory characteristics. They believed massive retaliation provided the Soviets the flexibility to move against objectives below the nuclear threshold, with the US self-deterred from acting based on an all-or-nothing approach. By implementing a strategy that augmented punishment with elements of conventional denial, the US could more effectively counter a wide spectrum of Soviet threats. The approach also appeared more credible, as it provided the administration with options between the extremes of nuclear war or surrender. By achieving a higher degree of credibility, while demonstrating a modicum of rationality, the policy achieve stability through a comprehensive approach that included nuclear and non-nuclear elements, as indicated in Table 2. While the Soviets challenged this escalatory approach in a context of general, extended deterrence in Berlin, they validated it during the immediate, central deterrence crisis in Cuba.

**Table 2: Analytical Framework Summary—
Eisenhower’s New Look through the Cuban Missile Crisis**

	Analytical Framework Summary					
	Type & Characteristics of Nuclear Deterrence					
	Bipolar					Unipolar
	Eisenhower	Kennedy	Nixon	Arms Race-Carter	Arms Race-Reagan	Modern
Extended &/or Central	Extended focus	Extended focus	Extended focus			
Punishment &/or Denial	Punishment	Denial to Punishment	Denial			
Immediate &/or General	General	General to Immediate	General			
Elements of Nuclear Deterrence						
Credibility	High	Low to High	Low			
Rationality	Low	High	High			
Stability	High	Low to High	High			

Source: Author’s original work

Chapter 4

Nixon's Strategic Sufficiency through the Cold War Arms Race

This chapter will focus on President Nixon's program of Strategic Sufficiency, and the Soviet and American arms race of the 1970's and 1980's. During this period, the basic dynamics of nuclear deterrence became somewhat understood to both sides, although the relationship between superpowers retained an element of volatility.

Nixon's Strategic Sufficiency

Following the Cuban Missile Crisis, both sides better understood the potential for disaster in a game of nuclear brinksmanship. Thus, the environment changed, and as a result, both sides approached deterrence from a relatively rational standpoint. The result was a credible mutual deterrence relationship and a reasonably stable environment as an era of détente emerged.

Background

McNamara had championed the policy of assured destruction in 1963 based on the concept that following a Soviet counterforce strike, the US would have enough surviving forces to destroy the Soviet's government and military controls along with a large percentage of its population and industrial base. While President Lyndon B. Johnson promulgated the policy, Vietnam mostly dominated the strategic environment through much of his presidency, and nuclear strategy remaining relatively static.¹

¹ Kunsman, "A Primer on US Strategic Nuclear Strategy," 49.

Nixon entered the White House in 1969 under an entirely different strategic situation than his predecessors. By the end of the decade, the strategic balance between the US and the Soviet Union shifted from one of American superiority to relative parity. The US strategic buildup had mostly ceased by 1967, while officials planned to reduce the nuclear bomber force by 1969.² Conversely, the Soviet Union had begun in the mid-1960s the development of a new generation of missiles. Thus, as the decade ended, the Soviet Union approached equal numbers in land-based ballistic missiles with the US. This meant that, as Nixon assumed the presidency, the era of US nuclear supremacy was ending.

The administration realized early on that mutual vulnerability was a strategic reality they would have to accept. Nuclear superiority was simply unattainable in the long term, as the Soviet Union would be compelled to match any US attempts to establish strategic superiority.³ US economic constraints meant the costs of an arms race to reestablish US nuclear superiority was not possible. Politically, there was concern that lack of US nuclear superiority would drive the US to behave more cautiously in seeking to secure interests with the Soviets. Compounding this was the fear that strategic parity would undermine the credibility of US security commitments.⁴

To Nixon's National Security Adviser and later Secretary of State Henry Kissinger, it was the convergence of a US withdrawal from Vietnam and a decline in US non-nuclear capabilities, along with the Soviet strategic buildup, that darkened the future prospects of US security.⁵ Kissinger had written extensively about nuclear strategy as an academic. He believed parity might make the Soviets more willing to

² Terry Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*, Cornell studies in security affairs (Ithaca: Cornell University Press, 1995), 19.

³ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 20.

⁴ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 23.

⁵ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 58.

use conventional superiority to intervene in regional conflicts.⁶ Accordingly, a more aggressive Soviet Union would mean a higher likelihood of crisis, with the US self-deterred from responding. While Kissinger was convinced the best solution to the decline in credibility of the US nuclear deterrent was to strengthen conventional forces, the domestic political environment resulting from the war in Vietnam made it implausible. Thus, the administration would have to look for alternative means to counter the Soviet threat.⁷

Kissinger believed the US had to find a way to at least present the appearance of nuclear weapons being usable if they were to maintain their deterrent value. In the absence of strategic superiority, he was convinced the US, “needed a capability to meet limited political challenges, as well as limited military threats, on the margins of the main area of superpower confrontation in Europe.”⁸ In a relationship of parity, continued adherence to assured destruction meant that for anything less than an existential threat, the situation self-deterred the president from retaliating. The power of modern weapons, he believed, deterred not only aggression, but also resistance to it. Therefore, a convincing threat that the US could, and would if necessary, use nuclear weapons in a constrained manner seemed the only practical means of countering the Soviet advantage in conventional forces.⁹ As an all-out strategy was effective in deterring general nuclear war, it also invited limited aggressions that were not worthy of a final showdown. In posing the maximum credible threat, he proposed that limited nuclear war was more plausible than either general nuclear war or conventional war.¹⁰

⁶ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 56.

⁷ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 21.

⁸ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 59.

⁹ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 59.

¹⁰ Henry Kissinger, *Nuclear Weapons and Foreign Policy*, A Westview encore ed. (Boulder, Colo.: Published for the Council on Foreign Relations by Westview Press, 1984), 191.

Based largely on the concerns to present a credible nuclear deterrent in the absence of a viable conventional buildup, Nixon indicated that a goal of strategic sufficiency should shape the structure of US nuclear forces.¹¹ Nixon gave strategic sufficiency two meanings. In a narrow military sense, it meant, “enough force to inflict a level of damage on a potential aggressor sufficient to deter him from attacking,” and in, “a broader political sense, it meant maintaining the forces adequate to prevent the US and its allies from being coerced.”¹² In essence, the policy expressed Nixon’s desire to, “maintain sufficient military power to ensure the military and political initiative did not shift in the Soviet Union’s favor.”¹³ He considered flexibility essential to the concept of strategic sufficiency, both in its narrow and broad meanings.¹⁴

Secretary of Defense James Schlesinger later championed the concept of limited nuclear options, based on Kissinger’s theories. The resulting Schlesinger Doctrine changed US targeting practices and shifted US conceptions of nuclear employment, adding a range of limited nuclear options against different sets of targets that might reduce potential for counterattack against US cities.¹⁵ This also represented a shift to a denial over a punishment strategy, stressing counterforce over countervalue. They would also increasingly rely on tactical nuclear capabilities “to promote deterrence at the low end of the spectrum of conflict” and to, “couple US strategic forces to the defense of American allies.”¹⁶ These efforts would allow the US, first, to deter any level of conflict, nuclear and conventional, and second, to terminate nuclear

¹¹ William Burr, “The Nixon Administration, the “Horror Strategy,” and the Search for Limited Nuclear Options, 1969-1972,” *Journal of Cold War Studies* 7, no. 3 (2005): 52.

¹² United States. President (1969-1974 : Nixon), *U.S. Foreign Policy for the 1970's: Building for Peace; a Report to the Congress by Richard Nixon, President of the United States, February 25, 1971* (Washington;: For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1971), 170-71.

¹³ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 27.

¹⁴ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 77.

¹⁵ Burr, “The Nixon Administration, the “Horror Strategy,” and the Search for Limited Nuclear Options, 1969-1972,” 35.

¹⁶ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 5.

hostilities at the lowest level possible should deterrence fail.¹⁷

Schlesinger contended that the US should plan to minimize damage by attempting to control escalation.¹⁸

Extended and Central Nuclear Deterrence

Extended deterrence concerns remained dominant during this period. Although the proxy war in Vietnam dominated much of Nixon's foreign policy, the administration remained committed to securing US interests in Europe, Asia, and elsewhere.¹⁹ During his 1972 State of the Union Address, Nixon explicitly declared that the US, "will maintain a nuclear deterrent adequate to meet any threat to the security of the United States or of our allies."²⁰ Yet, concerns over the credibility of the US extended deterrent posture drove changes in policy.

A central proposition of the Schlesinger Doctrine was that the policy of assured destruction inherited by the Nixon Administration weakened the credibility of extended deterrence by removing the threat of employing nuclear weapons for threats considered less than vital to national survival.²¹ It would, therefore, be increasingly difficult to counter Soviet challenges on the periphery. Henry Kissinger's theory, which served as the foundation for the Schlesinger Doctrine, posited that the US needed to bolster its extended deterrence posture by including limited nuclear options and shifting targeting priorities to terminate hostilities at the lowest possible level should deterrence fail.²² The administration codified these ideas in National Security Decision

¹⁷ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 3.

¹⁸ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 6.

¹⁹ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 38.

²⁰ Richard M. Nixon, "Address on the State of the Union Delivered Before a Joint Session of the Congress," <http://www.presidency.ucsb.edu/ws/index.php?pid=3396>.

²¹ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 12.

²² Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 12.

Memorandum 242 (NSDM 242), the political guidance document for the targeting of US strategic forces. Specifically, the policy memorandum listed as its fundamental purpose, “to deter attacks—conventional and nuclear—by nuclear powers against US allies and those other nations whose security is deemed important to US interests.” To do so, it would employ a, “wide range of limited nuclear employment options ... to protect US interests.”²³ Further, Schlesinger, during testimony to Congress, declared a fundamental function of US strategic forces to deter attacks, “against major security interests overseas, of which NATO is perhaps the most striking example.”²⁴ Limited nuclear options would be the vehicle in which he would pursue these efforts.

Even as the Nixon administration publicly declared its desire to strengthen its support for European allies as a primary reason for its shift to limited nuclear options, the reasons were likely much more complex, with budgetary, technological, bureaucratic, and political considerations.²⁵ Most notable was political opposition to expanding conventional forces in an “antimilitary, anti-interventionist attitude” caused by opposition to the Vietnam War.”²⁶ Nevertheless, as it had been during the Eisenhower and Kennedy administrations, the US commitment to extended deterrence of its allies remained a primary concern of the Nixon Administration.

Nuclear Deterrence through Punishment and Denial

This period marks a shift in US nuclear policy from countervalue to counterforce targeting. The Nixon Administration moved from the punishment strategy that had characterized past administrations to a

²³ “Policy for Planning the Employment of Nuclear Weapons,” in *National Security Decision Memorandum 242* (January 17, 1974).

²⁴ Subcommittee on Arms Control, International Law and Organization, *Briefing on Counterforce Attacks*, 2nd, September 11, 1974.

²⁵ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 223.

²⁶ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 96.

denial strategy based upon the idea of limited nuclear options. The Schlesinger Doctrine specifically changed US targeting practices and shifted US conceptions of nuclear employment, adding a range of options against different sets of targets that might reduce the potential for counterattack against US cities.²⁷ The idea behind the shift was that it would dissuade Soviet leadership from threatening US interests, while bolstering US deterrence, both in its central and extended forms.

Another reason for the shift away from countervalue targeting was the desire to spare, or at least minimize, civilian casualties by avoiding cities and focusing on the adversary's nuclear weapons capabilities.²⁸ A staffer present during the initial SIOP brief to Nixon reported the President as being appalled at the magnitude of its destruction.²⁹ Kissinger would refer to the SIOP as a 'horror strategy', against which he sought alternatives.³⁰ Schlesinger expressed a desire for, "targeting options which are more selective and which do not necessarily involve major mass destruction on the other side ... to maintain the capability to deter any desire on the part of the opponent to inflict major damage on the United States or its allies."³¹

While there likely existed a moral component to the shift from countervalue to counterforce targeting, an equally important, yet more pragmatic justification seems the ongoing desire to avoid the snare of self-deterrence. Specifically, if war broke out in Central Europe, the US might be self-deterred from responding without credible nuclear

²⁷ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 1.

²⁸ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 37.

²⁹ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 33.

³⁰ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 64.

³¹ James R. Schlesinger, "Press Conference of the US Secretary of Defense" (paper presented at the National Press Club, Washington D.C., January 10, 1974).

options.³² NSDM 242 circumvented this problem by creating options in which the nuclear threat could be, “clearly and credibly communicated to the enemy.”³³ Recurring concerns over self-deterrence harken back to the Kennedy Administration and its apprehension over self-deterrence under an all-or-nothing strategy. As Kissinger would note, “the power of modern weapons deters not only aggression, but also resistance to it.”³⁴ In fact, the challenge of avoiding self-deterrence is a theme that would persist as US nuclear deterrence policy evolved.

