

2018

American Nuclear Efforts: Prolonging the Cold War

Bryan McCracken

Seton Hall University, bryan.mccracken@student.shu.edu

Follow this and additional works at: <https://scholarship.shu.edu/pa>

 Part of the [Political Science Commons](#)

Recommended Citation

McCracken, Bryan (2018) "American Nuclear Efforts: Prolonging the Cold War," *Political Analysis*: Vol. 19 , Article 5.
Available at: <https://scholarship.shu.edu/pa/vol19/iss1/5>

American Nuclear Efforts: Prolonging the Cold War

Bryan McCracken



Bryan is a senior studying political science at Seton Hall University. A United States Foreign Policy Course inspired his paper, sparking his interest in the field of nuclear weapons, and the effect of their proliferation on the world. Post undergraduate, he plans on attending law school, and is currently in the admissions process.

INTRODUCTION

In the relatively short history of nuclear weapons, the word at first glance elicits various associations such as fear, destruction and death. Since their origin in the 1940's, nuclear weapons negotiations have relentlessly dominated international relations to create a safer and more stable world. The fact of the matter is that the world is in a completely different nuclear generation than it was when nuclear weapons were created. The threat is no longer contained between dominant world powers with seemingly endless military, economic and technological ability. These weapons have proliferated into a new existence, an existence that appears to be far less certain, far more dangerous and far more difficult to deter. In the coming of this age, America has not been idle. Years of diplomatic negotiations, generations of treaties and billions upon billions of dollars have been invested into nuclear non-proliferation efforts, and weapons research has continued throughout. This paper will evaluate whether these efforts are worth it, and most importantly, effective in keeping America and inevitably the world safe.

The primary question this research will analyze, is the following: Do American efforts of strengthening their nuclear capabilities and pursuing non-proliferation truly lead to a safer country and world? This is an extremely important topic; we are living in the nuclear age so this is nothing less than a reality. There are rising hostilities in the world, especially between new, more radical nuclear threats. Assessing whether or not U.S. security efforts are effective is critical. To answer this question, this research will primarily

draw from two similar, but very different views in literature regarding nuclear weapons. In *The Spread of Nuclear Weapons: An Enduring Debate*, the two authors Scott D. Sagan and Kenneth N. Waltz present their different views on the discussion regarding nuclear proliferation. This book summarizes and combines independent work on the matter by both authors and compiles it into a complete work. Although the later chapters of the book contain dialogue in the form of a debate, this research will focus on the first two chapters, which simply present each authors separate view of the matter. The work in this book is similar in the sense that there is mutual agreement regarding the ever present issue of the reality and presence of nuclear weapons. However, the views on how to address and think about this issue is where the fundamental differences arise. The counter perspectives will enable a contestable discussion regarding the issue at hand.

This research will apply the ideas from the literature to the nuclear history of America. The question whether American deterrence efforts and investments in nuclear technology are effective or not will be addressed from both sides. In addition to the primary arguments from Scott D. Sagan and Kenneth N. Waltz, this paper will continue to introduce literature that aligns with and or falls in the middle of the views of the two primary articles. The idea of this approach is to add to the soundness of the arguments, as well as expand on their ideas and even further strengthen the different positions. After the literature review is complete, it will be time to assess and relate the findings to American history surrounding nuclear weapons. The main idea here is that, in relating

America's efforts regarding nuclear weapons to the literature, a firm consensus can be drawn, that is not speculative since it is relying on two opposite sides of research.

LITERATURE REVIEW

To begin the literature review, it is important to first acquire an understanding of the two sides of the matter. As stated before, this research will be structured around the different views in the enduring debate between Scott D. Sagan and Kenneth N. Waltz.

Kenneth Waltz is a renowned name in the field of political science. His work, and at times, controversial views are loved and widely used in the field of international relations education. Waltz was born in 1924, and served in both World War II and the Korean War (Mohn, 1). The impact these two wars had on his life gave him better insight and awareness to the importance of international policy. After the two wars in which he served, Waltz became critical of American military intervention. This opinion persisted, as Waltz became an "early critic of the American efforts in Vietnam, and he was equally critical of President George W. Bush's actions in Operation Iraqi Freedom" (Mohn, 1). His 1981 dissertation, *The Spread of Nuclear Weapons: More May Be Better* outlines his fundamental views on Military intervention and deterrence, which the book *The Spread of Nuclear Weapons: An Enduring Debate* heavily draws from.

Kenneth Waltz begins his argument by essentially stating that despite the United States non-proliferation efforts, the spread of nuclear weapons is inevitable (*Enduring Debate*, 3). Waltz bases his outlook of policy through the international relations theory of realism. He claims that in the international realm, the best way states can help themselves is by providing for their own security (*Enduring Debate*, 5). A state can prevent another state from attacking and preserve their own security through one of two ways. The first is what Waltz calls the defensive ideal. The idea behind this is that states must obtain a defense that is so strong, that no other state will attempt an attack. The other he calls deterrence theory, which he points out, is commonly confused. Deterrence is to prevent someone from doing something by

frightening them. He elaborates by saying, "deterrence is achieved not through the ability to defend but through the ability to punish" (*Enduring Debate*, 5).

In the attempt to apply the theory of deterrence and defense to the topic of nuclear weapons, he points out his primary distinctive point. Waltz states, "If nuclear weapons make the offense more effective and the blackmailer's threat more compelling, then nuclear weapons are bad for the world. On the other hand, if the defense and deterrence are made easier and more reliable by the spread of nuclear weapons, we may expect the opposite result" (*Enduring Debate*, 6). Waltz's view is essentially that having nuclear weapons is only good if it makes deterrence and defense better, they are bad if they promote and enable offensive tactics. This goes back to the theory of realism. The level of a state's power and international stability correlates with their ability to make themselves secure, which defense – not offense – allows for. Waltz then goes on to explain how nuclear weapons improve deterrence and defense through a series of points.

He first points out that war can happen even if deterrent threats are present. However, if a war were to happen between two nuclear states, he predicts it will deescalate in the fear of an imminent escalation. Further, this fear of imminent escalation will prevent states from attempting small gains when there is a major risk at hand. This is to say, states will take into greater consideration the effects of conflict and the potentially destructive price of victory. His second point expands on his first. He poses the question, "Why fight if you can't win much and lose everything?" (*Enduring Debate*, 7). He is saying that a state will act with less care if the expected costs of war are low and with greater care if they are high.

