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I. Introduction and the Early Cold War

It is often stated that nuclear weapons are Albert Einstein’s most tragic legacy. The weapon which shocked the world with its ominous debut in Hiroshima and Nagasaki in 1945 has earned a poor reputation. Much of the public debate over nuclear weapons has surrounded mass demonstrations and discussions of the weapons’ overwhelmingly destructive potential. Even though the specter of nuclear annihilation has seemed far too close at times, however, the weapon is among the greatest tools of peace ever developed, let alone among those developed as the ultimate weapon. According to neo-realist Kenneth Waltz, “the presence of nuclear weapons makes states exceedingly cautious.”1 This paper will chronologically explore the powerful effect that extreme caution had both in creating the longest great power peace in modern history and in sustaining the stability of the bipolar international system for decades after the Cold War.

The study of nuclear deterrence necessitates a realist approach. Nuclear deterrence is reliant on the ideas of power and threat – the power of both antagonists to utterly destroy the other and the threat that the other side will react to an aggressive military action with nuclear force. In order to ensure parsimony, this paper will focus solely on the effect nuclear deterrence had on the actions of states in the international system. Despite the impact of liberal or constructivist factors – for example, international arms controls regimes or the potential instability of particular political leaders, respectively – nuclear deterrence is best understood as a realist mechanism. Non-realist factors will only be explored in contexts in which they affected the balances of threat or power and deterrence itself.

John Lewis Gaddis calls nuclear deterrence “the most important behavioral mechanism…that sustained the post-World War II international system.”2 The most notable impact of


nuclear deterrence was the effect it had on escalation. Beginning in the 1950s, both the USSR and the United possessed such a large amount of deliverable nuclear weapons that any escalation of conventional force action drew the two powers closer to provoking the use of nuclear weapons, triggering a spiral of destruction that would cause each to sustain unacceptable losses. The possibility of nuclear war served to dampen any escalation to such a level that the risk of nuclear war was lowered or eliminated.

By the time the United States used the atomic bomb in Japan – its first and last use in war – the Soviet Union had already recognized the important role the weapon would play and had begun its own research program. The impact that nuclear weapons would have on power politics and warfare was not yet fully realized. David Holloway argues that Stalin himself saw the atomic bomb not as a mechanism in itself but merely a much more powerful conventional weapon. This may have been partially rhetoric, an example of Stalin standing up to American nuclear coercion. It was more likely, however, that the number of nuclear weapons in existence had not yet reached a tipping point. That is to say, nuclear weapons did not yet promise complete destruction to either party in the case of their use.

Because neither major power felt overly threatened by nuclear weapons, the early Cold War was marked by a treatment of nuclear weapons as advanced conventional weapons. Of course, neither power wanted the other to gain an edge in this particular arms race, but neither clear recognition of the nature of the Cold War nor the power of the nuclear mechanism yet existed. In fact, “at the invitation of the United States, Soviet scientists…attended the first postwar atomic bomb tests conducted on Bikini Atoll in 1946.” At the same time, though, the U.S. would not share its weapons secrets with the Soviets. The full nature of nuclear deterrence may not have been realized, but it was clear that this new weapon was something completely different than anything seen before.

In the time before the Soviet development of the atomic bomb, both major powers recognized that the sheer power of nuclear weapons could easily tip the balance of power. Neither, however, yet dreamed of nuclear deterrence of a strategy in itself. Instead, the United States attempted to intimidate the Soviets with its nuclear monopoly, such as when Truman famously announced to Stalin at Potsdam that the Americans had developed the weapon. It is clear, though, that while this worried Stalin, he would not allow himself to be intimidated. He recognized that the limited nature of the American atomic weapons arsenal did not yet pose a deadly threat to the Soviet Union. Instead of acquiescing, the USSR forged ahead with its own nuclear program.

It is similarly clear that the United States grasped the tactical advantages of the atomic bomb, but not quite the strategic aspects. In fact, Truman even attempted to work in conjunction with the USSR to create international controls over the development of nuclear weapons.

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5 Ibid, 96.
through the Baruch Plan. Additionally, Truman never made a military effort to prevent Soviet development of the bomb. Whether or not this was because such an effort may have been impossible, Truman surrendered the American monopoly on bombs. This loss, however, proved in the end to be beneficial, by later allowing an approximate balance of nuclear weapons to develop.