Immediate and General Nuclear Deterrence

In the era of détente following the Cuban Missile Crisis, the US-Soviet relationship settled into a posture of general nuclear deterrence with abhorrence for any conflict that rose to an immediate crisis. While this normalization of relations decreased direct tension between superpowers, the focus of the US administration shifted to proxy wars and domestic politics.³⁵

Immediate deterrence occurs only in the failure of general deterrence, “or when a leader believes a more explicit expression of their intent to defend their interests is necessary to buttress general deterrence.”³⁶ There is little evidence to suggest either situation occurred during the Nixon administration. While the India-Pakistan War, the Yom Kippur War, and the Vietnam War represent significant conflicts and potential flashpoints for larger crises, none rose to the level of immediate

³² Burr, “The Nixon Administration, the “Horror Strategy,” and the Search for Limited Nuclear Options, 1969-1972,” 57.

³³ “Policy for Planning the Employment of Nuclear Weapons,” 2.

³⁴ Kissinger, *Nuclear Weapons and Foreign Policy*: 96.

³⁵ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 190.

³⁶ Richard Ned Lebow, “Deterrence and Reassurance: Lessons from the Cold War,” *Global Dialogue* 3, no. 4 (Autumn 2001).

crises, nor is there any indication that the US' general nuclear deterrence posture was at any point threatened.³⁷

Credibility, Rationality, and Stability

A driving force behind the Nixon Administration's shift to a policy that included limited options was to bolster credibility it feared was in decline. Reminiscent of Kennedy's concerns with Eisenhower's policies, Nixon and his advisers were concerned not only with the horrors of nuclear war, but also with the extent to which a policy that rested on the threat of nuclear holocaust was believable.³⁸ Further, they feared strategic parity would undermine the credibility of US security commitments.³⁹ In this case, the Soviet Union would be more willing to use conventional superiority in limited, regional conflicts.

By introducing limited nuclear options, the US sought to forestall a decline in credibility that might have accompanied self-deterrence in the event of Soviet aggression.⁴⁰ This approach would allow the administration to maintain the most credible nuclear deterrent in the absence of a viable conventional buildup, and provide alternatives that were more believable than catastrophic SIOP options. In short, the administration chose the best among a number of bad options. However, while limited nuclear options allowed the administration to better position its nuclear deterrent posture, there is little indication that an escalatory approach to nuclear conflict with limited nuclear options threat carried with it any higher degree of credibility. Simply multiplying available options cannot definitively reduce the probability of disaster, nor is there any surety of maintaining a conflict at a lower level of

³⁷ Kunsman, "A Primer on US Strategic Nuclear Strategy," 51.

³⁸ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 35.

³⁹ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 23.

⁴⁰ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 57.

hostilities.⁴¹ Thus, even with an escalatory approach composed of limited nuclear options, a nuclear response to aggression is hardly more rational, nor does it appear to possess a higher degree of credibility than otherwise. Thus while the Nixon approach maintained a level of credibility, there is little evidence to suggest it enhanced it.

Further, based on the strategic realities of the time, a policy of strategic sufficiency that included limited options was a rational approach to nuclear deterrence. As Kissinger theorized, an all-out strategy might deter all-out war, yet invite limited aggressions.⁴² Whereas a more robust conventional option would have been preferable, the administration was aware that the domestic political backlash to the Vietnam War prevented such an approach.⁴³ The answer was to translate limited nuclear options into US doctrine, as a more rational approach that carried a higher degree of credibility than either general or nuclear war.⁴⁴ However, based on the impracticality of a conventional build-up, it seems reasonable to conclude that a limited nuclear approach was the best of Nixon's *available* options, with his preferred alternatives infeasible.

Among policy makers, there seems an enduring struggle to understand and exploit the concept of rationality, with the supporters of the all-out variant of nuclear strategy on one hand, and those who support flexible options on the other. Eisenhower had been an example of the former, while Kennedy the latter. Based largely on the practical realities of the day, the Nixon fell into the latter category, seeking options below the threshold of full-scale nuclear war. Whereas a degree of irrationality contributes to the credibility of nuclear deterrence under an

⁴¹ Morgan, *Deterrence Now*: 19.

⁴² Kissinger, *Nuclear Weapons and Foreign Policy*: 96.

⁴³ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 21.

⁴⁴ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 49.

all-out strategy, the flexibility school seeks to establish credibility through a rational, pragmatist approach. While responding to the all-out assumption, Kissinger questioned how one could rationally make a decision to kill 80 million people.⁴⁵ In fact, the very idea of limited nuclear options rested on the assumption that massive nuclear attacks were implausible and irrational. As a result, the Nixon Administration chose a rational approach to nuclear deterrence based upon the strategic realities it faced.

Finally, stability is concerned with maintaining the status quo and preventing the occurrence of war. In the event of failure, it is concerned with preventing escalation. Based on these considerations, the Nixon Administration's use of limited nuclear options as codified in the Schlesinger Doctrine achieved a sufficient degree of stability.

Nixon's policy centered on the idea that assured destruction weakened extended deterrence and removed nuclear credibility for anything short of an existential threat. In other words, stability at the center created instability on the periphery.⁴⁶ By providing options below the threshold of all-out nuclear war, the policy sought to bolster extended deterrence and drive greater stability. Where the strategy differed most from an all-out variant, was in its response to a general deterrence failure. Theoretically, in such an instance, full-scale nuclear war would ensure under an all-out strategy. However, limited nuclear options provided alternatives to a binary response of surrender or nuclear holocaust, allowing for the containment of hostilities.⁴⁷ Civilian and military officials alike debated whether it was possible to control nuclear escalation and whether limited options would actually weaken or

⁴⁵ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 43.

⁴⁶ Henry Kissinger, *The Necessity for Choice: Prospects of American Foreign Policy*, [1st ed. (New York,: Harper, 1961), 14-15.

⁴⁷ Terriff, *The Nixon Administration and the Making of U.S. Nuclear Strategy*: 224.

strengthen deterrence.⁴⁸ While the former was never tested and the latter a counterfactual argument, it can be reasoned that Nixon's policy produced strategic effects—compelling Soviet leaders to behave cautiously, producing restraint, and reinforcing international stability. The era of détente continued largely intact, with direct conflict between superpowers avoided, and conflict driven to the margins in the form of proxy wars fought by surrogates.⁴⁹

The Soviet and American Arms Race

During this period, the superpowers achieved a deeper understanding of nuclear deterrence and demonstrated significant efforts to achieve stability. However, the strategic environment maintained elements of volatility, and nuclear stockpiles continued to grow and modernize throughout the 1970s and 1980s.

Background

By the early 1970s, the Soviet Union was at its peak.⁵⁰ For nearly every Soviet success, there seemed a corresponding setback for the US. Most obvious was the inversely proportional fortunes of the two superpowers' economy. From a national defense perspective, the Soviet-backed North Vietnamese expelled American forces after a prolonged struggle, signaling the end of US communist containment in Southeast Asia.⁵¹ Throughout the world, the Soviet doctrine seemed to be spreading at an alarming rate.

⁴⁸ Burr, "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972," 37.

⁴⁹ Richard M. Nixon, "Address on the State of the Union Delivered Before a Joint Session of the Congress," <http://www.presidency.ucsb.edu/ws/index.php?pid=4327>.

⁵⁰ "The Arms Race Resumes," Atomic Archive, <http://www.atomicarchive.com/History/coldwar/page18.shtml>.

⁵¹ "The Arms Race Resumes".

The era of détente that had begun under Nixon was controversial on the US political front. On the right, conservative critics argued that détente favored the Soviet Union, with little benefit for the United States. Meanwhile, liberal critics of détente argued that human rights violations by the Soviets continued unabated. For their part, the Ford administration, particularly Kissinger, now Secretary of State, rejected the view détente was another form of appeasement. Kissinger argued that a stable relationship was the best way to reduce the risk of nuclear war and a nuclear arms race, and that nuclear parity was indeed the best way to achieve that stability.⁵²

Upon taking office, President Jimmy Carter implemented his policy of countervailance, in order to demonstrate to the Soviets that they could not achieve victory in a nuclear confrontation with the US, as earlier Soviet military writings of the era had signaled.⁵³ Carter would seek to make clear to the Soviet leaders that victory in a nuclear war was unachievable, and that neither they nor their regime would survive.

Countervailance consisted of two primary goals. The first was to convince Soviet leaders that nuclear war was unwinnable, and the second was to reinforce the United States' ability to "carry out nuclear strikes in a limited way."⁵⁴ As the Schlesinger Doctrine had done under the Nixon Administration, countervailance would maintain the possibility of stopping short of escalation to general nuclear war. Central to the strategy was the belief that nuclear war could be limited and controlled. In such a situation, the US would wage, "a protracted, limited nuclear war, possibly lasting up to two months, rather than the short spasm exchange considered by earlier countervalue and counterforce

⁵² Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 155.

⁵³ Harold Brown, "A Countervailing View," *Foreign Policy*, http://www.foreignpolicy.com/articles/2012/09/24/a_countervailing_view?wp_login_redirect=0.

⁵⁴ Brown, "A Countervailing View".

concepts.”⁵⁵ According to Secretary of Defense Harold Brown, the policy embodied “flexibility, escalation control, survivability, and endurance.”⁵⁶ It included a mix of Soviet targets, including strategic forces, command and control, industrial and economic base. While it would continue the notion of ‘flexible response,’ it would elevate it to a different level.⁵⁷

Throughout the remainder of the decade, relations between the Soviet Union and the United States worsened. The seminal event that signaled the end of détente occurred when the Soviets invaded Afghanistan.⁵⁸ Meanwhile, the US elected Ronald Reagan in a landslide in 1980, bringing to the White House an individual with initially few qualms about a nuclear arms race with the Soviet Union.⁵⁹ As the relationship between the US and Soviet Union continued to deteriorate, Reagan outlined his strategic redirection. Reagan’s plan differed from earlier policies in that instead of denying victory for the Soviets, it specifically reintroduced the idea of prevailing over the Soviets, terminology absent from policy since the Kennedy administration.⁶⁰ Rather than attempting to renew détente, the Reagan administration engaged the Soviets in a policy of “confrontation and counterpressure.”⁶¹ Reagan prepared the US to initiate and win a protracted nuclear conflict if necessary.⁶²

⁵⁵ E.A. Croddy and J.J. Wirtz, *Weapons of Mass Destruction: An Encyclopedia of Worldwide Policy, Technology, and History* (Abc-Clio Incorporated, 2005), 82.

⁵⁶ Brown, "A Countervailing View".

⁵⁷ Croddy and Wirtz, *Weapons of Mass Destruction: An Encyclopedia of Worldwide Policy, Technology, and History*: 81.

⁵⁸ "The Arms Race Resumes".

⁵⁹ Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 184.

⁶⁰ Ronald W. Reagan, "Nuclear Weapons Employment Policy," <http://www.reagan.utexas.edu/archives/reference/Scanned%20NSDD%20NSDD13.pdf>.

⁶¹ Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 186-87.

⁶² Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 187.

In 1983, a number of events occurred that highlighted to Reagan the possibility of miscalculation and the resultant nuclear war that might occur, leading him to make an about face on nuclear policy. Perhaps the most salient moment for Reagan was his participation in a SIOP exercise, in which he came to understand the likelihood that a nuclear attack would destroy the United States.⁶³ As a result, Reagan turned his attention to defensive measures.⁶⁴ Most notably, was Reagan's Strategic Defense Initiative (SDI), a program to defend the United States from Soviet ICBMs. The Soviets, however, feared the program would tip the strategic scales in favor of the US, enabling the Americans to gain a first-strike advantage.⁶⁵ More ominously, detractors argued that the initiative could destabilize the nuclear balance, triggering a "dangerous escalation of nuclear arms in space."⁶⁶ Gorbachev would later write that Reagan "tore apart the American policy of deterrence, which had triggered the arms race and led mankind to the brink of destruction."⁶⁷

As the decade ended, years of Soviet spending to support its military involvement in Afghanistan and the ongoing arms race with the United States contributed to its economic demise.⁶⁸ The Eastern Bloc crumbled and the Iron Curtain fell, the most symbolic event occurring on November 10, 1989, with the Berlin Wall coming down.⁶⁹ Three months later, the Soviet Communist party relinquished its political monopoly. In

⁶³ Ronald E. Powaski, *Return to Armageddon : the United States and the Nuclear Arms Race, 1981-1999* (Oxford ; New York: Oxford University Press, 2000), 40.

⁶⁴ Richard Rhodes, *Arsenals of Folly : the Making of the Nuclear Arms Race*, 1st Vintage Books ed. (New York: Vintage Books, 2008), 168-70.

⁶⁵ "Reagan's Star Wars," <http://www.atomicarchive.com/History/coldwar/page20.shtml>.

⁶⁶ Powaski, *Return to Armageddon : the United States and the Nuclear Arms Race, 1981-1999*: 33.

⁶⁷ Mikhail Sergeevich Gorbachev, *Memoirs*, 1st ed. (New York: Doubleday, 1996), 406.

⁶⁸ Joseph Patterson Hyder, "Cold War (1972–1989): the Collapse of the Soviet Union," *Encyclopedia of Espionage, Intelligence, and Security* 1(2004): 238-41.

⁶⁹ "The End of the Cold War," <http://www.atomicarchive.com/History/coldwar/page22.shtml>.