He then draws on two examples from history to strengthen his point. In the 1850's France and Britain entered into the Crimean War with Russia. Victory was expected for France and Britain and their actions portrayed their confidence, which in war means carelessness. Although the outcome was Britain and France's victory, their known prestigious power gave them the idea to show their strength first and bargain second. However, in a

sharp contrast, the Cold War showed opposite considerations. The presence of similar weapons put both the United States and the USSR on edge. Kennedy and Khrushchev made rational decisions with the consideration of their wellbeing, because they weighed out the potential devastation of the other's response to their decisions. The third and final point Waltz mentions is "Certainty about the relative strength of adversaries also makes war less likely" (*Enduring Debate*, 7). This garners a completely different meaning in the age of the nuclear weapons. In conventional warfare, which has been present in the world for the majority of history, one is uncertain about winning or losing (Waltz, *Enduring Debate*, 9). However, a nuclear world calls for a completely different type of reasoning; a nuclear world presents humans with an uncertain realization of either annihilation or survival. Waltz remains consistent with the realist mindset in shaping his three arguments. The sole aim at survival will motivate any leader to consider these points when deciding what to do militarily. Further, it will deter them from taking nuclear action because what will be lost may not be worth what is gained.

To conclude and wrap up on Waltz's idea of "more may be better", we must assess what these points as a whole mean in terms of the reality the world faces regarding nuclear weapons. In other words, how can one apply what Waltz says about nuclear defense and deterrence to what is actually going on. In the beginning of his thesis, Waltz presents an observation. He notices that "The world has enjoyed more years of peace since 1945 than had been known in modern history, if peace is defined as the absence of general war among the major states of the world" (Waltz, "Enduring Debate" 4). Waltz argues throughout his thesis that nuclear proliferation is the cause of this phenomenon. Based off his points listed above, he leads to the idea that nuclear weapons pose a completely new risk to the world, that even the most radical of leaders take into greater consideration its implications.

Waltz believes that this effect of mutual deterrence is possible only if the spread of nuclear weapons continues, especially to minor world powers. Waltz explains that if three criteria are met, the size and legitimacy of the state do not

matter; all that will matter is that they will be able to deter. Waltz lists his criteria for being an effective deterrent force as,

First, at least a part of a state's nuclear forces must appear to be able to survive an attack and launch one of its own. Second, survival of forces must not require early firing in response to what may be false alarms. Third, command and control must be reliably maintained; weapons must not be susceptible to accidental or unauthorized use (*Enduring Debate*, 20).

With these criteria met, smaller nuclear powers can effectively deter larger nuclear powers because they share in the ability to inflict "unacceptable damage" (Waltz, "Enduring Debate" 21). Essentially, the world will experience much less frequent and intense wars, if more nuclear weapons are present and further proliferated. The common fear of escalation between nuclear powers, the carefully considered outcomes, and the overall uncertainty of what nuclear war beholds, is enough to make war less likely and give way to an obtainable peace among international states.

The other side to this debate is presented by Scott Sagan. Scott Sagan is a current professor of politics at Stanford University. Throughout the course of his life, Sagan has acquired numerous honors and awards for his work in the field of political science. Sagan's primary academic research includes the study of technology and war, specifically, nuclear weapons. His section of the debate in *The Spread of Nuclear Weapons: An Enduring Debate* is drawn from his article *The Perils of Proliferation: Organization Theory, Deterrence Theory, and the Spread of Nuclear Weapons*.

Sagan begins his chapter titled "More Will Be Worse," by acknowledging the expansive literature that advocates for nuclear proliferation, such as the ideas presented by Waltz. However, Sagan notes there is something substantial missing from the debate. There is no, "Alternative theory of the consequences of nuclear proliferation; an alternative that is a broader conception of the effects of nuclear weapons proliferation on the likelihood of war" (*Enduring Debate*, 42). Sagan

will confront this absent alternative through his central argument that he calls “organization theory” (*Enduring Debate*, 42). There are two levels to this theory, the first being on the military level and the second on the civil level. Sagan argues that within professional military organizations, there are common biases, inflexible routines, and parochial interests, which lead to deterrence failures and the possibility of deliberate and or, accidental war (*Enduring Debate*, 42). The second level revolves around the civil control of future nuclear states. Sagan argues there is strong reason to believe these future nuclear states, “will lack the positive mechanisms of civilian control” (*Enduring Debate*, 42). Sagan argues this because of the common characteristics of current and emerging nuclear states. In these states, they appear to have either a military-run government or a weak civilian-led government. In either of these two cases, the military will have a strong presence on policy. If the military has a strong influence, then the first level of organizational theory, listed above, will take place and deterrence failures are likely to occur. More specifically, the structural and organizational weaknesses of a state can cause potentially extreme militant policies, which could ruin the principles of deterrence theory.

To further support his argument, Sagan compares his organizational deterrence theory with Waltz’s rational deterrence theory. Sagan recalls Waltz framework of deterrence and brings to the surface the required assumption of this entire theory, and that is the assumption of rationality. The idea here is that costs are so high, which renders sensitivity to military decisions inevitable. In addition to noting the assumption of rationality, Sagan lists requirements for stable nuclear deterrence, which Waltz seems to overlook. The first is that states cannot engage in a preventive war while one state has nuclear weapons and the other is in the process of acquiring them. The second is that both states must develop assured second-strike capabilities. The third is that nuclear arsenals must not be prone to accidental or unauthorized use. Sagan points this out to show the reality of the situation. States will pursue these requirements as goals, because it is in their best security interest to do so. However, by Sagan comparing his organizational

perspective, he will prove this as a problematic belief.

Sagan begins to compare his organizational theory by first pointing out that rational deterrence rests simply upon assumptions. Assumptions are nothing but just that, they are not empirically tested or always accurate. They are used because they are helpful in literature, almost as an educated prediction into the future. Sagan goes on to state, “The rational – actor view is clearly not the only assumption that leads to useful predictions about nuclear proliferation” (*Enduring Debate*, 45). One potential, alternative assumption could be the possibility that government leaders intend to act in a rational order as Waltz’s theory proposes, but perhaps that option is not available to them and perhaps their final implementation of orders are inescapably influenced from forces within their country (*Enduring Debate*, 45). It can however be argued that these decisions are still rational, just negatively influenced by impractical situations. However, there is no denying that there is some level of imperfect and incomplete rationality present in such conditions. This criticism essentially leads to the larger point that ideal conditions and perfect knowledge are elusive and simply unrealistic. Sagan gives this contrasting example to prove that one cannot just rest a case on an assumption that nuclear weapons force a state to be perfectly rational. It is in this counter example of assumptions, that organizational theory is able to present its true convincing case against the theory of rational deterrence.

Sagan advances his argument by explaining there are two themes central to organization theory, which focus their attention on the major impediments on assuming pure rationality of behavior. The first is the observation that large organizations function with a severely bounded or limited, form of rationality (*Enduring Debate*, 46). This is to say they inherently limit their calculations and instead use simple mechanisms to determine their decisions. Instead of fully calculating reasoned decisions, large organizations govern based off tendencies, patterns, rules, and essentially “satisfice” (*Enduring Debate*, 46). Large organizations tend to be “myopic”, (*Enduring Debate*, 46) which is the same as saying narrow-minded. When trying to decide on a decision, they

fail to survey the entire environment for information and instead look to often-biased sources.