II. Soviet Nuclear Development

The first major turning point in the conceptualization of nuclear deterrence came with the Soviet development and testing of an atomic bomb in August 1949. Though the test signaled to the United States that the USSR had but one bomb to their fifty, the effect was pronounced. Nuclear deterrence relies on more than just a balance of material capabilities; it also depends on an analysis of the intent of one’s opponent. In this realm, the United States could not be assured that the Soviet Union did not have malicious intent with its new weapon. Additionally, and importantly, the Soviet bomb unsettled the United States to a strong degree – enough so that in 1949, NSC 68 approved the construction of the hydrogen bomb. The United States was quickly pursued down that path by the Soviet Union.

The strategy of nuclear deterrence received its first test during the Korean War. It was not, however, a complete system of nuclear deterrence, at least not as it would be known later in the Cold War. Steven Hook and John Spanier discuss nuclear weapons in the Korean War:

The fear of nuclear annihilation by the United States was expected to discourage the Soviets and Chinese from crossing the [38th parallel]. In the early 1950s, Moscow had a very limited capability to reach the United States with nuclear weapons; Beijing had none. By contrast, the bomber forces controlled by the U.S. Strategic Air Command (SAC) were growing rapidly and could strike both Communist powers from a variety of overseas bases.

In effect, the Korean War involved an extremely rudimentary form of nuclear deterrence – deterring only one antagonist – but nuclear deterrence none the less. The psychological effect that nuclear weapons had on the escalation process was beginning to be seen.

The reason that nuclear deterrence was incomplete in the early Cold War, despite both sides’ possession of nuclear weapons is the mechanism’s reliance on mutually assured destruction. Early in the Cold War, neither the Soviet Union nor the United States had sufficient nuclear arsenals to assure the total destruction of the other. As Robert Jervis argues, “nuclear weapons can help explain superpower caution: when the cost of seeking excessive gains is an increased probability of total destruction,

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8 Steven W. Hook and John Spanier, American Foreign Policy Since World War II (Washington: CQ Press, 2007), 75.
moderation makes sense.” During Truman’s administration – and well into Eisenhower’s and perhaps even Kennedy’s – the calculations of war and peace still counted nuclear weapons as only extremely powerful conventional weapons. It was not until later that the doomsday promised to superpowers by nuclear conflict would become clear.

III. Nuclear Build-Up

The second major turning point in the evolution nuclear deterrence began with the election of Dwight Eisenhower to the presidency, but it did not revolve around one particular point in time. Instead, it grew to full fruition in a span of approximately ten years. This major event was the build-up of American nuclear arms to a much higher level and the development of the Intercontinental Ballistic Missile (ICBM). Colin Gray argues that during the Eisenhower administration, there was a rush to elevate “nuclear weapons to a dominant position in national and coalition military strategy.” This is indeed the case. Eisenhower, who sought an economical defense policy, saw the value of nuclear deterrence. Although the United States already possessed an edge in nuclear development, Eisenhower had even greater reliance on the strategy, utilizing it to avoid conventional engagement.

The development of the ICBM and other unmanned weapons-delivery system was a crucial part of this time period. Earlier systems of nuclear delivery relied on manned bomber aircraft, which were both slow and possible to shoot down. This meant that either antagonist could possibly avert their own total annihilation, negating the most important aspect of nuclear deterrence. In fact, Stalin surrounded the capital city of Moscow with “heavy antiaircraft artillery.” This likely increased his own estimates of the USSR’s chances of surviving a nuclear conflict and prevented the complete use of nuclear deterrence as a mechanism.

Even with the development of the ICBM, the nuclear deterrent model was still incomplete. In the United States, critics railed Eisenhower for allowing the Soviet Union to create a “missile gap,” a criticism that was, in retrospect, based mostly on fear and false perception. It is clear now that the United States was, in fact, equal to or superior to the USSR in strategic capabilities throughout Eisenhower’s administration. Because of perceptions at the time, however, nuclear development raced ahead.

Much of the development of nuclear deterrence during Eisenhower’s administration came from the Soviet response to the United States’ policy of deterrence. The Soviet Union during this time, under Khrushchev’s leadership, vowed to close the nuclear gap between itself and the United States. The Soviet launch of the ICBM – which was

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actually the launch vehicle for the Sputnik satellite – only provoked hasty action from the United States. In this period, both the United States and the USSR continued to build their nuclear arsenals, slowly approaching a level at which neither could afford the cost of conventional escalation. During this time, deterrence came to mean almost solely the threat of nuclear action, especially after Kennedy so dramatically increased funding for ICBM construction and an expansion of the nuclear arsenal.¹⁵ Both nations were true nuclear powers.