1991, the Supreme Soviet officially declared an end to the Soviet Union, and ostensibly signaled the end of the Cold War.⁷⁰

Extended and Central Nuclear Deterrence

During this period, extended deterrence remained dominant, as the US sought to reemphasize its commitment to allies. In addition to declarations of commitment, the US took visible steps to demonstrate its commitment to extended deterrence, to include modernizing its tactical nuclear arsenal in Europe. As had been the case throughout the Cold War, both administrations acted under the assumption that Europe would likely serve as the spark for any nuclear conflict between the superpowers.

Out of concern for the Soviet threat in Europe, Carter called for significant increases in defense spending. In his 1979 military budget, he included a substantial strengthening of NATO forces, and the development of the ill-fated neutron bomb.⁷¹ Additionally, in response to the Soviet deployment of the SS-20, an intermediate-range ballistic missile capable of targeting Western Europe, Carter set NATO on a course to restore the balance in intermediate range nuclear forces. To do so, the alliance would modernize its Intermediate-Range Nuclear Forces (INF) with US ground-launched cruise missiles (GLCMs) and Pershing II Intermediate Range Ballistic Missiles (IRBMs).⁷²

Additionally, through messaging, Carter reaffirmed the US commitment to extended deterrence of its allies. During his 1978 State of the Union Address, he restated US commitment to the defense of Europe, and proclaimed that he would further modernize and strengthen

⁷⁰ Hyder, "Cold War (1972–1989): the Collapse of the Soviet Union," 238-41.

⁷¹ American Forces Press Service, "Proposed FY 79 Defense Budget," (1978).

⁷² "Intermediate-Range Nuclear Forces (INF) Chronology," <http://www.fas.org/nuke/control/inf/inf-chron.htm>.

military capabilities in the region.⁷³ The following year, Carter reiterated that the US must maintain its support of NATO allies by continuing to modernize equipment, as well as strengthening defense forces in Europe.⁷⁴ Additionally, during his final address, Carter touted the US' ability to reinforce Western Europe with massive ground and air forces in a crisis, as well as major military modernization programs, and the prepositioning of heavy equipment to thwart a Soviet attack.⁷⁵ Carter's Nuclear Weapons Employment Plan, Presidential Directive-59, stated that, "strategic nuclear forces must be able to ... deter attacks on our forces overseas, as well as on our friends and allies."⁷⁶ In explaining the directive during an address at the Naval War College, Defense Secretary Harold Brown explicitly proclaimed the administration's nuclear deterrence policy as a, "wall against nuclear coercion of, or an attack on, US friends and allies."⁷⁷

Throughout his presidency, Reagan maintained a commitment to US extended deterrence commitments.⁷⁸ During his first term, Reagan embarked on a program of modernization of tactical nuclear weapons systems in Europe as well as the deployment of intermediate-range ballistic missiles. His ambitious program modernized both tactical nuclear weapons and "dual-capable" delivery systems, to include replacing non-nuclear capable aircraft with those that could deliver nuclear weapons, and replacing non-nuclear capable artillery in the same manner.⁷⁹ While

⁷³ Jimmy Carter, "The State of the Union Address Delivered Before a Joint Session of the Congress.," <http://www.presidency.ucsb.edu/ws/index.php?pid=30856>.

⁷⁴ Jimmy Carter, "The State of the Union Address Delivered Before a Joint Session of the Congress," <http://www.presidency.ucsb.edu/ws/index.php?pid=32657>.

⁷⁵ Jimmy Carter, "The State of the Union Annual Message to the Congress," <http://www.presidency.ucsb.edu/ws/index.php?pid=44541>.

⁷⁶ Jimmy Carter, "Nuclear Weapons Employment Policy," <http://www.fas.org/irp/offdocs/pd/pd59.pdf>.

⁷⁷ Bruce M. Russett, *The Prisoners of Insecurity: Nuclear Deterrence, the Arms Race, and Arms Control* (San Francisco: W.H. Freeman, 1983), 153.

⁷⁸ Ronald Reagan, "Address Before a Joint Session of the Congress Reporting on the State of the Union " <http://www.presidency.ucsb.edu/ws/index.php?pid=42687>.

⁷⁹ Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 188.

enduring significant criticisms, he also demonstrated his commitment to extended deterrence with the decision to go ahead with the Carter-era planned deployment Pershing IRBMs and Tomahawk cruise missiles, in order to counter the continuing Soviet SS-20 deployment.⁸⁰ In 1981, Reagan replaced the Carter-era PD-59 with his own nuclear weapons employment plan, National Security Decision Directive Number 13 (NSDD 13). This directive stated that a fundamental national security objective of the US was to deter a direct attack, particularly a nuclear attack on allies. It went on to confirm the US employment of theater nuclear forces to guarantee US extended deterrence commitments to Europe.⁸¹

While Reagan's focus turned to SDI during his second term, he reaffirmed the US' commitment to extended nuclear deterrence, touting missile defense as a way to reduce the vulnerability of the US homeland and strengthen extended deterrence in Europe.⁸² Despite Reagan's reassurances, many Europeans reacted with skepticism to SDI, largely out of concerns of possible decoupling of European and American security.⁸³ Reagan recognized allies' reliance on US strategic offensive power to deter attacks, and vowed to continue to honor its commitments, stating that, "their vital interests and ours are inextricably linked."⁸⁴ In addressing European concerns, Ambassador Paul Nitze reflected, "deterrence can also function effectively if one has the ability through *defense* to deny the attacker the gains he might otherwise hope to

⁸⁰ Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 191.

⁸¹ Reagan, "Nuclear Weapons Employment Policy".

⁸² Andrew Busch, *Ronald Reagan and the Politics of Freedom* (Lanham: Rowman & Littlefield Publishers, 2001), 199.

⁸³ Timothy Hiebert, "Reagan's Strategic Defense Initiative: The U.S. Presentation and the European Response " <http://dl.tufts.edu/catalog/tufts:UP149.001.00019.00009>.

⁸⁴ Ronald W. Reagan, "Address to the Nation on Defense and National Security," <http://www.atomicarchive.com/Docs/Missile/Starwars.shtml>.

realize.” He went on to express US intent to shift the balance of extended deterrence to one where defense played a greater role.⁸⁵

Nuclear Deterrence through Punishment and Denial

Carter’s countervailing strategy was essentially a countervalue approach, with targeting distinctions that differentiated it from previous applications of denial strategy. While the administration changed the name of the administration’s strategy counterforce to countervailance in an effort to illuminate its focus on denying victory to the Soviets, a review of PD-59 reveals that the essence of the policy remains largely unchanged from previous counterforce approaches.⁸⁶ The most significant difference of the directive was that, in recognizing the centralized nature of Soviet command and control, it sought to threaten Soviet leadership directly. According to Secretary of Defense Harold Brown, the policy embodied flexibility, escalation control, survivability, and endurance, and sought to deny the Soviets the possibility of *winning* a nuclear conflict.⁸⁷ PD-59 comprised a mix of Soviet targets, including strategic forces, command and control, and its industrial and economic base, as well as language that made it clear the intent to deny any conception of victory to the Soviets.⁸⁸

Meanwhile, Reagan’s doctrine centered on a counterforce strategy and its premise that the US could win a protracted, limited nuclear war if necessary.⁸⁹ Reagan’s policy was essentially a denial strategy, although it differed from earlier policies principally in that it sought decisive victory for the US in the event of deterrence failure. In terminology

⁸⁵ Paul H. Nitze, "The Objectives of Arms Control," in *1985 Alistair Buchan Memorial Lecture, at the International Institute for Strategic Studies* (London 28 March, 1985).

⁸⁶ Carter, "Nuclear Weapons Employment Policy".

⁸⁷ Brown, "A Countervailing View".

⁸⁸ Carter, "Nuclear Weapons Employment Policy".

⁸⁹ Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 187.

absent from policy since the Kennedy administration, NSDD 13 specifically reintroduced the idea of prevailing over the Soviets.⁹⁰ During his presidency, he would complement his denial strategy through the development of more accurate and survivable weapons systems, such as the B-2 Bomber and high-accuracy ICBMs.⁹¹ During Reagan's second term, his focus shifted somewhat to defensive actions with the development of SDI, his nuclear weapons employment plan remained intact and his official nuclear deterrence policy remained one of counterforce.

Immediate and General Nuclear Deterrence

Through the waning years of détente, Carter's countervailing strategy maintained a general nuclear deterrence posture. Whereas immediate nuclear deterrence is rare, and describes a severe crisis with nuclear war imminent, general nuclear deterrence refers to a longstanding relationship reinforced by the threat of force.⁹² Carter faced repeated crises during his term as president, yet most were conflicts involving limited conventional elements on the periphery of US-Soviet relations. An examination of world events during Carter's Presidency reveals the Iranian revolution and the Soviet invasion of Afghanistan of 1979 to be the most significant.⁹³ While these events had major implications for the United States, nuclear deterrence played an insignificant role, and there appears to be no instance of crisis that might have threatened immediate nuclear deterrence.

Similarly, Reagan maintained a robust general nuclear deterrence posture, with no specific crises necessitating immediate nuclear deterrence. As was the case during the Carter Administration, few

⁹⁰ Reagan, "Nuclear Weapons Employment Policy".

⁹¹ Kunsman, "A Primer on US Strategic Nuclear Strategy," 62.

⁹² Morgan, *Deterrence: A Conceptual Analysis*: 29.

⁹³ Kunsman, "A Primer on US Strategic Nuclear Strategy," 57.

incidents threatened to escalate tensions to the level of an immediate crisis. In fact, the 1983 Soviet downing of a Korean airliner appears the incident with the greatest potential to provide a spark for crisis escalation had conditions been right. As it were, Reagan's general deterrence posture and the relative stability of US-Soviet relations were effective in preventing escalation. In fact, it appears the incident demonstrated to Reagan the perilous nature of superpower relations and that a miscalculation might lead to disaster, serving as an impetus for his transition to a defensive posture centered around SDI.⁹⁴

Morgan suggests that only under Yuri Andropov in the early 1980s did the Soviet Union actually consider a nuclear attack by the United States a real possibility.⁹⁵ Reports that Soviet leaders placed the KGB was placed on extraordinary alert, based on fear of an imminent US attack, support this claim, as does the subsequent statements of a Politburo member that the international situation during the 1980s was approaching the level of a crisis.⁹⁶ However, while one can argue that the US president's aggressive posture during this first term heightened tensions to a point not experienced since the Cuban Missile Crisis, there is no indication that US-Soviet relations ever realistically approached the level of an immediate nuclear crisis.

Credibility, Rationality, and Stability

Carter's countervailing strategy appears to have encountered some of the same credibility concerns as Nixon's strategic sufficiency. While constructed on the same precept of using limited nuclear options to deter Soviet aggression, it possessed a war-fighting focus.⁹⁷ To execute a protracted, limited nuclear war as envisioned by the strategy, however, it

⁹⁴ Powaski, *Return to Armageddon : the United States and the Nuclear Arms Race, 1981-1999*: 39.

⁹⁵ Morgan, *Deterrence Now*: 9.

⁹⁶ Washington Post Service, "Soviets Reportedly Feared US Military Attack in 1981," *The Milwaukee Journal* August 8, 1986.

⁹⁷ Kunsman, "A Primer on US Strategic Nuclear Strategy," 59.

would require forces to support a full range of strategic options, in the unlikely event they were needed. The countervailing strategy suggested the capability to execute finely calibrated strategic nuclear warfare with extremely survivable retaliatory forces in a protracted conflict.⁹⁸ To be credible, it would require survivable command, control, communications, and intelligence (C3I), a targeting priority corresponding to a hierarchy of political objectives, a capacity to defend the American population from nuclear attack, and a method to stop escalation short of all-out nuclear war.⁹⁹ These were capabilities that would not exist for years to come, or would not exist at all in some cases.

Nevertheless, countervailing strategy would allow the administration to maintain the most credible deterrent available absent a massive conventional force buildup, while maintaining limited nuclear options preferable to a disaster scenario of all-out nuclear war.¹⁰⁰ While this approach gave the administration flexibility in positioning its nuclear deterrent posture, there is little evidence that it carried with it a high degree of credibility. It does support, however, the idea that even when credibility might be questionable, the weight of the consequences to the deterred is such that credibility goes untested.

The evidence suggests that Reagan suffered from no such credibility problem during his presidency. In fact, his aggressive posture and apparent willingness to engage in nuclear hostilities appears to have compelled Soviet political leaders to behave cautiously and with great political restraint.¹⁰¹ Throughout the early stages of his presidency, Reagan used confrontation and counterpressure to great effect, lending credibility to his strategic redirection, and generating anxiety in the

⁹⁸ Stephen Cimbala, "War-Fighting Deterrence," *Air University Review* (May-June 1983).

⁹⁹ Carter, "Nuclear Weapons Employment Policy".

¹⁰⁰ Walter Slocombe, "The Countervailing Strategy," *International Security* 5, no. 4 (Spring 1981): 18.