The second observation Sagan presents is that large, complex organizations commonly have multiple conflicting goals, and the process by which objectives are chosen and pursued is intensely political (*Enduring Debate*, 46). When a decision is largely due to political factors, it is inevitable that they serve interests of some of the organization. The problems of this is that, the favored interests are more often than not a narrow interest of the group's self-interested and competitive members in power. Even then, one cannot go forth and assume even that group of self-interested individuals are rational. One would expect this reason to be because it could be led by a radical head figure. However, it in fact comes down to the idea that conflict stems from organizational deficiency, rather than the characteristics of each individual. Sagan introduces the example of the inner workings of a military group. The soldiers have differing opinions than the commanders, commanders have differing opinions than that of command headquarters and so on and so forth. This is to prove, even if a professional military service acts in a relatively rational way, these actions do not constitute the military interests as a whole because of the chances of present organizational deficiencies within. "Because such narrow organizational interests determine behavior, a theory of "rational" state action is seriously weakened" (*Enduring Debate*, 47).

In terms of nuclear war, these themes of organization entail some obvious potential concerns. Sagan presents these fears by relating them to the three operational requirements for rational deterrence, which he claims Waltz overlooked in the beginning of his section. If you do not recall, Sagan lists these as –

1. States cannot engage in a preventive war while one state has nuclear weapons and the other is in the process of acquiring them
2. States must develop assured second-strike capabilities
3. Nuclear arsenals must not be prone to accidental or unauthorized use.

The first operational requirement concerns the period in which the world is changing from a conventional to a nuclear one. The first nuclear power must not attack (for preventive purposes) any other state that is in the process of acquiring nuclear capabilities. To strengthen his argument Sagan addresses notions listed by Waltz in his book *The Spread of Nuclear Weapons: More May Be Better*. In this book, Waltz claims there are two periods in a nuclear arms race that a state may consider preventive strike. "First, a country may be in an early stage of nuclear development and be obviously unable to make nuclear weapons. Second, a country may be in an advanced stage of nuclear development and whether or not it has some nuclear weapons may not be surely known" (Waltz, *More May be Better*, 16).

Waltz further goes on to say that it would seem more promising for a country to employ a preventive strike in the first stated stage of nuclear development, because they would assume that the other state could not strike back. However, he explains that even this is unlikely and unattractive. If the strike is less than debilitating, one must be prepared to occupy the country for the reasons of monitoring and further preventing a nuclear recovery period. This realization alone is enough to prevent the strike from being implemented in the first place. Sagan then comes back into the discussion and undermines Waltz's idea that a state will not preemptively strike simply because it is not in their end interest. He points out the flaw in arbitrarily assuming "if there is even a remote chance of nuclear retaliation, a rational decision maker will not launch a preventive war" (*Enduring Debate*, 49). Sagan's organizational perspective is far more pessimistic about this assumption because it considers military intervention, which Waltz dismisses because according to him, everyone will have the same level of rationality in considering nuclear war. Although there is some truth in this, the main point of organizational theory is that one cannot assume this truth to stand in all circumstances. Military leaders are more predisposed to view preventive war with more favor because in short, they do not have to worry about the broader political and diplomatic issues involved in war. Military leaders are not voted officials with political agendas to fill.

Militaries are trained to focus on military goals with victory at all costs mantras. They are war ready soldiers not members of the Peace Corps. In only considering the present, there is the crucial long-term considerations absent. Further, since civilians cannot accurately be assumed to be in control of all future nuclear states, there is solid ground to conclude that military biases in favor of war will be at least – present enough to harm the common rationality assumption that deterrence theory requires.

The second operational requirement of deterrence is the state's capacity to withstand a preventive nuclear strike, and still be able to employ second-strike capabilities. This is to say, every country that possesses nuclear weapons must develop their forces to be invulnerable. Waltz says this is possible for two reasons. The first is summarized as “Not much is required to deter” (Waltz, *More May be Better*, 19). What this means in considering second – strike capabilities is, even if a country is attacked, that same country will be able to reciprocate enough destructive damage with even one warhead. This builds on the next reason that states, “Deterrent forces are seldom delicate because no states wants delicate forces and nuclear forces can easily be made sturdy” (Waltz, *More May be Better*, 18). Therefore, in the event of an attack, Waltz assumes that a state's nuclear forces will be well guarded and strategically placed to prevent total loss of their second-strike capability. To reiterate, Waltz concludes that states will be aware of their nuclear capabilities, and will rationally adjust their tactics to defend by maintaining an offensive position if need be.

Sagan responds to this by questioning its accuracy when applied to every given nuclear situation. If only a few nuclear weapons strategically placed is all that will suffice to deter, then it is puzzling that arms races are seemingly inevitable when it comes to nuclear weapons. Waltz accredits this to “fuzzy thinking” on the state level. Fuzzy thinking is more or less a scapegoat created by Waltz to explain the apparent arms races despite his point of not much being needed to deter. However, Sagan replies by introducing his organizational theory into the matter and says “If fuzzy thinking at the domestic level can cause a state to spend billions of dollars

building more forces than are necessary for rational deterrence, couldn't similar fuzzy thinking at the organizational level also lead a state to build inadequate forces?” (*Enduring Debate*, 58). As stated previously, under an organizational theory, militaries do not take nearly as much consideration in their planning, which render them irrational in some regards. Consequently, even if Waltz's parts are there, that is the proper resources and conditions for second-strike capabilities, a state may still not effectively reach these capabilities if organizational biases dominate the states behavior. In reality, it all comes down to who is making the decisions. In Waltz's model there is no mention of militaries and in Sagan's model, the decision-making is generally controlled by the imperfect militaries. In either case, Sagan is not convinced that deterrence is always achievable.

The final operational requirement is that nuclear arsenals must not be prone to accidental or unauthorized use. Waltz looks to the history of nuclear armament in the world and draws his reasoning from that. Essentially, he arrives at the fact that all countries have so far been able to control their arms, despite tensions being so bitter in their early history. He then raises the question “why should we expect new nuclear states to experience greater difficulties than the old ones were able to cope with?” (*More May be Better*, 18). Waltz rests this assumption on his theory of rationality as stated, “we do not have to wonder whether they will take good care of their weapons. They have every incentive to do so. They will not want to risk retaliation because one or more of their warheads accidentally strikes another country” (*More May be Better*, 18). He reasons that it is presumably in the best interest of a state to keep their arms under strict control, in order to preserve their own security. Take for example an instance where a developing nuclear country loses one of their nuclear weapons to a radical terrorist organization within that country. If the stolen weapon was launched from within the parameters of that country, whatever country was hit will retaliate on the state as a whole without looking to see why the attack was employed in the first place. Clearly no country wishes to receive a retaliation strike, so why would they risk the susceptibility of their nuclear weapons.