Thus it was that the United States and the Soviet Union both possessed large numbers of nuclear weapons. This plethoric abundance of the powerful weapons as well as long-sought systems with which to deliver them meant that nuclear deterrence was in place as a psychological mechanism dependant on mutually assured destruction. Despite the willingness by the armed forces of both superpowers to use nuclear weapons, they had not yet been deployed. In the past, the United States had threatened the use of nuclear weapons as the ultimate escalation. In the future, however, both sides had to appear willing to use the weapons but never actually do so.

In many ways, the world is lucky that limited nuclear war did not occur in the 1950s. In this period, the nuclear arsenals were not yet so large as to completely discourage this possibility. Eisenhower’s Chairman of the Joint Chiefs of Staff, General Twining, even voiced his willingness to fight a nuclear war.¹⁶ If such a war had occurred, millions would have no doubt perished. Luckily for citizens of all nations, however, leaders on both sides held out – just long enough for the possibility of nuclear war to become an unpalatable option to all involved.

IV. Cuban Missile Crisis

The third major development and the first fully demonstrable use of nuclear deterrence took place in the form of the Cuban missile crisis. Ironically, nuclear deterrence was first truly exercised as a way to dampen tensions in a conflict over nuclear weapons themselves. The United States, and the American public in particular, fully realized for the first time the awesome and powerful impact that nuclear weapons had on the escalation of tensions between the two great powers.

By the time Kennedy took office in 1961, it was clear that both superpowers recognized the power of nuclear weapons as a deterrent. For the past decade, President Eisenhower had pursued nuclear deterrence as a cornerstone of his strategy to economically match the strength of American nuclear weapons against the conventional forces of the Soviet Union. By the end of his administration, though, there was sufficient reason for the U.S. to fear the Soviet Union’s nuclear weapons as well. Eisenhower may have been later vindicated in his belief that the Soviet Union still lagged in weapons technology, but a Soviet nuclear attack in response to American aggression would still be devastating. On the Soviet side, Khrushchev is quoted as having “implied that both the United States could retaliate against the attacker and inflict massive damage on him; in other words, that a relationship of mutually

¹⁵ Jones, Crucible of Power, 325.
¹⁶ Jones, Crucible of Power, 311.
assured destruction existed.” 17 Despite this, however, the USSR wanted to ensure that it could equally threaten the United States – which, despite rhetoric to the contrary, was still ahead in the nuclear race – and covertly began installation of weapons launch systems in Cuba.

The Cuban missile crisis was more than just an attempt by Khrushchev to alter the hard power balance by placing missiles in close proximity to the United States. It was also an effort to shift the soft power balance closer to the USSR by shifting perception. If the United States did not respond to the missile emplacement by the Soviet Union, as Khrushchev expected, 18 the image of a declining America would be again reinforced globally. Kennedy, however, recognized the vital importance of the crisis in Cuba to the nuclear balance of power and the perception of the nuclear balance of power – essentially, balance of threat.

The most important result of the Cuban Missile Crisis was that neither superpower would accept nuclear aggression or war. Kennedy chose the most non-provocative action at his disposal, a naval blockade. By doing so, he put the ball directly in Khrushchev’s hands, and Khrushchev, despite perceptions to the contrary, recognized that a conventional conflict would likely end in American victory. More significantly, he discarded his other major option – nuclear conflict – because he knew brinkmanship would only end in disaster. 19 Nuclear deterrence succeeded.

Finally, there remains scholarly dispute over what truly ended the Cuban missile crisis. Many, including Paul Nitze and Henry Kissinger, argue that the Soviets crumbled under “American nuclear advantage.” 20 This view discounts an important factor, however. Why did Kennedy refrain from an invasion of Cuba? If the invasion had been limited to conventional forces, the United States would have likely triumphed. The threat, then, was the nuclear forces already present in Cuba. It was the threat of nuclear retaliation and ensuing nuclear war that mercifully led the Cuban Missile Crisis to a peaceful resolution.