¹⁰¹ See note 164 above

Soviet Union.¹⁰² In his second term, he challenged the offensive focus of nuclear deterrence that had dominated US policy since the beginning of the Cold War, instead calling for a defensive system based on SDI. While SDI might not have been realistically achievable at the time, the alarm it created amongst Soviet leadership likely imparted a degree of credibility unto the system it might not have otherwise had.¹⁰³ The biggest credibility challenge SDI presented was to those who questioned its effects on US extended deterrence posture in Europe. Specifically, there were concerns among Western government officials that strategic defense might undermine deterrence and provoke a Soviet response, with the US commitment to deterrence sacrificed at the altar of SDI.¹⁰⁴ However, European fears that the US would use strategic defense as a substitute, not a supplement, for existing extended deterrence postures appear to have been unfounded. In fact, Reagan continued to modernize conventional and nuclear forces, with concerns that SDI would dominate budgetary concerns ultimately proven baseless.¹⁰⁵ In short, the evidence suggests Reagan maintained a credible nuclear deterrent through his aggressive position towards the Soviet Union during his first term and his shift to a defensive focus during his second.

Further, under the conditions of the strategic environment, Carter's countervailing strategy appears a rational approach of applying nuclear deterrence strategy. The Carter administration based its methodology on the assumption of strategic equivalence between superpowers, and nested goals of convincing the Soviets that victory was impossible in a nuclear conflict, and if deterrence failed, of carrying out

¹⁰² Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 186-87.

¹⁰³ Mira Duric, *The Strategic Defence Initiative: US policy and the Soviet Union* (Aldershot, Hampshire, England ; Burlington, VT: Ashgate, 2003), 20.

¹⁰⁴ Nanette C. Brown, "The Strategic Defense Initiative and European Security," (RAND Corporation, January, 1986), 8.

¹⁰⁵ "Defense Spending Since World War II," http://www.usgovernmentspending.com/defense_spending.

nuclear strikes in a limited way to contain hostilities at the lowest level.¹⁰⁶ Based on these notions, PD-59 presented a rational approach to achieving these goals. Its basic premises were sound—pre-planned targeting for effective retaliatory strikes, flexible sub-options that allowed for sequential follow-on attacks against military and political targets, and survivable C3I and reserve forces necessary to prevent Soviet achievement of post-attack war aims. Further, it listed flexibility and survivability as critical requirements—flexibility to respond to virtually any contingency that might arise, and survivability as a prerequisite for strategic stability in the event of an attack.¹⁰⁷ In this sense, Carter's approach was rational, consisting of a conscious, calculated threat to adjust the cost-benefit calculations of the Soviets. However, based on the lofty capability requirements for success, it may not have been entirely reasonable without a significant investment in military capabilities, which did not occur.¹⁰⁸

Reagan's case is an example of the paradoxical nature of rationality in the context of nuclear deterrence. Reagan's strategy, codified in NSDD-13 was a different approach than that of his predecessors. While it was another variant of counterforce, it stressed the need to wage war successfully, and for the US and allies to prevail in the event of a nuclear attack. Further, it contained bolder terminology usually ascribed to all-out strategies of nuclear deterrence—removing Soviet incentive for attack by threatening wide-ranging consequences against the full range of enemy military capabilities.¹⁰⁹ Whereas PD-59 sought conflict containment, and aimed to remove considerations for victory for either side, NSDD-13 pursued victory for the US in the event of deterrence failure. Critics urged that by implying a nuclear war was

¹⁰⁶ Brown, "A Countervailing View".

¹⁰⁷ Carter, "Nuclear Weapons Employment Policy".

¹⁰⁸ John G. Behuncik, "The Carter Defense Budget," (The Heritage Foundation, March 3, 1978).

¹⁰⁹ Reagan, "Nuclear Weapons Employment Policy".

winnable, the US would make the possibility of nuclear war more likely.¹¹⁰ This appears a reasonable assertion considering Reagan's own concerns over the Soviet perception of a winnable nuclear war. While one can argue Reagan's approach as irrational, it fits the paradox of rationality presented earlier, where the appearance of irrationality actually proves beneficial in establishing nuclear deterrence.¹¹¹ Finally, while his declaratory policy remained constant, Reagan's messaging changed during the second half of his presidency, as his strategy shifted to a more rational approach centered around SDI.¹¹² During this period, Reagan's messaging indicates a shift from a strategy that seeks victory in the event of deterrence failure, to a defensive approach that might eliminate the physical threat of nuclear weapons altogether.¹¹³

Finally, both Carter's countervailing strategy and Reagan's strategic redirection achieved stability, albeit through different methods. To reiterate, *stability* is concerned with maintaining the status quo and preventing the occurrence of war. Failing that, if war occurs, it is concerned with the prevention of escalation.¹¹⁴ The strength of Carter's approach lies in the latter case. Had deterrence failed, countervailing strategy theoretically would have stopped events from spiraling to all-out nuclear war, although its ability to do so remains debatable. Through a combination of flexible response, survivable reserve forces, and prioritized political and military targets, the administration would tighten the vice on Soviet leadership to the point where they would sue for

¹¹⁰ Powaski, *March to Armageddon : the United States and the Nuclear Arms Race, 1939 to the Present*: 190.

¹¹¹ Morgan, *Deterrence Now*: 78.

¹¹² Reagan, "Address to the Nation on Defense and National Security".

¹¹³ The Ronald Reagan Presidential Library and Museum, "Strategic Defense Initiative," <http://www.reagan.utexas.edu/education/For%20Educators/picturingcurriculum/picturingcurriculum/Picturing%20the%20Presidency/4.%20Strategic%20Defense%20Initiative/SDI%20Card.pdf>.

¹¹⁴ Morgan, "The Practice of Deterrence," 150-54.

peace.¹¹⁵ Fortunately, it was never seriously tested; deterrence held, and the strategy was effective in maintaining the status quo.

Conversely, Reagan's plan maintained the status quo by threatening to inflict unacceptable damage on the Soviets through large-scale retaliatory destruction.¹¹⁶ The message was that if deterrence failed, the consequences for the Soviets would be so, "uncertain and dangerous," as to remove any incentive for attack.¹¹⁷ Instead of denying victory to the Soviets, it sought to ensure victory for the US. If deterrence failed, it would still seek to terminate hostilities short of full-scale nuclear war, but under the condition of US victory.

Nuclear weapons produce strategic effects, compelling political leaders to exercise restraint, and reinforcing stability.¹¹⁸ The evidence certainly suggests that Reagan created conditions that incentivized the Soviets to behave cautiously.¹¹⁹ Reagan wrote that he learned that many at the top of the Soviet hierarchy were genuinely afraid of America, not only as adversaries, "but as potential aggressors who might hurl nuclear weapons at them in a first strike."¹²⁰ Publicly, the Soviets accused Reagan of having opted for military supremacy, discarding peaceful co-existence and détente, and relying on a sharp military build-up throughout the world, including along the Soviet border.¹²¹ This rhetoric reflects an environment where fear drove the Soviets to behave cautiously, resulting in a relatively stable international environment.

¹¹⁵ Carter, "Nuclear Weapons Employment Policy".

¹¹⁶ Morgan, *Deterrence Now*: 152.

¹¹⁷ Reagan, "Nuclear Weapons Employment Policy".

¹¹⁸ Forsyth, Saltzman, and Schaub, "Remembrance of Things Past," 75.

¹¹⁹ See notes 96, 97 above

¹²⁰ Ronald Reagan, *An American Life*, 1st Threshold Editions trade pbk.ed. ed. (New York: Threshold Editions, 2011), 585-89.

¹²¹ Leonid Zamyatin, "Head of the International Information Department of the Central Committee of the CPSU on Soviet Television," (May 16, 1981).

Conclusion

During this period, the basic dynamics of nuclear deterrence became somewhat understood to both the United States and the Soviet Union. The legacy of the Cuban Missile Crisis had made clear the potential for disaster in a game of nuclear brinksmanship. Thus, the environment changed, and for the most part, stabilized as an era of détente emerged. Despite this, the environment maintained elements of volatility, and nuclear stockpiles continued to grow and modernize.

Several things stand out when examining nuclear deterrence during this era. Most notable is the US shift away from countervalue punishment strategies, as seen in table 3. Instead, the US opted for a counterforce denial strategy under the Nixon administration, a countervailing strategy under Carter, and a victory-based counterforce strategy during Reagan's first term. This might reflect a deeper understanding of nuclear deterrence and the acceptance of the idea that the purpose of nuclear weapons is to prevent war. Although Reagan's posturing during his first term might signal otherwise, there is little indication that the world faced any significant threat of nuclear hostilities during this period. Additionally, Reagan shifted to a defensive posture during his second term supports the trend away from a punishment strategy.

Table 3 also shows that stability and the dominance of general over immediate deterrence continue to display direct proportionality during this period. By projecting the necessary capability and willingness to act, the US established a level of credibility sufficient to compel political leaders to behave cautiously, resulting in political restraint, and reinforcing international stability. The level of credibility established need not be high in nuclear deterrence to be effective. In fact, the credibility of Carter's countervailing strategy was relatively low when

compared to other periods, yet not so low as to embolden Soviet aggression.

A final point is worth noting. This period spelled the end of the standoff between the US and Soviet Union, and with it the relative stability inherent in bipolarity. During the Cold War, the superpowers achieved stability based on parity, the dynamics of interaction, bargaining, and transparency, and the application of credibility and rationality in a bipolar system (see Table 3). While US nuclear deterrence policy fluctuated between all-out strategies that threatened disastrous consequences for Soviet aggression, and flexible strategies that gave the US options below the nuclear threshold, rarely did stability suffer. This unwavering level of stability supports the idea that nuclear weapons are elements of statecraft and that their presence socializes political leaders to the dangers of adventurism, conditioning them to establish rules that constrain behavior.¹²² In the bipolar environment of the Cold War, both the Soviet Union and the United States demonstrated a level of rationality sufficient to allow for predictable and expected modes of behavior and, for the most part, both sought to preserve the status quo.

The end the Soviet Union signaled the end of the Cold War. The period of the 1970s and 1980s had seen nuclear deterrence stabilize with relative parity between the superpowers, the era of détente, and the decay of a superpower. With the end of the Cold War, the US found itself the sole superpower in a new world. It would have to reevaluate its place in the world, and the role of nuclear deterrence in a newly created international order.

¹²² Forsyth, Saltzman, and Schaub, "Remembrance of Things Past," 80.

**Table 3: Analytical Framework Summary—
Nixon’s Strategic Sufficiency through the Cold War Arms Race**

	Analytical Framework Summary					
	Type & Characteristics of Nuclear Deterrence					
	Bipolar					Unipolar
	Eisenhower	Kennedy	Nixon	Arms Race-Carter	Arms Race-Reagan	Modern
Extended &/or Central	Extended focus	Extended focus	Extended focus	Extended focus	Extended w/ strong Central elements (SDI)	
Punishment &/or Denial	Punishment	Denial to Punishment	Denial	Denial w/ leadership focus	Denial w/ victory focus	
Immediate &/or General	General	General to Immediate	General	General	General	
	Elements of Nuclear Deterrence					
Credibility	High	Low to High	Low	Low	High	
Rationality	Low	High	High	High	Low to High	
Stability	High	Low to High	High	High	High	

Source: Author’s original work

Chapter 5

The Modern Era of Nuclear Deterrence

This chapter will focus on the period following the fall of the Soviet Union and the end of the Cold War. Almost overnight, the United States became the world's sole superpower with a massive shift in the balance of power. Today, one sees the glimpses of things to come, with more countries seeking to acquire nuclear arsenals. For the moment, without a direct existential threat, the role of nuclear deterrence seems to have diminished, as it no longer serves as the cornerstone of US security strategy. Meanwhile, the diffusion of the international order appear to threaten stability.

Background

The end of the Cold War and the collapse of the Soviet Union in 1991 drastically altered the international environment. The US suddenly found itself the lone superpower, surviving the great existential threat for which it had built its security structure. Over the next twenty years, the US would struggle to adjust its nuclear strategy to meet the challenges of the new environment, in many ways adhering to the doctrine from the Cold War. Meanwhile, deterrence among the great powers settled into, “a recessed general deterrence.”¹

With the Soviet Union dissolved, however, the new world order was now unipolar with the US seated as the world hegemon.² Where bipolarity had drawn virtually all states to one of the two poles in the international order, the US now stood alone, resembling something of a hyperpower.³ The world appeared, for a time, to be safer, without the

¹ T. V. Paul, Patrick M. Morgan, and James J. Wirtz, *Complex Deterrence: Strategy in the Global Age* (Chicago: University of Chicago Press, 2009), 259.

² Freedman, *The Evolution of Nuclear Strategy*: 408.

³ Freedman, *Deterrence*: 75.

existential threat of nuclear war looming. The US elected President Bill Clinton on a platform of domestic issues, primarily economic ones. Meanwhile, globalization promised to make the world increasingly interdependent, with physical borders mattering less and the role of the state diminished. However, global interrelatedness had a dark side—the looming danger presented by radical states on the fringes of the international economy, with little regard for the “liberal norms of political behavior.”⁴

From the US perspective, Russia presented a problem, not so much by its strength, but more so its apparent weaknesses. A nuclear power undergoing a significant sociopolitical shift was without precedent. For this reason, the US adopted the concept of mutual assured safety as a way to improve the political relationship between historical foes and ensure the safety and security of their nuclear arsenals. Talk of eliminating nuclear weapons took place in some circles, but gained little traction. Instead, the US marginalized its nuclear arsenal by reducing it to a lower profile. While discussions of missile defense continued, they gained little momentum.