In analyzing Sagan, Waltz's reasoning behind the likelihood of improper nuclear use seems to be exactly what he was waiting for to complete his organizational theory, more or less the piece that solidifies his argument. What does organizational theory say exactly about the likelihood of nuclear weapon accidents? Well, the entire theory is grounded on the possibility that instances like this can occur in our non-perfect world, and that rationality cannot so easily be assumed. If, as Waltz states, organizations are rational, then they may be able to achieve reliability in managing their devastating technologies such as nuclear weapons. However, if situations create an organization that has limited rationality with present political conflicts, then a pessimistic view to the operational requirement would be much more appropriate. Sagan takes it further than simply denying total rationality. He introduces what is known as the Normal Accidents theory by Charles Perrow. This theory argues that there are limits to the degree of which any organization can understand its technological systems. In addition, "conflicting objectives exist inside any organization: some top-level authorities may place a high priority on safety, while other on more self-interested objectives" (Sagan, "Enduring Debate", 68). This ultimately leads to organizational failures through risky behaviors, making it inevitable that system accidents will occur. It is just a matter of time.

In conclusion, Sagan recognizes Waltz's views of stable deterrence based on rational assumptions as valid, but he delves deeper into reality and says rationality cannot always be assumed. Since rationality cannot be assumed, it would be foolish and potentially harmful to base policy off this model, since the consequences could be so grave. Organization theory by its nature "makes less heroic assumptions about the rationality of states" (Sagan, "Enduring Debate" 76). The epitome of this theory is to err on the side of caution, keeping in mind that there must be doubt in some organizations to make the rational decision. This goes beyond just saying Waltz's theory is bad it shows how it is susceptible to questioning because of inevitable internal forces some organizations will face. The primary takeaway of Sagan's section is stated perfectly by himself in the conclusion of his chapter. He states, "Waltz has confused

prescriptions of what rational states should do, with predictions of what real states will do" (*Enduring Debate*" 78).

At this stage in the paper, the primary frameworks for both sides have been presented and analyzed. From here, it is time to introduce other significant views from the field of nuclear weapons study that fall within the division laid out by Sagan and Waltz. The reason is that it will allow sturdier ground for the American case analyzation that will ensue. To keep the non-proliferation momentum rolling, I will introduce first the literature that in nature, aligns with Sagan and the larger non-proliferation (less is more) idea. The two pieces of literature chosen to support this view are, the book *About Glory and Terror: The Growing Nuclear Danger* by Steven Weinberg and an academic article named *The Myth of Nuclear Deterrence* by Ward Wilson. The two pieces of literature are similar yet different. Each of the two present different ways of supporting and approaching their overall common consensus, which is that nuclear deterrence and investments in nuclear weaponry are not only ineffective, but also harmful to a secure world.

Steven Weinberg, the author of *About Glory and Terror: The Growing Nuclear Danger* is a notable American Physicist, who was born in 1933. In the early years of his life, Weinberg was not only deeply immersed in his love for science; but he was also growing up in a heavily nuclear influenced generation. Weinberg pursued his passion for science and eventually attended Princeton University, where he obtained his doctoral degree in Physics. Weinberg went on to achieve enormous prestige in the field of nuclear physics when he unified the electromagnetic and weak nuclear forces into the electroweak force (Benson, 16). This complex theoretical breakthrough led to him winning the Nobel Prize, which further progressed his influence in the field. Weinberg authored *About Glory and Terror: The Growing Nuclear Danger* in 2004, as a political theory that analyzes the effectiveness of attempts to expand and modernize America's already massive nuclear arsenal.

The opening sentence in *About Glory and Terror: The Growing Nuclear Danger* exposes an important truth, "The United States possesses an

enormous nuclear arsenal, left over from the days of the Cold War” (Weinberg, 3). The reality of this fact sheds light onto an important question, why are all of these nuclear weapons still needed? During the Cold War, the rational argument for the large arsenal was motivated by deterrence sentiments, much like the one presented by Waltz. The idea was that “we had to be sure that the soviets would be deterred from a surprise attack on the United States by their certainty that enough of our arsenal would survive any such attack to allow us to deliver devastating response” (Weinberg, 4). Now however, this “glorified” arsenal is obsolete. It may seem as if the ability to launch a preemptive strike against foreign nuclear forces is in our benefit, but it is actually enormously dangerous for all sides. If this is the goal of both nuclear sides, their forces will be on trigger alert. This tension presents the possibility of a nuclear attack due to small miscalculations, which will end in senseless devastation on both sides. In short, the rational deterrence mindset is not leading mankind into the peaceful waters away from the terrifying Cold War era. Instead, it is holding onto as much of that legacy as possible (Weinberg, 6).

Much of the reason why countries try to maintain their nuclear arsenals is because of the fear of uncertainty. Weinberg addresses this in asking, “Where is it written that the way to reduce uncertainty is always to maximize our nuclear capabilities?” (Weinberg, 25). It is crucial to keep in mind the fact that what one nuclear power does, another may imitate to keep the battlefield “certain” so to say. Weinberg insists, “Dangers may be increased rather than decreased” through this strategy (Weinberg, 26). He relates this finding to a military example, which took place in Europe during the early 1900’s. In the early twentieth century, Britain was the undisputed greatest naval power of the world. In 1905, to further this era of power, Admiral John Fisher advocated for the construction of a new, deadlier battleship. The design was completed, and was given the name the Dreadnought. Dreadnoughts fulfilled their goal and were superior to previous naval ships; however, an unexpected result occurred. Other countries saw this as an opportunity to better their navy as well and soon

enough, they were able to construct their own Dreadnoughts and thus, compete with Britain. Suddenly, the size of a countries fleet no longer mattered, just the number of Dreadnoughts a country possessed (Weinberg, 27).

What was intended as a way to better Britain’s navy, resulted in a naval arms race between Britain and the other global superpower, Germany. Britain was able to stay ahead, but forfeited great expense and experienced many difficulties in the process. Another admiral of the British navy complained to parliament, “The whole British fleet was morally scrapped and labeled obsolete at the moment when it was at the zenith of its efficiency and equal not to two but practically all the other navies of the world combined” (Weinberg, 27). This example is extremely relatable to the current situation countries face regarding nuclear weapons. Much like the case of Britain with the creation of the Dreadnought, America is the now the world’s leader in warfare and the creator of the nuclear bomb. Comparatively, just like Dreadnoughts, nuclear weapons are seen as a tool for power, which are sought after to act as equalizers. If anything has been deduced so far from Weinberg, it is that such equalizers only create more tension and are not serving national security.