V. Parity, Vietnam, and Détente

Beginning in the early- to mid-1960s, the USSR began its most aggressive nuclear build-up in the Cold War. In 1964, the United States had more than a four-to-one advantage over the Soviet Union in strategic nuclear weapons. By 1972, however, the Soviet Union matched the United States. Both sides possessed such large numbers of nuclear weapons that approximate parity had been reached. 21 This parity marked the final emergence of nuclear deterrence as a psychological mechanism that ensured peace, and is the fourth major development of nuclear deterrence. In the late 1950s, Henry Kissinger still held out the possibility of

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17 Holloway, The Soviet Union and the Arms Race, 38.
18 Hook and Spanier, American Foreign Policy Since World War II, 107.
19 Jones, Crucible of Power, 336.
21 Holloway, The Soviet Union and the Arms Race, 58 –9.
a “limited nuclear war.” By the late 1960s, however, both superpowers possessed such a huge—and importantly, comparable—number of deliverable weapons that any retaliation to nuclear use promised to be swift and overwhelmingly deadly. Future nuclear conflicts promised to be devastating to the entire world.

Never after 1962 did the chances of war between the U.S. and the USSR reach the levels that it had in the past. Despite numerous proxy wars in varying regions of the globe, the possibility of another world war grew less with time. The aversion of another destructive global conflict is the most important accomplishment of nuclear deterrence and mutually assured destruction. Unlike earlier in the Cold War, when the United States used the threat of nuclear strikes to deter Soviet aggression, or vice-versa, or when some on each side still viewed limited nuclear conflict as a possibility, both superpowers each possessed enough nuclear devices to destroy the world several times over. Each state was more than aware that any nuclear strike would lead to total destruction, and was thus less willing to escalate conflicts to a level that would risk use of those weapons. Indeed, “nuclear weapons, given the constraints on their use in an approaching era of parity, were of decreasing practical utility.” This is in many ways an understatement. The only remaining practical use of nuclear weapons, in fact, was to deter escalation of regional conflicts.

The Vietnam War is an example of both the utility of nuclear deterrence and its limitations. On one hand, nuclear deterrence served to limit the war in Vietnam to a regional conflict, much like later Soviet or American conflicts in Afghanistan, Grenada, and the like. Neither superpower was willing to directly engage the other in direct conflict in any of these theaters because of an underlying fear of nuclear devastation that might result. Gaddis lists fifteen incidents from 1946 to 1983 that might have otherwise decayed into world war, had it not been for the fear of nuclear action. On the other hand, nuclear deterrence was specifically limited to the conflict between the two superpowers. As Jervis points out, allies of the superpowers have been exempt from the nuclear deterrence rule.

Despite this, however, nuclear deterrence has kept the wars limited to a regional level, and preserved peace by eliminating the most destructive type of war—great power conflict.

With the election of Richard Nixon, U.S. foreign policy moved from flexible response to détente. Détente, which loosely means a lessening of tensions, would last for more than ten years, through part of the Carter administration. After 1962, tensions between the two superpowers were reduced, partially a result of the nuclear showdown in Cuba. When Nixon came to office, the reduction of tensions became official policy. Neither power wanted to return to the days of heightened tensions and thus heightened risks. Détente would have several important consequences for nuclear deterrence, the first of which would be seen in the arms limitation talks.

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VI. Arms Control and Deterrence

In one of the greatest ironies of the Cold War, it was the possession of a preponderance of nuclear arms by both superpowers that allowed the consideration of arms reductions by both. Once both the United States and the Soviet Union had accepted parity as both a strategy and a reality, talks were able to begin. These talks were the fifth and final major development of nuclear deterrence in the Cold War. In contrast with disarmament talks of the early Cold War, however, the new interest in arms control was both more earnest and more feasible. Paradoxically, however, the treaties which resulted only led to new arms races.

The first series of talks, which became known as the Strategic Arms Limitations Treaty (SALT or SALT I) called for a limit on nuclear missiles and anti-ballistic missile (ABM) systems. There was no limit on the construction of bombers, however, and ABM systems were in practice, unusable, “thus constituting no concession by either side.” The most remarkable aspect of the arms talk, however, was not the arms reductions themselves, but the willingness of both superpowers to engage in the talks at all.