President George W. Bush took office with a more traditional security outlook. His focus was on customary threats, such as that presented by an ascendant China, and from potential rogue nations such as Iran, Iraq, and North Korea.⁵ However, the war on terror following the 2001 terrorist attacks on the World Trade Center transformed Bush’s outlook. While the world was still in the nuclear age, the focus shifted to the asymmetric challenges of combatting terrorism, rather than the traditional great power struggle.⁶

⁴ Freedman, *The Evolution of Nuclear Strategy*: 409.

⁵ George W. Bush, "State of the Union Address," Miller Center, University of Virginia, <http://millercenter.org/president/speeches/detail/4540>.

⁶ Freedman, *The Evolution of Nuclear Strategy*: 410.

While deterrence still played a role, it no longer served as the driving force behind security in international relations. Debates over such matters as counterforce targeting or the role of battlefield nuclear weapons receded further, while the most significant developments in strategy revolved around conventional weaponry.⁷ Still, general nuclear deterrence loomed in the background, serving as the final barrier to direct military attacks by rival powers, no matter how improbable.⁸ Although there were fewer targets and weapons, targeting philosophy remained essentially unchanged.⁹ There remained common features that occur in all deterrence relationships, somewhat independent of the strategic rivalries that characterize such situations.¹⁰

It was paradoxical that, as the US achieved unparalleled conventional superiority, adversaries sought unconventional ways to circumvent US power. While this challenge manifested itself in the form of terrorism, a greater concern was how weapons of mass destruction might be used to combat US dominance. As its conventional superiority incentivized the US to deemphasize its nuclear deterrence, it correspondingly incentivized challengers to seek a nuclear option. In this sense, America's "conventional superiority provided a potential boost to the spread of nuclear weapons, or ... other weapons of mass destruction."¹¹

The post-Cold War era saw a sea change in the international environment. The evolving nature of the modern state, the balance between great and small powers, and the traditional role of militaries shifted in response to the environment, while the role of nuclear weapons was deemphasized. The bipolarity of the Cold War gave way to a

⁷ Freedman, *The Evolution of Nuclear Strategy*: 411-12.

⁸ Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*: 267.

⁹ Kunsman, "A Primer on US Strategic Nuclear Strategy," 67.

¹⁰ Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*: 259.

¹¹ Freedman, *The Evolution of Nuclear Strategy*: 412, 26.

“complex and multifaceted international system” that would challenge the status quo, and require the US to reevaluate its strategic heading.¹²

Extended and Central Nuclear Deterrence

Extended nuclear deterrence remains dominant in the US’ nuclear deterrent posture for two primary reasons—reassuring allies and nonproliferation. By extending its nuclear umbrella, current US policy reassures allies through the traditional means of the strategic triad, non-strategic nuclear weapons deployed forward in Europe, and by deploying US-based nuclear weapons to other regions in the event of a contingency. Meanwhile, US policy approaches non-proliferation on two fronts. First, it seeks to reassure allies that they do not need to develop their own nuclear arsenals to secure their security interests; and second, it strives to discourage others from pursuing nuclear weapons by removing the potential or military advantages in doing so.¹³

During the Cold War, the US focused its extended deterrence posture on preventing Soviet aggression in Europe. Today, that focus has shifted to Asia and the Middle East. While the US relies heavily on its non-nuclear forces in these regions, it maintains the ability to deploy nuclear forces if necessary. The US has employed show-of-force demonstrations with nuclear bombers on numerous occasions in recent years. While a conventional effort, the inclusion of B-2 Bombers in the March 2011 strike on Libya served the dual purpose of messaging to those in the Middle East and elsewhere that US force projection capabilities, both conventional and nuclear, remains robust.¹⁴ Meanwhile, the US maintains a presence of nuclear capable B-2 and B-52 Bombers on a rotational basis in the Pacific, while recently

¹² Freedman, *The Evolution of Nuclear Strategy*: 441.

¹³ "Nuclear Posture Review Report," (United States Department of Defense, April 2010).

¹⁴ John A. Tirpak, "Bombers over Libya," <http://www.airforcemag.com/MagazineArchive/Pages/2011/July%202011/0711libya.aspx>.

committing B-2 sorties over South Korea in response to heightened tensions with North Korea.¹⁵ These efforts serve the dual purpose of deterring potential adversaries against hostile action and assuring allies that their interests are secure through the US' nuclear posture.

Nuclear Deterrence through Punishment and Denial

The current US nuclear deterrence posture has shifted exclusively to a counterforce focus since the end of the Cold War. The current *Defense Operations Joint Operating Concept* document refers to counterforce deterrence operations that deny the enemy from achieving its military objectives.¹⁶ Meanwhile, a 2008 joint Department of Defense and Department of Energy document reports that the US replaced the SIOP with a plan that provides smaller, more flexible targeting options.¹⁷ All indications are that this new plan is composed of a "family" of individual strike options based upon limited, accurate strikes that seek to limit collateral damage.¹⁸ Additionally, the current nuclear triad of precision bombers, highly accurate ICBMs and SLBMs provides further evidence of this counterforce approach in current US nuclear doctrine.¹⁹ From a legal and moral perspective, US adherence to the principles of discrimination, proportionality, and necessity as codified in the Law of Armed Conflict make a return to anything reminiscent of an indiscriminate targeting scheme appear highly improbable.²⁰

¹⁵ Thom Shanker and Choe Sang-Hun, "U.S. Runs Practice Sortie in South Korea," *New York Times*, http://www.nytimes.com/2013/03/29/world/asia/us-begins-stealth-bombing-runs-over-south-korea.html?_r=0.

¹⁶ "Defense Operations Joint Operating Concept," (US Department of Defense, December, 2006), 40.
¹⁷

Samuel W. Bodman and Robert M. Gates, "National Security and Nuclear Weapons in the 21st Century," (September 2008), 13.

¹⁸ Henry H. Shelton, Ronald Levinson, and Malcolm McConnell, *Without Hesitation: The Odyssey of an American Warrior*, 1st ed. (New York: St. Martin's Press, 2010), 175.

¹⁹ Correll, "The Ups and Downs of Counterforce."

²⁰ "Law of Armed Conflict Deskbook," in *International Security*, ed. International and Operational Law Department and United States Army Judge Advocate General (2012), 13, 35.

Immediate and General Nuclear Deterrence

Immediate nuclear deterrence is largely non-existent in the current strategic environment. Relations between great powers with large nuclear arsenals, although strained, are barely a shadow of the immediate deterrent threats of the Cold War.²¹ While there have been recent glimpses of conflict involving potential rogue actors with nuclear capabilities, none have yet risen to the level of an immediate crisis.

In recent years, the tone of US policy has most noticeably shifted to the reduction of the role of nuclear weapons. The NPR specifically mentions the fundamental role of US nuclear weapons as being to deter attack on the US and its allies.²² Meanwhile, the US has begun to blur the line between nuclear and conventional forces in certain situations, with conventional weapons sharing more of the strategic load and the role of nuclear weapons receding.²³ In effect, the alert posture and targeting methodology of the Cold War have given way to a more recessed general deterrence.²⁴

Credibility, Rationality, and Stability

The US nuclear deterrent threat today possesses a low level of credibility for anything short of an existential threat. Fortunately, the level of consequences for any actor that might test that credibility is such that the threat goes unchallenged. To understand why credibility suffers, one must first recognize that the US is self-deterred from retaliating with nuclear means in most cases. A modern nuclear state, particularly one that enjoys a sizeable asymmetric advantage, faces significant strategic, tactical, reputational, moral, and legal difficulties in mounting a credible threat of retaliation. The tradition of nonuse, or

²¹ Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*: 265.

²² "Nuclear Posture Review Report," 15.

²³ "Nuclear Posture Review Report," 24.

²⁴ Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*: 273.

taboo, against nuclear weapons only accentuates these inhibitions.²⁵ In the modern era, world and domestic opinion would likely judge the use of nuclear weapons very harshly in all but the most extreme cases. Robert Jervis explains that the disparity in military power between the US and adversaries only increases US self-deterrence, and that world and domestic opinion would likely judge a nuclear retaliation, even against an adversary WMD threat, as excessive and akin to, “using a sledgehammer against a fly.”²⁶

Conventional weapons, on the other hand, might not suffer the same stigma, thus escaping this form of self-deterrence. An example is that during the first Gulf War, coalition forces determined tactical nuclear weapons to be unnecessary, as they could inflict equivalent damage with conventional weapons, minus the downside.²⁷ A non-nuclear threat might also circumvent the sticky legal and moral challenges associated with international law and the principles of discrimination, proportionality, and necessity.²⁸ This line of reasoning might explain the increasing US proclivity to include conventional weapons in its portfolio of global strike capabilities.²⁹

Further, the US employs a rational approach to its own nuclear deterrence posture, yet faces significant challenges in assessing the rationality and behavior of potential adversaries. In the interrelated nature of rationality in nuclear deterrence, the US assumes an opponent understands the general character of the US threat, and the behavior it

²⁵ Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945*, Cambridge Studies in International Relations (Cambridge: Cambridge University Press, 2007), 327.

²⁶ Robert Jervis in Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*: 153.

²⁷ Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945*: 318-19.

²⁸ See note 20 above

²⁹ See note 23 above

must avoid to prevent the US from executing the threat.³⁰ This assumes a rational value-maximizing mode of behavior, and focuses on the fact that each participant's choice depends largely on what he expects the other to do.³¹

During the Cold War, the US based its Cold War nuclear deterrence on general expectations of how the Soviet Union would behave, adjusting its own behavior to maintain stability. This process is exponentially more difficult today than in the bipolar relationship of the US and Soviet Union.³² As Kenneth Waltz points out, a bipolar international order is best for stability, as more actors only increases uncertainty.³³ This is due to the dynamics of interaction, bargaining, and transparency that become more complex as the number of actors rise. Further, lack of familiarity makes it difficult to assess an opponent's behavior. While one might appear quite rational within his own value framework, an opponent might view things differently.³⁴ Simply put, the Cold War cost-benefit models might not apply today, making the challenge of assessing an opponent's rationality, and adjusting one's own behavior accordingly very difficult.

Today, the US maintains international stability through its overwhelming asymmetry of capabilities; however, there are indications that stability may be in decline.³⁵ During the Cold War, equilibrium resulted from the bipolar superpower relationship that conditioned each side to behave cautiously. This, in turn, produced restraint and

³⁰ Keith B. Payne, *The Fallacies of Cold War Deterrence and a New Direction* (Lexington: University Press of Kentucky, 2001), 62.

³¹ Schelling, *The Strategy of Conflict*: 15.

³² Robert P Jr. Haffa, Ravi R. Hichkad, Dana J. Johnson, and Philip W. Pratt, "Deterrence and Defense in the Second Nuclear Age," in *Analysis Center Papers* (Northrop Grumman, March 2009), 5.

³³ Kenneth Neal Waltz, *Theory of International Politics*, 1st ed. (Boston, Mass.: McGraw-Hill, 1979), 136-38.

³⁴ Keith B. Payne, *Deterrence in the Second Nuclear Age* (Lexington: University Press of Kentucky, 1996), 53.

³⁵ James J. Wirtz in Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*: 322.

reinforced international stability. Further, bipolarity more or less divided the world into two camps, with the superpowers serving as two poles to which all other states would gravitate for security purposes. In the modern era, bipolarity gave way to unipolarity as the US became something of a hyperpower, enjoying a widening asymmetrical advantage.³⁶ Over time, these asymmetric relationships have become more complicated, as deterrence no longer involves only state actors, but can include, “international governmental organizations, nonstate actors, and even domestic and transnational audiences.”³⁷

The NPR recognizes that the provocative behavior of nuclear aspirants has increased regional instability and threatens to generate pressures for neighbors to seek nuclear deterrence options of their own.³⁸ Meanwhile, although great powers view nuclear weapons as a hedge against the emergence of future great-power conflicts, the rise of nontraditional actors with nuclear aspirations means that the US must now pay attention to a wider range of potential threats.³⁹ In short, the process of conditioning others to behave cautiously and exercise restraint becomes much more complicated as the number of actor increase.

Conclusion

An examination of the interplay between credibility, rationality, and stability in Table 4 reveals a negative trend in the modern era. As mentioned, the US nuclear deterrent threat appears to hold a low level of credibility for anything short of an existential threat. Today, the tradition of nonuse, world and domestic opinion, and moral-legal concerns leaves the US self-deterred from retaliating with nuclear means in most scenarios short of a highly improbable massive nuclear attack.

³⁶ Freedman, *Deterrence*: 76-78.

³⁷ Wirtz in Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*: 322.

³⁸ "Nuclear Posture Review Report," 4.

³⁹ Paul in Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*.