Weinberg concludes in recognizing that the technology of nuclear weapons is extraordinary. However, the piece currently missing is the examination of which tasks they are effective in, and which of these tasks needs to be pursued and accomplished (Weinberg, 58). Without getting too technical regarding the terms of nuclear capabilities, Weinberg recognizes as an example the “low-yield nuclear weapon” projects that are being heavily funded. The error in these projects is not necessarily the money being poured in; the problem is, rather, that “it will encourage a new round of nuclear weapons development throughout the world” (Weinberg, 60). Similarly, projects aimed toward missile defense is bound to face the same negative results. One would think, a system used to intentionally collide with an enemies’ warhead is beneficial for the (oh shit) moments. In reality, it poses the threat of keeping tensions of the Cold War frozen in time because it shows that we are actively preparing for

something, anything. The main point and really the principle that ties Weinberg's analysis together is that, seemingly harmless defensive strategies can easily be mistaken for offensive strategies. Therefore, there needs to be much more concern in planning what is truly effective, after considering how other countries will view and respond to such actions.

The final piece of literature presented to support the non-proliferation opinion comes from Ward Wilson's *The Myth of Nuclear Deterrence*. According to his biography on the Federation of American Scientists website, Wilson is "widely acknowledged as the leading exponent of pragmatic arguments against nuclear weapons in the world today" (FAS.org). Wilson is an award winning writer whose ideas and literature challenges widely held fundamental assumptions about nuclear weapons, primarily the theories regarding rationality.

Wilson takes a rather interesting approach to refute the held theory that nuclear weapons are tools of deterrence. He notes that the common ground proliferation proponents rest on is that the belief of mutually assured destruction provides unique stability in a crisis, which leads to deterrence. However, Wilson believes there is much to doubt in this theory, which he will prove through his historical case analysis. Before he delves into relating history with the current nuclear state, Wilson lays out three practical arguments against nuclear deterrence theories. The first is that "city attacks" are not militarily effective or likely to be decisive. The second is that the psychology of terror that is supposed to work in nuclear deterrence's favor actually creates the circumstances for unremitting resistance. The third and final argument is, even though the field is mostly conjectural, what little unambiguous evidence does exist contradicts the claim that nuclear deterrence works. (Wilson, 421). Each of these arguments will be revisited and related to the historical case studies Wilson decides to analyze.

Wilson first addresses the widely held core of nuclear deterrence theory, which is the idea that possible city bombings or any domestic attack will deter nuclear powers from entering into conflict. Deterrence theory holds that the idea of the loss of land, life and inevitably the state will motivate

leaders to avoid any measure that could risk such attacks. In other words, "there is the assumption that leaders are influenced in decisions about war and surrender by the deaths of noncombatants in city based attacks" (Wilson, 423). The problem with this notion and similarly with the other two arguments is that there is insufficient historical evidence to support these claims. Wilson then looks to a relevant case from the Second World War, when the impact of conventional aerial bombings were being discussed. The conventional bombs in this era were seen as horrifying tools, capable of inflicting significant damage, similar to how nuclear bombs are seen today. Italian general Giulio Douhet understood the possible effects of an air raid and stated, "A complete breakdown of the social structure cannot but take place in a country subjected to this kind of merciless pounding.

The time would soon come, when to put an end to the horror and suffering, the people would rise and demand an end to war" (Wilson, 424). However, history proved this and many other similar predictions to be wrong. In the course of World War II, England was subjected to serious city bombings in London. Nevertheless, the English never surrendered. In fact, it has been noted that Churchill essentially forfeited London as a diversion, which caused them to stay shy away from Britain's important military assets (Wilson, 425). In a separate but equivalent case, the Germans also suffered air raids, even worse so than did their neighbor England did. However, German civilian morale remained strong as the Nazi party prospered, and the economy actually rose (Wilson, 425).

The difficult case of city bombing to work with is inevitably Hiroshima and Nagasaki. Wilson posits the possible reason this case is hard to analyze, is because "people are unable to resist confusing arguments about whether nuclear weapons were effective with arguments about whether their use was morally justified" (Waltz, 426). Wilson himself admits this is a difficult case to analyze because there really has never been anything quite like it. However, in recent scholarship, there have been reasons presented that serve as arguments against the belief that bombs were the reason for Japanese surrender.

Some of these arguments include, the Soviet invasion on August 5 altered Japan's strategic situation and was more of the reason for surrender than the bombs were. This is supported by another argument, which essentially purports that the bombings of Nagasaki and Hiroshima were just a continuation of city bombings that were generally equal to the culmination of the destruction of the conventional attacks (Wilson, 426). If they did not surrender before when their country was being annihilated by conventional bombs, why would they surrender after the nuclear bombs were dropped if the damage was similar? This leads back to the possibility that the Soviet Invasion was the true reason for surrender, not the nuclear bombs.

The second argument against deterrence regards the psychology of terror. Wilson approaches terrorism by comparing its central mechanisms to the core nature of deterrence. Ultimately, Wilson concludes that terrorism is ineffective at working in deterrence's favor and in doing so, he further concludes that deterrence, as a concept is ineffective. Wilson states that, "terrorism is supposed to work by killing civilians in order to shock and horrify governments into complying with a terrorist's demands" (Wilson, 430). In a less extreme level, deterrence essentially aims at the same thing. Earlier in this paper, Waltz defines deterrence as preventing someone from doing something by frightening them. The ineffective part of both terrorism and deterrence is in the common factor of achieving one's policy through the implementation of fear or threats. In past events, efforts of terrorism have not ended with the country being attacked simply succumbing out of fear. For example, look to the tragic events of 9/11. People were indeed frightened, but more than anything furious and ready to retaliate on the aggressors.

The primary reason behind this is that, no matter the magnitude of the attack, the livelihood of the entire country is threatened. Wilson explains this phenomenon in saying, "If you attack civilians, in other words, no matter what sort of message you intend to communicate, you already are likely to simply convince your opponent that you intend to exterminate him and the country as a whole" (Wilson, 431). This concept can mutually

be applied to the deterrence model because any perceived act of threat or aggression will have adverse consequences for the side who posed the threat in the first place. When the primary strategy of achieving one's policy is through fear, it will more likely than not end in conflict because of the active and heightened defense that is forced upon the threatened state. In other words, if two states are in a conflict and both of their strategies are deterrence, both countries will ideally be ready to attack at a moment's notice because they are each assuming the other has the same mindset. This is why the Cuban missile crisis was so frightening. Any perceived act of aggression between the United States and the Soviet Union could have released thousands of nuclear weapons ending millions of lives indefinitely. Terrorist threats essentially act in the same way. The more threats and violence a terrorist organization inflicts, the more likely a state will be inclined to retaliate at all costs.

The last argument presented by Wilson is that the evidence that does exist for the pro deterrence model is contradictory and seemingly ignorant of history. The first example that Wilson looks to is the arbitrary assumption that deterrence prevented nuclear attacks during the frigid Cold War years of 1950 – 1980. The fact of the matter is there are countless other explanations for such absence of nuclear attacks. Comparatively, the hundred years following the Napoleonic wars were for the most part peaceful, but we have no problem attributing these to, "war weariness, economic exhaustion, or domestic political distraction" (Wilson, 433). Is it too implausible to assume that the United States and the USSR were equally "war tired"? In essence, how can we accurately conclude that deterrence prevented war without clear evidence that war was even imminent between the two countries (Wilson, 433)?