The second talks – known as SALT II – took place in the mid-1970s between Ford and Brezhnev. They were designed to formalize and make permanent arms reductions as stipulated in SALT I. Unfortunately, the Soviet invasion of Afghanistan derailed the agreements made in the talks, but they were generally honored nonetheless.

President Reagan would later engage in another series of talks with the Soviet Union, but it is the SALT tests which are most remarkable. As Hook and Spanier state, SALT “became a symbol of détente.” After decades of non-cooperation and expensive arms races, the mechanism of nuclear deterrence had created an atmosphere which mandated cooperation even during a new and costly arms race. Because the two sides recognized that direct war would be futile, there was a chance to finally negotiate. Despite the resurgence of tensions that would accompany the Reagan administration, the longest great power peace in history had been cemented.

VII. The End of the Cold War and the Future of Nuclear Deterrence

It was in the 1980s, a time of heightened tensions between the U.S. and USSR that some of the drawbacks of nuclear deterrence became clearer. An anti-nuclear movement arose in the United States in response to the new arms race that had resulted from the SALT talks. This movement raised a number of important ethical questions. Bruce Russett discusses the downfalls of nuclear deterrence:

No one can be optimistic about surviving decades or generations of continuing reliance on nuclear deterrence in any form. People are prone to error, and machinery to accidents. An indefinite future of nuclear weapons seems intolerable.

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27 Holloway, The Soviet Union and the Arms Race, 58.
28 Jones, Crucible of Power, 400.
29 Hook and Spanier, American Foreign Policy Since World War II, 145.
Russett makes a series of excellent points. Nuclear deterrence as a systemic mechanism depended on reliability. Proponents had to consider the possibility of a deranged hardliner staging a coup in Moscow, or a short-circuit accidentally launching a nuclear missile from Alaska into the heart of the Soviet Union.

The alternatives to nuclear deterrence, however, were unacceptable. After the invention and use of the atomic bomb, a system of institutionalized deterrence was the only option. Had the two superpowers not developed their arms to a level of superfluous parity, limited nuclear war or wide-scale conventional war would have been more attractive options. Those would have caused far more destruction than the Cold War did throughout its course. Even if Truman had succeeded in instituting international control of nuclear weapons, it is more likely they would have been used than under the sway of mutually assured destruction.

The remaining question, then, is what to do now that there is no Cold War. The systemic factors that made nuclear deterrence successful – namely, mutually assured destruction – do not apply in a world where rogue states and minor powers are able to build and potentially deploy nuclear weapons. States with small nuclear arsenals may not hesitate to strike states with small or no nuclear arsenals, because there is a chance of surviving the counterattack.

Kenneth Waltz states that non-proliferation efforts should “concentrate more on making large arsenals safe and less on keeping weak states from obtaining the small number of warheads they may understandably believe they need for security.” In essence, he believes that the proliferation of nuclear devices is healthy for the international system. The flaw of this argument is, once again, the lack of mutually assured destruction. Waltz incorrectly assumes that small stocks nuclear weapons in the hands of weak states will operate like large numbers of nuclear weapons in the hands of the two superpowers.

Following mutually assured destruction theory, only one solution seems evident. Nuclear weapons should remain out of the hands of rogue states – that is, states with no ties to either the former USSR or the United States. Because it will be next to impossible to prevent all states from developing nuclear programs, states allied with the two former superpowers should be allowed small nuclear programs, because it is likely they would only use their arsenals in conjunction with allies, again ensuring mutually assured destruction. The world must not allow a proliferation of nuclear arms in states which demonstrate rogue or unstable behavior, such as Iran, North Korea, and the like.

VIII. Conclusion

In describing the etymology of the term “Cold War,” Hook and Spanier state that “War signified that the U.S.-Soviet rivalry was serious; Cold referred to the fact that atomic weapons were too horrible to use and that in a future war there would be no winners.” Without a doubt, the two superpowers had serious divisions and conflicts. They had also built up their armaments to a level never before seen in history, and world states

32 Hook and Spanier, American Foreign Policy Since World War II, 43.
aligned into a classic bipolar system, as divided as any seen since Athens and Sparta. It is not the structure of the system that makes the Cold War remarkable, however; the remarkable thing about the Cold War is the very absence of major war.

Nuclear weapons have the potential to annihilate the human race, and today they are as dangerous as any time since 1962. During the Cold War, however, they served as the great peacemaker, making the costs of world war too high to tolerate.
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