It is interesting to note that this situation is not so different from the challenge of self-deterrence faced by Cold War leaders. In many cases, US decision makers sought to escape self-deterrence by employing limited nuclear options below the nuclear threshold of all-out war. In most cases, particularly during the 1960s and 1970s, the political environment permitted flexible nuclear options as an alternative to an intolerable conventional military build-up. Conversely, in the contemporary era, the use of nuclear weapons at any level is intolerable, while the use of precision, conventional weaponry is more readily accepted. Thus modern policy makers face the same challenge as their Cold War counterparts, yet substitute conventional weapons for limited nuclear options. This raises significant concerns for the effectiveness of US strategic deterrence, as without a credible nuclear deterrence threat, adversaries might be more willing to take risks and challenge the US. While nuclear deterrence promises unbearable consequences, conventional deterrence promises, at worst, unacceptable consequences.⁴⁰

One also notes in Table 4 the complex nature of rationality in the modern era with a wide range of potential adversaries. While the US approach to nuclear deterrence represents a rational methodology, it faces significant challenges in ensuring that actors understand the character of its threat, and the lines they must not cross to avoid the execution of the threat. Similarly, the US faces significant challenges in estimating the rationality of actors that do not act according to expected models of behavior.

This situation is certainly different from anything experienced during the Cold War. The US and Soviet Union each posed substantial nuclear threats, yet the evidence shows they generally acted in

⁴⁰ Morgan, *Deterrence Now*: 283.

accordance with expected models of value-maximizing behavior. Those same cost-benefit models might still apply in great power relations today, but there is little evidence to suggest their relevance when considering a nuclear-armed madman scenario. As Keith Payne notes, we often fail to understand our opponents—their values, goals, determination, and commitment—and are therefore surprised when their behavior fails to meet our expectations.⁴¹ While an adversary may be acting within their own context of rationality, their behavior might fall outside of established norms of behavior.

Finally, along with a low level of credibility, and an increasingly complex degree of rationality, Table 4 reveals declining stability in the modern era. Bipolar stability of the Cold War has given way to a complex, multifaceted international environment, where competition is no longer limited to two principal players, but is growing in number, nature, complexity, and volatility. This gives rise to the potential dangers of the security dilemma and a spiral of increasing instability, as states find themselves threatened by misperceptions and unsure of the intentions of others.⁴²

Perhaps the greatest lesson from the Cold War that one can apply in the modern era is that no one-size-fits-all deterrence posture works at all times in all contexts. During this period, US decision makers continually adjusted the US nuclear deterrence posture in response to Soviet behavior. Today, the US faces an increasingly complex international environment of major nuclear state rivals, small nuclear states, and non-state actors with aspirations to acquire nuclear capabilities. It would behoove the US to implement an increasingly complex and robust deterrence posture, one that employs flexible,

⁴¹ Payne, *Deterrence in the Second Nuclear Age*: 57.

⁴² Waltz, *Theory of International Politics*: 186-87.

tailored deterrence, combines offensive and defensive measures, and employs all elements of national power.

**Table 4: Analytical Framework Summary—
The Modern Era of Nuclear Deterrence**

	Analytical Framework Summary					
	Type & Characteristics of Nuclear Deterrence					
	Bipolar					Unipolar
	Eisenhower	Kennedy	Nixon	Arms Race-Carter	Arms Race-Reagan	Modern
Extended &/or Central	Extended focus	Extended focus	Extended focus	Extended focus	Extended w/ strong Central elements (SDI)	Extended focus
Punishment &/or Denial	Punishment	Denial to Punishment	Denial	Denial w/ leadership focus	Denial w/ victory focus	Denial
Immediate &/or General	General	General to Immediate	General	General	General	General
	Elements of Nuclear Deterrence					
Credibility	High	Low to High	Low	Low	High	Low
Rationality	Low	High	High	High	Low to High	Complex
Stability	High	Low to High	High	High	High	High to Low

Source: Author's original work

Chapter 6

The Role of Nuclear Deterrence in the Future

This chapter will discuss the role of nuclear deterrence in a near-future multipolar strategic environment consisting of major nuclear state rivals, small nuclear states, and non-state actors with aspirations to acquire nuclear capabilities. Through this examination, it will demonstrate how the US might employ a rational approach to establishing a credible threat in order to maintain stability in a complex future environment.

Background

Since the end of the Cold War, a decentralized, multipolar environment comprised of emerging threats, unstable actors, and various inventories of nuclear weapons and delivery means has increasingly emerged.¹ Some experts have referred to this as the second nuclear age.² New challenges emerging from small nuclear states and non-state actors, in addition to the traditional challenges associated with rivalry between major states characterize this period. Specifically, the 2010 US Nuclear Posture (NPR) report lists three primary challenges as the US positions its nuclear deterrence for the future: existing nuclear powers, most notably Russian and China; nuclear aspirants, particularly those governed by unfriendly regimes; and non-state actors, those that seek to acquire nuclear weapons for nefarious purposes.³

What is seen today are glimpses of the future, the challenge of the status quo by new powers who seek to establish themselves and further their own interests in the international environment. Whereas during the Cold War, the behavior of the two political principals drove the

¹ "Nuclear Posture Review Report," 3.

² Haffa, Hichkad, Johnson, and Pratt, "Deterrence and Defense in the Second Nuclear Age," 7.

³ "Nuclear Posture Review Report," 3-14.

balance of power through clearly stated intentions and capabilities, the future promises an increasingly complex and volatile situation among an expanded field of players.⁴ It is important to note that, while many westerners view nuclear weapons as antiquated weapons of the past, other view them as potential weapons of the future.⁵ Whereas more powerful nations tend to look upon nuclear weapons as a drain on resources, weaker nations see their equalizing potential—a solution that provides security without a massive conventional buildup.

The NPR goes on to say that, “conditions that would ultimately permit the United States and others to give up their nuclear weapons without risking greater international instability and insecurity are very demanding. These conditions include success in halting the proliferation of nuclear weapons, greater transparency into the programs and capabilities of key countries of concern, verification methods and technologies capable of detecting violations of disarmament obligations, credible enforcement measures, and ultimately the resolution of regional disputes that can motivate rival states to acquire and maintain nuclear weapons.”⁶ That is a very tall order indeed.

An increasingly complex international order demands an increasingly complex nuclear deterrent strategy. Unlike the Cold War, the US no longer faces a great power rival with relatively predictable patterns of behavior and responses to deterrent strategies. While the possibility of catastrophic total nuclear war might decrease with the shift to a multipolar international environment, the likelihood of a nuclear

⁴ "Nuclear Posture Review Report," 3-4.

⁵ Thérèse Delpech, *Nuclear Deterrence in the 21st Century: Lessons from the Cold War for a New Era of Strategic Piracy* (Santa Monica, CA: RAND, 2012), 10.

⁶ "Nuclear Posture Review Report," xv.

incident might correspondingly grow proportionally with the number of states possessing nuclear weapons.⁷

As Patrick Morgan points out, deterrence today is different from in the past, as context has shifted. A universal theory of deterrence, therefore, is impractical. Deterrence should become “something widely practiced but varying from place to place, over time, in meaning and effect, depending on the nature of its practitioners and targets.”⁸ In other words, the US needs to approach deterrence carefully as part of a larger toolkit.⁹ Uncertainty dictates that any one-size-fits-all approach to nuclear deterrence is impractical.

Accordingly, the US needs to respond to the challenges of the future through an approach of flexible deterrence, tailored to the threat, combining both offensive and defensive measures, and employing all elements of national power. For instance, in a traditional deterrent scenario with a near-peer nuclear competitor such as Russia or China, the employment of deterrence might closely resemble that of the Cold War era, yet may require flexibility due to nuances of the modern strategic landscape. As an example, there seems to be little credible deterrent threat would dissuade China from pursuing its armament program.¹⁰ In this case, a defensive approach along with the other elements of national power may be the best approach.

Meanwhile, an entirely different strategy will likely be necessary when dealing with small nuclear states or nuclear aspirants. Under this scenario, a combination of deterrence, an active defense, and the employment of other elements of national power might be most effective in influencing behavior. Even limited arsenals in the hands of

⁷ Kunsman, "A Primer on US Strategic Nuclear Strategy," 75.

⁸ Morgan, "The Practice of Deterrence," 168.

⁹ Morgan, *Deterrence Now*: 285.

¹⁰ Forsyth, Saltzman, and Schaub, "Remembrance of Things Past," 79.

determined and unfriendly adversaries present a significant risk.¹¹ Critically, this necessitates flexibility and the synchronization of nuclear deterrence and active defense tailored to the adversary.

A traditional deterrence strategy that might prove successful against a major nation-state challenger or even a small nuclear state would likely be ineffective against a terrorist organization for which threats holds little deterrent value. Deterring non-state actors is difficult, as these organizations might have few tangible assets to threaten, while attribution might be next to impossible.¹² In this case, it might prove most effective to utilize a combination of defense, preemption, and prevention rather than threats.¹³ This might include an increased reliance on missile defense in conjunction with a strategy that focuses on the “demand, transit and ... supply elements of nuclear smuggling to terrorist groups.”¹⁴ This multifaceted approach might significantly reduce the likelihood of an attack.

Looking forward, US nuclear deterrence posture requires the flexibility to deal with an unparalleled range of challenges. While nuclear deterrence no longer serves as the cornerstone of our national security strategy, nuclear weapons will maintain an important role as part of the US’ national defense.

Extended and Central Nuclear Deterrence

Maintaining a credible extended deterrent will be the most important challenge the US faces as it continues to deemphasize nuclear weapons into the future. To maintain credibility, the US needs to make strategic considerations regarding nuclear weapons basing. In addition

¹¹ "Nuclear Posture Review Report," 3-4.

¹² Paul, Morgan, and Wirtz, *Complex Deterrence: Strategy in the Global Age*: 324.

¹³ Haffa, Hichkad, Johnson, and Pratt, "Deterrence and Defense in the Second Nuclear Age," 18.

¹⁴ Steven Pifer, Richard C. Bush, Vanda Felbab-Brown, Martin S. Indyk, Michael O'Hanlon, and Kenneth M. Pollack, "U.S. Nuclear and Extended Deterrence: Considerations and Challenges," in *Arms Control Series* (Foreign Policy at Brookings, May 2010), 53.

to continuing a nuclear presence in Europe, it will have to consider the possibility of reestablishing a nuclear presence in the Pacific. As the NPR points out, maintaining a credible extended nuclear deterrence threat is critical in achieving the dual goals of avoiding nuclear proliferation and assuring allies that they need not develop their own nuclear arsenal.¹⁵ As neighboring countries gain nuclear capabilities, they promise to threaten that assurance, and set the stage for nuclear proliferation. The *Global Trends 2025* report suggests the risk of nuclear weapons use to be higher in the next 15-20 years, and warns of the risk of a nuclear arms race, specifically in the Middle East.¹⁶ Under this assumption, the US commitment to its extended deterrence responsibilities is more important than ever if it is going to meet the goals of the NPR.

Paradoxically, the evidence presented in this study suggests that the credibility of the US' extended deterrence threat is likely to diminish as it deemphasizes its nuclear arsenal. Throughout the Cold War, the US used messaging and force posture to emphasize its commitment to allies. While the US still publicly maintains a commitment to extended nuclear deterrence, it may be sending the opposite message with its increasing reliance on conventional weapons for strategic deterrence.¹⁷ All evidence suggests the trend away from nuclear weapons as the foundation of US security strategy will continue. Thus, to achieve its goals of preventing proliferation and assuring allies, the US will have to find a balance that allows it to preserve a credible extended deterrence while deemphasizing nuclear weapons—it will not be easy.

¹⁵ See Chapter 5, note 13 above

¹⁶ National Intelligence Council, "Global Trends 2025: A Transformed World," <http://www.acus.org/publication/global-trends-2025-transformed-world>.

¹⁷ See Chapter 5, note 23 above

Nuclear Deterrence through Denial and Punishment

The movement since the beginning of the Cold War has been away from punishment strategies and towards denial strategies. Today, public opinion, both domestic and abroad, would make it nearly impossible for the US to advance a punishment strategy. For this reason, the US is likely to implement a strategy of denial across the spectrum of potential adversaries.

Current US strategic doctrine consists of a family of counterforce strike options that rely on precision strikes and the avoidance of collateral damage through flexible targeting options. There is little evidence to suggest this will change in the future. In fact, punishment strategies and countervalue targeting have become almost unthinkable in world and domestic public opinion, as precision and casualty avoidance have normalized into the public psyche. In addition to moral considerations and norms of behavior, US adherence to the principles of discrimination, proportionality, and necessity as codified in the Law of Armed Conflict make a return to indiscriminate targeting highly improbable.

Immediate and General Nuclear Deterrence

While there is no immediate foreseeable threat, the possibility of an immediate crisis will grow as more actors gain nuclear capability. Due in large part due to the bipolar stability of the superpower relationship during the Cold War, general nuclear deterrence was very effective in avoiding challenges to the status quo. The Cuban Missile Crisis notwithstanding, there were few incidences that one could argue were immediate crises. As the world becomes increasingly multipolar, however, the risk of immediate crisis increases.