Ultimately, Wilson is arguing the things that are so popularly attributed to deterrence lose most of their ground when you introduce reality and historically similar events into the equation. Much of what deterrence and the larger pro-proliferation argument relies on is that states will be rational because they will do whatever it takes to preserve their infrastructure and cities. After analyzing history, this central assumption is seriously

weakened because of the many examples of cities being close to annihilated, yet remained undefeated. Equally, in the terrorism/deterrence comparison, there is the consensus that these practices are effective ways of achieving policy goals. However, after history is introduced, this theory too loses validation. Lastly, commonly held assumptions that deterrence is the reason for the peace in the Cold War are contradicted with a similar scenario of peace following other major conflicts, but for different reasons that the blindly assumed deterrence theory.

Thus far, there has been a sufficient amount of literature that supports the less is more view of Sagan. It is now time to move on to the other side of the enduring debate, and present some of the literature that supports Waltz's more is better view. The two authors chosen to advocate for this view are Bruce Bueno de Mesquita and William H. Riker, who jointly contribute to the academic thesis *An Assessment of the Merits of Selective Nuclear Proliferation*. Both de Mesquita and Riker are well known political scientists, with a special influence on the scientist part. The primary grounds they base their political theories on is calculative equations such as game theory. In analyzing their work however, I will stay clear of the complex mathematical equations but explain the takeaways of each of their findings in simple form.

The title alone, *An Assessment of the Merits of Selective Nuclear Proliferation*, explicitly tells us something about the conclusion of this literature. The selective aspect means there will be some weighing out of both sides in their findings, which seems typical of mathematically motivated minds. Nevertheless, this research advocates for nuclear proliferation, or the spread of nuclear weapons throughout the world. Riker and de Mesquita begin their argument through presenting the observation that the United States has relied on two policies to defend themselves since the onset of nuclear reality. These include, "The maintenance of a stock of weapons and delivery systems that at least allows for retaliation against any potential nuclear attack and the discouragement of the proliferation of nuclear weapons among countries hitherto not so armed" (de Mesquita, Riker, 283). Together, these defense

policies constitute deterrence. The rationale for this policy is the same as had been discussed previously; no one will attempt to attack the United States even if they themselves had weapons, because they risk the fear of retaliation.

If we were to judge its effectiveness simply by looking at nuclear conflicts since these policies were implemented, the policy would obviously be said to work, since that number is zero. However, the two scientists do not rest their case there. They want to base their preferred policy of deterrence on something more substantial, "But to the degree that the policy has not been critically analyzed and its consequences clearly understood, we do not know what the putative success has cost and whether it is due to good planning or good luck" (de Mesquita, Riker, 284). The two scientists go about strengthening the grounds of deterrence by presenting a model of conflict decision making. Today, conflict situations render down to four scenarios, they are,

"(A) The initiator and the initiators opponent both have nuclear capability sufficient to impose unacceptable damage on the other. (B) The initiator has a nuclear capability as described in (A), but the opponent has only conventional (or modest nuclear) capabilities insufficient to impose unacceptable damage. (C) The initiator has only a conventional capability and the opponent has a nuclear retaliatory capability as in (A). (D) Both the initiator and the opponent have only a conventional (or modest nuclear) capability insufficient to impose unacceptable damage." (de Mesquita, Riker 293).

From this list of strategies, the authors construct a prisoner's dilemma game board titled, "To Proliferate or Not"

	Nonnuclear	Nuclear
Nonnuclear	D,D	C,B
Nuclear	B,C	A,A

As we can see from this figure, when the nuclear capabilities of the adversaries are symmetrical, then "neither is clearly able to impose its will upon the other, nor does either have any incentive to use its nuclear capability in a

war against the other” (de Mesquita, Riker, 300). It is now that we can rely on historical evidence to back up this equation. As shown above, when there is a conflict between a nuclear power and a non-nuclear power, one could assume that the outcome would be nuclear, just as in the conflict between Japan and the United States. However, when two nations that are nuclear powers enter in a conflict, the assumption is that the losses will be so devastating, that the conflict will deescalate and avoid nuclear war at all costs. This can most infamously be related to the Cold War.

The reality the world faces today is that nukes are out there, and have already proliferated whether we like it or not. However, de Mesquita and Riker are not advocating that countries with nukes dump their nuclear repertoire into any country that does not possess them. Instead, they take a practical approach for advocating proliferation. The authors recognize the reality of what they refer to as “non-territorial terrorist organizations” (de Mesquita, Riker, 304). The existence of these groups harm their game theory analysis because these organizations essentially have nothing to lose. Therefore, deterrence will not be as effective on them and likewise, they will not consider their destruction since they offer no obvious retaliation targets. Due to this, the authors advocate to weigh out the possibilities to the point where proliferation is expected to decrease violence more so than proliferation would increase violence at the hands of the terrorists. In conclusion, blind proliferation may not be the answer that best serves national security. However, the authors are saying their analysis is concise and that when done properly, proliferation will act as a deterrent against nuclear war.

ANALYSIS

Based off the literature review, one can infer that the landscape of opinions regarding nuclear policy is vast. The literature that has been presented in this paper displays division in support for either the non-proliferation or pro-proliferation theory. However, what is clear in both arguments is that we are living in a nuclear reality. Metaphorically, the genie has been permanently let out of the bottle and what has been done cannot be reversed. Nevertheless, the question at hand is how America

is supposed to deal with this almost science fictional reality of a potential Armageddon. More importantly, are the efforts already taken effectively serving our, and inevitably, the world’s best security interest? Yet, before this research can move on to an argument for or against the effectiveness of American nuclear efforts, the crucial element regarding the history of American nuclear weapons and treaties must first be added into consideration. By briefly relating the major historical elements with the differing theories from the literature, we can determine its effectiveness, and ultimately arrive at a conclusion.

America’s nuclear history is unique; the reason for this is rather obvious. To this day, America is the only country to have used a nuclear bomb in warfare with the attack on Nagasaki and Hiroshima in August of 1945. However, it would be inaccurate to say that this initiated the nuclear age. Rather, the nuclear age commenced on a cold December morning in 1942, when Arthur Compton received a ground breaking cryptic, coded statement reading “The Italian navigator has just landed in the new world” (Clarfield, Wiecek, 1). Arthur Compton was a Nobel laureate and director of the University of Chicago’s Metallurgical Laboratory, and the “Italian navigator” was an Italian scientist named Enrico Fermi who had just successfully demonstrated controlled atomic fission (Clarfield, Wiecek, 1). This was more than a scientific breakthrough; it was a crucial piece to a puzzle in the feverish secret race to produce nuclear weapons.

This feverish race originated a few years earlier with the United States realization of the imminent Nazi war machine. In 1939, “Albert Einstein and Leo Szilard warned of developments in Nazi Germany and urged President Franklin D. Roosevelt to begin a research program on nuclear fission for military use” (Sidel, Levy, 1). Roosevelt took heed to this suggestion and created the Manhattan Project in 1941 to develop, produce and test the bombs. The Manhattan project was a highly classified mission lead by nuclear physicist Robert Oppenheimer. Despite its name, the work of the project was distributed to various locations all over the country, which employed some of the brightest scientific minds like that of Compton and Fermi. Just a year after Roosevelt started the

project, the Italian navigator successfully reached atomic fission. A few short years later, on the morning of July 16, 1945, near Alamogordo, New Mexico, the world's first nuclear weapon detonation test called the Trinity Explosion was completed (Schenck, Youmans, 400). This was it, it validated the design and functionality of the bomb and it is exactly what the Manhattan Project was intended to do. The bomb was eventually put to use, and was detonated over Hiroshima and Nagasaki. The combined causality rate staggered near 150,000 people and the true power of the bomb was revealed to the world. The primary question at hand moved from, how the bomb is going to be completed, to – what next?

America and the international community sought to answer this question in 1946 when “they began negotiations under the auspices of the United Nations, on the international control of atomic energy” (Perry, 36). The proposal was a U.S. sponsored plan known as the Baruch Plan. The primary goal of this plan was that all nuclear activities be controlled by an international entity under the jurisdiction of the UN Security Council. Any state that broke such agreements would be duly punished. In addition, the Soviet Union would have to agree to inspection before the United States even thought about giving up their nuclear weapons (Perry, 36-37). It was no surprise that the stringent agreements of this proposal were ill received by the Soviet Union, “Stalin’s young delegate to the UN Atomic Energy Commission rejected the U.S. plan” (Clarfield, Wiecek, 1). The reason for this rejection was speculated that the Soviet Union was determined to match the United States by developing their own bomb (Perry, 36-37). This of course was proven accurate in 1949 when the Soviet Union successfully detonated their first nuclear weapon.

The Soviet Union’s success in detonating a nuclear bomb caused the once singular nuclear power America, to become uneasy. The fact of the matter was that America just lost their nuclear monopoly. Despite the obvious differences between testing and successfully employing a nuclear weapon, the United States and then president, Harry Truman recognized the need to act. Truman’s response to this was to develop a more advanced and therefore, deadlier nuclear

weapon known as the hydrogen bomb. The primary rationale behind this decision was fully based on the Soviets past nuclear success, so if Truman did not pursue it, then the Soviets would beat them to it (Charnysh, 2). However, “the Russians followed in this pursuit” (Rotblat et al, 22), which launched the nuclear arms race into immediate effect (pun – intended).

In the 1950’s, Truman’s successor, Dwight D. Eisenhower attempted at a more passive and diplomatic approach. He announced his idea to the United Nations under the umbrella term, the Atoms for Peace program. After a frightening speculation of the destructive power of the world’s nuclear arsenal, Eisenhower suggested that, “this greatest of destructive forces can be developed into a great boon, for the benefit of all mankind” (Clarfield, Wiecek, 184). Eisenhower proposed that the major nuclear powers (United States, Soviet Union and Great Britain) “contribute uranium and other fissionable materials to a stockpile administered by a proposed International Atomic Energy Agency (IAEA)” (Clarfield, Wiecek, 184). From here, the IAEA will distribute this material to promote peaceful purposes. The program achieved this for “twenty-six developing and friendly nations. In return, the recipient nations fulfilled U.S.-required safeguards, such as having inspectors continually monitor the transferred technology to ensure its peaceful use” (Schenck, Youmans, 405).

Despite all the beneficial purposes Atoms for Peace produced, these negotiations did not result in any formal international arms control agreements. The Cold War only got colder and nuclear weapons tests only got larger and more frequent. In October of 1962, U.S. President Kennedy and Soviet Premier Khrushchev found themselves face to face in the Cuban missile crisis, which has been referred to as the most dangerous crisis of the Cold War. (Perry, 41). The intensity and frequency of such events caused public anxiety to grow, which compelled governments to seek “partial measures to alleviate immediate worries” (Rotblat et al, 24). The treaties that originated from these alleviation efforts still had the end goal of complete nuclear disarmament, however, they shifted their goals from the generalized commitment to disarmament, to the more focused

approach of deterrence (preventing the use of nuclear weapons) (Schenck, Youmans, 406). Essentially, the major nuclear powers realized disarmament was practically impossible if that is your primary goal. The hope was that by shifting goals to deterrence, maybe someday disarmament might be reachable. The treaties that contain the shift in policy include, the Partial Test Ban Treaty of 1963, which limited nuclear testing by prohibiting the testing in the atmosphere, outer space and underwater. The Tlatelolco Treaty of 1967, which essentially established disarmament in at least part of the world by creating nuclear free zones. Latin American countries played the largest role in this treaty, as they signed away their rights of ever acquiring nuclear weapons. However, the main treaty that came from this is the Non-Proliferation Treaty of 1968 (Rotblat, 24-25).

The Non-Proliferation Treaty (NPT) was the principal treaty because it “represented the first major effort by the international community of nations to limit the proliferation of weapons of mass destruction” (Schenck, Youmans, 408). The core of the NPT prohibits member nations that do not have nuclear weapons from acquiring them. In addition, the NPT allows inspections by the IAEA to ensure that nuclear enriched elements such as plutonium and uranium are being used for nuclear energy and not nuclear weapons. Essentially this part of the treaty strengthens the Atoms for Peace doctrine of the Eisenhower era (Rotblat, 24-25). For the states that possessed nuclear weapons, “they agreed not to transfer these weapons to non-nuclear states, while at the same time working towards the goal of eventual nuclear disarmament” (Schenck, Youmans, 408). Despite all of these U.S. sponsored demands, there are no provisions that prohibit deployment of U.S. nuclear weapons. There was obvious Soviet discontent, but the final draft did not prohibit the United States from deploying weapons in allied countries (Perry, 77).

In the sixty years following the NPT of 1968, the United States began to hone in on their goals regarding nuclear policy. Instead of advocating for non-proliferation at large, the United States focused their attention on their dominant threats. Until the end of the Cold War in the 1980's, the obvious threat that dominated their policy decisions was the Soviet Union. The arms race

between the United States and the Soviet Union produced nuclear arsenals ranging in the tens of thousands second-strike capable nukes. It was a seemingly endless construction. The ever-expanding repertoires of both sides compelled them to keep trying to beat out their opponent by out-building them. The acronym MAD, which stands for mutually assured destruction, was accredited to the extremely dangerous situation that the arms race created. In order to prevent this potential assured destruction; in 1968, President Lyndon B. Johnson suggested a series of talks with the Soviet Union called the Strategic Arms Limitation Talks (SALT). These talks began in 1970 between his successor Richard Nixon and Soviet General Secretary Leonid Brezhnev. The first of these talks known as SALT I resulted in two rather important agreements, “The Interim Agreement on Offensive Arms, which limited the offensive strategic weaponry such as submarines. And the Anti-Ballistic Missile Treaty (ABM), which limited ICBM defense missiles” (Schenck, Youmans, 416).