Among major nuclear states, the absence of crises resulting in the need for immediate deterrence is likely to continue into the future. There seems little appetite amongst the US, Russia, or China for conflict that violates an increasingly normalized behavior of nonuse. More concerning are the challenges presented by small nuclear states and non-state actors with nuclear capabilities. In such a situation, an adversary that demonstrates the willingness to attack the US while also possessing the nuclear capability would result in a nuclear crisis of the magnitude not seen since 1962. Recently, unstable regimes that possess nuclear weapons have made statements that directly threaten the US. To this point, the US has largely discounted these threats, as enemy capability is suspect, and will is questionable. As has been shown throughout the preceding case studies, however, credibility need not be high to be effective. If the adversary solves the capability problem and demonstrates the will to make a realistic threat, the US will find itself in an immediate crisis.

Credibility, Rationality, and Stability

Of the many lessons learned from historical case studies that one might apply to a future scenario, the need for to establish credibility to achieve effective nuclear deterrence is essential. Also evident is that, while credibility is important, nuclear deterrence requires only a modest amount of credibility to be effective. The sheer weight of the consequences to the deterred is so significant that, even when credibility might be doubtful, it goes untested.

Much like in the historical case studies, when considering a major state rival, the US nuclear deterrent remains credible and is unlikely to face any significant challenges. The relationship among the US, Russia, and China, while strained, poses little threaten to nuclear stability. As policy, the US openly proclaims the fundamental role of its nuclear

arsenal to deter nuclear attack on the US.¹⁸ Meanwhile, relations between the major powers have largely normalized and each demonstrates an adherence to the informal tradition of nonuse. While the US is wise to maintain the capability to respond to a major state nuclear threat, the days of nuclear-armed aircraft sitting alert and ICBMs aimed at the enemy heartland have passed.

For the US, establishing credibility for a nuclear response to against anything short of an existential threat is challenging. However, there is little historical precedent for a direct threat from a small nuclear state or non-state actor with nuclear capabilities. One can extrapolate, however, lessons that might be helpful in understanding the dynamic that might come into play in the case of a limited attack from an unstable regime or a fanatical non-state actor. During the Cold War, several presidential administrations' sought limited nuclear options below the threshold of full-scale nuclear war. Yet, this approach held the possibility of spiral activity and remained untested. When dealing with the threat from an entity with a limited nuclear arsenal, as in a small state or non-state scenario, one removes the threat of nuclear escalation, assuming a third party does not become involved. A reasonable expectation, then, is that the US would not incur the same level of self-deterrence as during a bipolar Cold War scenario. One must consider, however, the modern contextual environment and its tradition of nonuse, along with the intolerance of domestic and world opinion to the use of nuclear weapons. International norms of behavior have replaced the fear of escalation as the driving factor behind US self-deterrence when facing anything short of an existential threat.

Thus, even a direct threat on the US might not incur a nuclear response. In fact, the US would probably be self-deterred from executing

¹⁸ "Nuclear Posture Review Report," vii.

a nuclear response in all but the most extreme cases. While a significant military response would likely take place, the collateral damage of a nuclear response would be unacceptable. Also, the level of attribution necessary to warrant such an attack would be extremely high, particularly in the case of a non-state actor. Even though US policy does not prohibit such action, its fear of escalation and moral senses might dissuade reciprocal nuclear action. Considering that the threshold of a nuclear response is high, the probability of a massive conventional response seems the most plausible answer.

Further, another lesson garnered from the examination of historical case studies is that rational behavior helps foment stability. Even during the Cuban Missile Crisis, rational behavior and sensitivities to the danger of nuclear war caused US and Soviet leaders to step back from the precipice of nuclear hostilities. Afterwards, both superpowers sought to normalize relations and ease tensions to avoid a recurrence of nuclear crises. Today, as during the Cold War, restraint and rational behavior characterize the relationship amongst major nuclear powers, with little threat of hostilities that might escalate to the use of nuclear weapons in the near future. Further, the current trend shows no indications of any significant heading changes.

Rational norms of behavior become more muddled and complex however when considering the threat from small nuclear states and non-state actors with nuclear capabilities, especially those with radical elements. In such a situation, the US' rational approach might actually work against the credibility of its nuclear deterrence. Looked at another way, an irrational approach might bolster US credibility in the face of this threat. While the nature of the adversary is different, there are historical examples of the effectiveness of presenting a seemingly irrational nuclear threat to affect the behavior of the enemy. For instance, both Eisenhower and Reagan demonstrated a degree of

irrationality through their apparent willingness to wage apocalyptic nuclear war if necessary, causing the Soviets to pause. This is not to suggest the US should rattle its nuclear sabers, but that it should not to make the use of nuclear weapons so unlikely as to remove their effectiveness as a deterrent. It is important to note that the effectiveness of a seemingly irrational approach was achieved based on the expectation of how a rational opponent might respond. That same consideration might not be suitable against an unstable regime or fanatical non-state actor. Nevertheless, maintaining some sense of the usability of nuclear weapons along with other elements of national power is notably advantageous in bolstering nuclear deterrence.

Finally, during the Cold War, the United States and Soviet Union achieved stability through the establishment of a credible nuclear threat, based on mutual demonstrations of rational behavior. Likewise, the current relationship amongst the world's major nuclear powers has stabilized through normalized, rational modes of behavior, settling into a pattern that respects the tradition of nonuse. While the current trend indicates this level of stability will continue, the imperfect nature of information, and the prohibitively high potential cost of not maintaining a credible threat suggests the need to maintain a robust nuclear deterrent.

The lessons of the Cold War provide little comfort when considering the threat from small nuclear states and non-state actors with nuclear capabilities. Regarding the relationship with these entities, instability is likely to be the norm in the future, a reality the US and other major nuclear powers have to reconcile. For the foreseeable future, unstable regimes, widespread nuclear arsenals, and uncertain intentions and capabilities will challenge stability.¹⁹ Further, the number of nuclear

¹⁹ Haffa, Hichkad, Johnson, and Pratt, "Deterrence and Defense in the Second Nuclear Age," 7.

aspirants is likely to grow at the expense of stability, as newer powers find it beneficial to challenge the status quo.

Conclusion

From the conception of Eisenhower's New Look to Kennedy's 'Flexible Response' and the Cuban Missile Crisis ten years later, the world experienced a period of rapid learning as it grappled to harness the devastating potential of nuclear weaponry. During this period, the US sought balance between all-out nuclear deterrence strategies and flexible strategies that allowed for options short of nuclear war. To achieve stability, leaders sought credibility through rational, value-maximizing behavior and the expectation of reciprocal behavior from the Soviets. In Eisenhower's case, he employed elements of irrationality to bolster the credibility of his all-out policy, but did so with the expectation of a rational response from the Soviets. His policies ultimately caused Soviet restraint and resulted in relative stability during an otherwise politically volatile period. Kennedy, meanwhile, employed a very rational approach, but faced a Soviet challenge to the credibility of his policy during the Cuban Missile Crisis. His resolute and rational immediate deterrence posture rested on the anticipation of a rational response from the Soviets. His approach was successful, strengthening the credibility of the US nuclear deterrent, achieving stability, and ultimately planting the seeds of détente.

For the next thirty years, through Nixon's 'Strategic Sufficiency' and the arms races of the 1970s and 1980s, the concept of nuclear thinking became somewhat more settled, with the basic dynamics of deterrence becoming well known and understood to both sides. Following the Cuban Missile Crisis, détente signaled a cooling period for superpower relations, as behavior normalized and the US and Soviets established relatively stable patterns of behavior that regulated nuclear

relations. For much of this period, US political leaders continued to seek a balance between inflexible strategies that threatened full-scale nuclear war in and flexible strategies that provided limited nuclear options. Carter's countervailing centered on flexible options but did so with different aims than previous models. Countervailance sought to convince the Soviets that nuclear war was unwinnable, through limited nuclear options that would stop short of full-scale nuclear war. This strategy approached nuclear deterrence not through the traditional denial model, but instead through a model that targeted Soviet leadership, in order to deny its military its command and control element. As had previous strategies that stressed flexibility, Carter's deterrence model suffered from a challenge to its credibility, primarily in its inability to project a convincing military threat to support its strategy. Owing to the idea that credibility need not be high to establish an effective nuclear threat, however, Carter's pragmatic approach did little to threaten stability.

The markedly different approach of Reagan sent shockwaves through Soviet leadership with its approach of confrontation and counterpressure. While Reagan used a counterforce approach, it focused on winning a protracted nuclear war in the event of deterrence failure, as opposed to simply denying victory to the Soviets. In effect, it turned the tables on the Soviets, positing that victory in a nuclear conflict was, in fact, possible—for the United States. Reagan's confrontational approach suffered no lack of credibility, even as it transitioned from an offensively focused to defensively focused strategy during his second term. While the technological impracticalities of SDI might have discredited it somewhat, Soviet leadership imparted a degree of credibility unto the system through their alarm. While Reagan's term in office was an unsettling time for nuclear stability, there is little indication that the nuclear threat came close to realization.

As the Cold War ended, leaders struggled to conceive a valid model for understanding deterrence. Although the world hardly resembled its former self, images of the Cold War struggle persisted and the US sought to define the modern role of nuclear weapons. While the bipolarity of the Cold War provided stability, today, one sees the glimpses of things to come—a diversified threat consisting of small nuclear states and non-state actors with nuclear capabilities. While many in the West view nuclear weapons as weapons of the past, nuclear aspirants view them as weapons of the future. If anything, the world appears to heading towards an increasingly volatile future.

The world is a mere 60 years removed from a world war, arguably the most volatile period in human existence. Today, the knowledge and capability to build nuclear weapons is available to those with perseverance and determination as the world moves towards instability. It would be folly to believe the world has entered an era free of hostilities and that force will not play a significant role in the future. Until a technology becomes available that renders nuclear weapons impotent, the US must overcome its Cold War fatigue, reshape its strategic nuclear capabilities and refine its nuclear deterrent posture to meet future challenges.

In any case, there are no simple solutions. As Morgan cautions, “a universal theory of deterrence is impractical,”²⁰ so too is the common application of a nuclear strategy to defend against all potential scenarios. The question then should not be, “will nuclear deterrence play a role in the future?”, but instead, “what role will nuclear deterrence play in the future?” A complex, multipolar world demands a responsive, integrated approach. As part of a grand strategy implementing the various elements of national power, the US should adopt a tailored nuclear

²⁰ Morgan, "The Practice of Deterrence," 168.

deterrence posture that integrates prevention and preemption where necessary, and incorporates focused elements of nuclear deterrence with active defense.

BIBLIOGRAPHY

- 5404/1, NSC. "Progress Report on U.S. Policy Towards Berlin."
- Allison, Graham T., and Philip Zelikow. *Essence of Decision : Explaining the Cuban Missile Crisis*. 2nd ed. New York: Longman, 1999.
- "The Arms Race Resumes." Atomic Archive,
<http://www.atomicarchive.com/History/coldwar/page18.shtml>.
- Association, Arms Control. "Nuclear Weapons: Who Has What at a Glance."
<http://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat>.
- Ball, Desmond, and Jeffrey Richelson. *Strategic Nuclear Targeting*, Cornell Studies in Security Affairs. Ithaca, N.Y.: Cornell University Press, 1986.
- Behuncik, John G. "The Carter Defense Budget." The Heritage Foundation, March 3, 1978.
- Bodman, Samuel W., and Robert M. Gates. "National Security and Nuclear Weapons in the 21st Century." September 2008.
- Bowie, Robert R., and Richard H. Immerman. *Waging Peace : How Eisenhower Shaped an Enduring Cold War Strategy*. New York: Oxford University Press, 1998.
- Brown, Harold. "A Countervailing View." Foreign Policy,
http://www.foreignpolicy.com/articles/2012/09/24/a_countervailing_view?wp_login_redirect=0.
- Brown, Nanette C. "The Strategic Defense Initiative and European Security." RAND Corporation, January, 1986.
- Burr, William. "The Nixon Administration, the "Horror Strategy," and the Search for Limited Nuclear Options, 1969-1972." *Journal of Cold War Studies* 7, no. 3 (2005): 34-78.
- Busch, Andrew. *Ronald Reagan and the Politics of Freedom*. Lanham: Rowman & Littlefield Publishers, 2001.
- Bush, George W. "State of the Union Address." Miller Center, University of Virginia,
<http://millercenter.org/president/speeches/detail/4540>.
- Carl von Clausewitz, C., M.E. Howard, and P. Paret. *On War*: Princeton University Press, 2008.
- Carter, Jimmy. "Nuclear Weapons Employment Policy."
<http://www.fas.org/irp/offdocs/pd/pd59.pdf>.
- Carter, Jimmy. "The State of the Union Address Delivered before a Joint Session of the Congress." <http://www.presidency.ucsb.edu/ws/index.php?pid=32657>.

- Carter, Jimmy. "The State of the Union Address Delivered before a Joint Session of the Congress." <http://www.presidency.ucsb.edu/ws/index.php?pid=30856>.
- Carter, Jimmy. "The State of the Union Annual Message to the Congress." <http://www.presidency.ucsb.edu/ws/index.php?pid=44541>.
- Cimbala, Stephen. "War-Fighting Deterrence." *Air University Review* (May-June 1983).
- Correll, John T. "The Ups and Downs of Counterforce." *Air Force Magazine* 88, no. 10 (October 2005).
- Council, National Intelligence. "Global Trends 2025: A Transformed World." <http://www.acus.org/publication/global-trends-2025-transformed-world>.
- Craig, Campbell. *Destroying the Village : Eisenhower and Thermonuclear War*. New York: Columbia University Press, 1998.
- Croddy, E.A., and J.J. Wirtz. *Weapons of Mass Destruction: An Encyclopedia of Worldwide Policy, Technology, and History*. Abc-Clio Incorporated, 2005.
- "Cuban Missile Crisis." <http://www.jfklibrary.org/JFK/JFK-in-History/Cuban-Missile-Crisis.aspx>.
- Data, Archive of Nuclear. "Table of Us Strategic Bomber Forces." <http://www.nrdc.org/nuclear/nudb/datab7.asp>
- "Defense Operations Joint Operating Concept." US Department of Defense, December, 2006.
- "Defense Spending since World War II." http://www.usgovernmentspending.com/defense_spending.
- Delpèch, Thérèse. *Nuclear Deterrence in the 21st Century: Lessons from the Cold War for a New Era of Strategic Piracy*. Santa Monica, CA: RAND, 2012.
- Dobbs, Michael. *One Minute to Midnight : Kennedy, Khrushchev, and Castro on the Brink of Nuclear War*. 1st ed. New York: Alfred A. Knopf, 2008.
- Dockrill, Saki. *Eisenhower's New-Look National Security Policy, 1953-61*. Houndmills, Basingstoke, Hampshire, New York: Macmillan Press; St. Martin's Press, 1996.
- Dougherty, James E., and Robert L. Pfaltzgraff. *Contending Theories of International Relations : A Comprehensive Survey*. 4th ed. New York: Longman, 1997.
- Duric, Mira. *The Strategic Defence Initiative: Us Policy and the Soviet Union*. Aldershot, Hampshire, England ; Burlington, VT: Ashgate, 2003.
- "The End of the Cold War." <http://www.atomicarchive.com/History/coldwar/page22.shtml>.
- Fink, George. *Stress of War, Conflict and Disaster*. Amsterdam ; Boston: Academic Press, 2010.

- Forsyth, James Wood Jr., B. Chance Saltzman, and Gary Jr. Schaub. "Remembrance of Things Past." *Strategic Studies Quarterly* (Spring 2010).
- Freedman, Lawrence. *Deterrence*. Cambridge, UK ; Malden, MA: Polity Press, 2004.
- Freedman, Lawrence. *The Evolution of Nuclear Strategy*. 2nd ed. New York: St. Martin's Press, 1989.
- Gaddis, John Lewis. *The Long Peace: Inquiries into the History of the Cold War*. New York: Oxford University Press, 1987.
- Gorbachev, Mikhail Sergeevich. *Memoirs*. 1st ed. New York: Doubleday, 1996.
- Haffa, Robert P Jr., Ravi R. Hichkad, Dana J. Johnson, and Philip W. Pratt. "Deterrence and Defense in the Second Nuclear Age." In *Analysis Center Papers*: Northrop Grumman, March 2009.
- Hiebert, Timothy. "Reagan's Strategic Defense Initiative: The U.S. Presentation and the European Response " <http://dl.tufts.edu/catalog/tufts:UP149.001.00019.00009>.
- Hyder, Joseph Patterson. "Cold War (1972–1989): The Collapse of the Soviet Union." *Encyclopedia of Espionage, Intelligence, and Security* 1 (2004).
- "Intermediate-Range Nuclear Forces (Inf) Chronology."
<http://www.fas.org/nuke/control/inf/inf-chron.htm>.
- Keeney, L. Douglas. *15 Minutes : General Curtis Lemay and the Countdown to Nuclear Annihilation*. 1st ed. New York: St. Martin's Press, 2011.
- Kennedy, John F. "Address on the Cuban Crisis." Modern History Sourcebook,
<http://www.fordham.edu/halsall/mod/1962kennedy-cuba.html>.
- Kennedy, John F. "Annual Message to the Congress on the State of the Union, 1962."
<http://www.presidency.ucsb.edu/sou.php>.
- Kennedy, John F. "Annual Message to the Congress on the State of the Union, 1963."
<http://www.presidency.ucsb.edu/sou.php>.
- Kissinger, Henry. *The Necessity for Choice: Prospects of American Foreign Policy*. [1st ed. New York,: Harper, 1961.
- Kissinger, Henry. *Nuclear Weapons and Foreign Policy*. A Westview encore ed. Boulder, Colo.: Published for the Council on Foreign Relations by Westview Press, 1984.
- Kunsman, David M. and Lawson, Douglas B. "A Primer on Us Strategic Nuclear Strategy." Albuquerque, N.M.: Sandia National Laboratories, 2001.
- "Law of Armed Conflict Deskbook." In *International Security*, edited by International and Operational Law Department and United States Army Judge Advocate General, 2012.

- Lebow, Richard Ned. "Deterrence and Reassurance: Lessons from the Cold War." *Global Dialogue* 3, no. 4 (Autumn 2001).
- Lee, Steven. *Morality, Prudence, and Nuclear Weapons*, Cambridge Studies in Philosophy and Public Policy. Cambridge England ; New York, NY, USA: Cambridge University Press, 1993.
- Morgan, Patrick. "The Practice of Deterrence." In *International Practices*, edited by Emanuel Adler and Vincent Pouliot, xiii, 365 p. Cambridge New York: Cambridge University Press, 2011.
- Morgan, Patrick M. *Deterrence Now*, Cambridge Studies in International Relations. Cambridge England ; New York: Cambridge University Press, 2003.
- Morgan, Patrick M. *Deterrence: A Conceptual Analysis*. 2nd ed, Sage Library of Social Research. Beverly Hills: Sage Publications, 1983.
- Murphy, William James. ""The Elusive Essence: Theorizing Cold War Stability and the Story of the Us-Soviet Encounter During the October War". "
<http://repository.upenn.edu/dissertations/AAI3043919>
- Museum, The Ronald Reagan Presidential Library and. "Strategic Defense Initiative."
<http://www.reagan.utexas.edu/education/For%20Educators/picturingcurriculum/picturingcurriculum/Picturing%20the%20Presidency/4.%20Strategic%20Defense%20Initiative/SDI%20Card.pdf>.
- "Myths Encyclopedia: Myths and Legends of the World."
<http://www.mythencyclopedia.com/Pa-Pr/Prometheus.html>.
- "National Resources Defense Council: Archive of Nuclear Data."
<http://www.nrdc.org/nuclear/nudb/datainx.asp>.
- "National Security Council Paper Number 162/2." <https://www.fas.org/irp/offdocs/nsc-hst/nsc-162-2.pdf>.
- Nitze, Paul H. "The Objectives of Arms Control." In *1985 Alistair Buchan Memorial Lecture, at the International Institute for Strategic Studies*. London, 28 March, 1985.
- Nixon, Richard M. "Address on the State of the Union Delivered before a Joint Session of the Congress." <http://www.presidency.ucsb.edu/ws/index.php?pid=4327>.
- Nixon, Richard M. "Address on the State of the Union Delivered before a Joint Session of the Congress." <http://www.presidency.ucsb.edu/ws/index.php?pid=3396>.
- NSC-5727, Supplement I to. "U.S. Policy Towards Germany." December 13, 1957.
- "Nuclear Posture Review Report." United States Department of Defense, April 2010.

- Paul, T. V., Patrick M. Morgan, and James J. Wirtz. *Complex Deterrence: Strategy in the Global Age*. Chicago: University of Chicago Press, 2009.
- Payne, Keith B. *Deterrence in the Second Nuclear Age*. Lexington: University Press of Kentucky, 1996.
- Payne, Keith B. *The Fallacies of Cold War Deterrence and a New Direction*. Lexington: University Press of Kentucky, 2001.
- Pifer, Steven, Richard C. Bush, Vanda Felbab-Brown, Martin S. Indyk, Michael O'Hanlon, and Kenneth M. Pollack. "U.S. Nuclear and Extended Deterrence: Considerations and Challenges." In *Arms Control Series: Foreign Policy at Brookings*, May 2010.
- "Policy for Planning the Employment of Nuclear Weapons." In *National Security Decision Memorandum 242*, January 17, 1974.
- Powaski, Ronald E. *March to Armageddon : The United States and the Nuclear Arms Race, 1939 to the Present*. New York: Oxford University Press, 1987.
- Powaski, Ronald E. *Return to Armageddon : The United States and the Nuclear Arms Race, 1981-1999*. Oxford ; New York: Oxford University Press, 2000.
- "Reagan's Star Wars." <http://www.atomicarchive.com/History/coldwar/page20.shtml>.
- Reagan, Ronald. "Address before a Joint Session of the Congress Reporting on the State of the Union " <http://www.presidency.ucsb.edu/ws/index.php?pid=42687>.
- Reagan, Ronald. *An American Life*. 1st Threshold Editions trade pbk.ed. ed. New York: Threshold Editions, 2011.
- Reagan, Ronald W. "Address to the Nation on Defense and National Security." <http://www.atomicarchive.com/Docs/Missile/Starwars.shtml>.
- Reagan, Ronald W. "Nuclear Weapons Employment Policy." <http://www.reagan.utexas.edu/archives/reference/Scanned%20NSDD5/NSDD13.pdf>.
- Rhodes, Richard. *Arsenals of Folly : The Making of the Nuclear Arms Race*. 1st Vintage Books ed. New York: Vintage Books, 2008.
- Roth, Zachary. <http://www.theatlantic.com/politics/archive/2011/09/global-zero-obamas-distant-goal-of-a-nuclear-free-world/245806/>.
- Russett, Bruce M. *The Prisoners of Insecurity: Nuclear Deterrence, the Arms Race, and Arms Control*. San Francisco: W.H. Freeman, 1983.
- Schelling, Thomas C. *Arms and Influence*. New Haven, CT: Yale University Press, 2008.
- Schelling, Thomas C. *The Strategy of Conflict*. Cambridge,: Harvard University Press, 1960.

- Subcommittee on Arms Control, International Law and Organization. *Briefing on Counterforce Attacks*, 2nd, September 11, 1974.
- Schlesinger, James R. "Press Conference of the Us Secretary of Defense." Paper presented at the National Press Club, Washington D.C., January 10, 1974.
- Service, American Forces Press. "Proposed Fy 79 Defense Budget." 1978.
- Service, Washington Post. "Soviets Reportedly Feared Us Military Attack in 1981." *The Milwaukee Journal*, August 8, 1986.
- Shanker, Thom, and Choe Sang-Hun. "U.S. Runs Practice Sortie in South Korea." New York Times, http://www.nytimes.com/2013/03/29/world/asia/us-begins-stealth-bombing-runs-over-south-korea.html?_r=0.
- Shelton, Henry H., Ronald Levinson, and Malcolm McConnell. *Without Hesitation: The Odyssey of an American Warrior*. 1st ed. New York: St. Martin's Press, 2010.
- Slocombe, Walter. "The Countervailing Strategy." *International Security* 5, no. 4 (Spring 1981).
- Staff, Joint Strategic Target Planning. "Single Integrated Operational Plan-63." <http://www.gwu.edu/~nsarchiv/nukevault/ebb236/SIOP-63.pdf>.
- "The Strategy of Massive Retaliation." Speech of Secretary of State John Foster Dulles before the Council on Foreign Relations, <http://www.freerepublic.com/focus/f-news/1556858/posts>.
- Tannenwald, Nina. *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons since 1945*, Cambridge Studies in International Relations. Cambridge: Cambridge University Press, 2007.
- Terriff, Terry. *The Nixon Administration and the Making of U.S. Nuclear Strategy*, Cornell Studies in Security Affairs. Ithaca: Cornell University Press, 1995.
- Tirpak, John A. "Bombers over Libya." <http://www.airforcemag.com/MagazineArchive/Pages/2011/July%202011/0711libya.aspx>.
- United States. President (1969-1974 : Nixon). *U.S. Foreign Policy for the 1970's: Building for Peace; a Report to the Congress by Richard Nixon, President of the United States, February 25, 1971*. Washington;: For sale by the Supt. of Docs., U.S. Govt. Print. Off., 1971.
- Waltz, Kenneth Neal. *Theory of International Politics*. 1st ed. Boston, Mass.: McGraw-Hill, 1979.
- White, Mark J. *Missiles in Cuba : Kennedy, Khrushchev, Castro, and the 1962 Crisis*, The American Ways Series. Chicago: Ivan R. Dee, 1997.

York, Herbert F. *Arms and the Physicist*, Masters of Modern Physics. Woodbury, NY: American Institute of Physics, 1995.

Zamyatin, Leonid. "Head of the International Information Department of the Central Committee of the Cpsu on Soviet Television." May 16, 1981.

Zero, Global. "Statement from President Barack Obama."
<http://www.globalzero.org/en/opening-day-statement-global-zero-leaders>.