In the next seven years, discussions aimed at improving the SALT I treaties opened up the doors for SALT II. However, these did not come as easily as SALT I. Overall, these discussions took seven years and fell into Jimmy Carters term. The two countries came to the agreement that since the SALT I agreements, their weapon designs shifted, thus rendering future agreements difficult because of their incompatible technologies. For better or worse, anything that was agreed on was suspended because of the 1980 Soviet invasion of Afghanistan. After this conflict ended the two countries resumed discussions, this time called the Strategic Arms Reduction Talks (START). These discussions were infamously between U.S. President Ronald Reagan and Soviet President Mikhail Gorbachev. Reagan laid out the primary goal, which was designed “to limit the actual weapons, the warheads, ‘which are what kill people,’ as distinguished from the approach of the Nixon, Ford, Carter administrations, which only limited the delivery vehicle and bombers” (Schenck, Youmans, 425).

At first, these were not well received by President Gorbachev but eventually the two met. They concluded that nuclear war must never be

fought and their nuclear arms must be reduced. By the end of the meetings the United States and the Soviet Union agreed on reducing “strategic nuclear delivery vehicles to 1,600 and cap deployed nuclear warheads at 6,000” (Schenck, Youmans, 426). In addition, “the two reached the so called “double-zero” option, which called for the complete elimination of all intermediate-range and shorter-range nuclear forces (INF)” (Schenck, Youmans, 427). This was an immense treaty because in addition to eliminating INF missiles, it also implemented on-site inspections, which broke enormous barriers between the long tensed United States and the Soviet Union.

START agreements are still currently active and in the nuclear policy between the United States and Russia, because the size of both nuclear stockpiles are still nothing to disregard. However, American- Russian nuclear conflict is no longer at the top priority for America. At the end of the 1980's and into the early 1990's the long standing Soviet Union took its last breaths and eventually dissolved into the Russian Federation. The United States nuclear policy shifted into more or less the primary focus of the current policy. Now, the United States main threats involve those commonly called radical and rogue nations, who are constantly working towards getting nuclear weapons. This focus especially heightened in the years following September 11, 2001, because this threat simply became too legitimate to possibly ignore.

The new policy is widely referred to as “preemption,” which calls for America to act against these dangerous acquisitions of Weapons of Mass Destruction before they fully form (Perry, 300). Deterrence would not necessarily work under this situation because “deterrence is based only on the threat of retaliation and thus less likely to work against rogue states who are more willing to take risks” (Perry, 300). Essentially, terrorism is an ideology not an entity like a state, so it undermines the fundamental principles of deterrence because it takes out the retaliation factor. Because of the reality regarding the difficulties involved with addressing nuclear terrorism, the United States continues to support the NPT because of the potential horrors proliferation into the wrong hands can cause. The

hope is that any illicit and potentially nefarious nuclear activity can be prematurely executed. This theory of preemption and non-proliferation is perfectly portrayed in the recent U.S. – Iranian nuclear deal. In short, the United States goal throughout this is to prevent any ability or potential possibility of the Iranian government, or radical groups refuting in Iran, from constructing a bomb.

However, where the policy of preemption will take us is uncertain. We are dealing with radical groups and nations that are commonly shielded by the sovereignty of the state in which they reside. Consequently, the United States will face assured limitations on the amount of preemptive tasks that can be accomplished. Take as an example the present threat of North Korea, where nuclear weapons have entered into the possession of a radical leader. Deterrence may work in this scenario, but that is only if we assume rationality amongst the leaders. That is, both the United States and especially North Korea refrain from nuclear attacks because they fear the same mutually assured destruction. Nevertheless, the United States essentially is barred from pursuing any act of preemption that violates North Korea's Sovereignty. Another factor that has come into play with the North Korean equation highlights a potential flaw facing the nonproliferation and preemption policies as a whole.

Since North Korea's joining of the NPT in 1985, they have successfully hid some of their nuclear activities from IAEA inspectors (Perry, 303). North Korean scientists then learned how to separate the plutonium from the other elements of the hidden materials, which supposedly were for “peaceful purposes.” These events are perfect examples of Latent Proliferation, which is the covert spread of nuclear weapons. “North Korea's development of nuclear technology, while ostensibly for peaceful purposes, gave it a latent capability to make plutonium for nuclear weapons” (Perry, 303). From this, the United States can further deduce that due to structural, or dare I say “organizational” weaknesses, our policy of preemption and nonproliferation may not totally suffice in the global struggle to address nuclear weapons in a way that makes the world

safer. However, where does all of this leave the United States?

Based on the chronological historical evidence and the theoretical division presented in the literature, we can respond to the research question: Does American efforts of strengthening their nuclear capabilities and pursuing non-proliferation truly lead to a safer country and world? Since the beginning of the nuclear era, America has implemented policies with parts of both Sagan and Waltz's theories. American policies are aimed towards deterrence and non-proliferation, but with the enduring necessity to remain the leading nuclear power. This effectively began right after America dropped the first bomb. As the dust was clearing, America knew it had to preserve this dominating force and looked to do so through their proposed Baruch Plan that called for the international control of nuclear activity. What America feared the most, became a reality when the Soviet Union successfully detonated their bomb. This tragedy of losing the American nuclear monopoly consumed the mindset of American leaders, which in turn motivated them to pursue new options of regaining that once held untouched and formidable power in the world.

Instead of nipping the new nuclear technologies in the bud, America reacted with the decision to construct the ever more powerful hydrogen bomb. The Soviet Union was also looking to be regarded as the dominant power, so they followed in these pursuits, which resulted in the Arms Race. What was once a potentially manageable problem quickly evolved into frantic nuclear producing tensions. The American power seeking policies further continued, although sometimes in not so obvious ways. The non-proliferation and deterrence efforts were obscured as treaties such as the Partial Test Ban, Tlateloco, NPT, SALT and START treaties. Each of these treaties had different specific objectives but all had the same underlying primary goal. They all intended in some way to restrict the access of nuclear weapons to weak and powerful nuclear states alike. Through this, America would have the upper hand as intended. Even in the tougher America – Soviet Union treaties that seemed equal, America was still on top because their

nuclear capability prevailed despite the diminished size the treaties called for.

Despite all of America's intentions that actually do give them the upper hand, the World is still in a nuclear tense position. This is because the adverse effects of America's policies are in reality occurring. Although the technology and administrations have changed, the consistent policies geared towards giving America the upper hand is only keeping tensions very much alive. To support this observation, we have to look at literature whose theories advocate for such. In Steven Weinberg's opinion, the various dominant pursuing policies of America may easily be mistaken for offensive strategies. This means America's neorealist policy of security through defense and deterrence advocated by Waltz, is actually keeping the tensions alive. This is because we are posing almost subliminal threats to the rest of the world through our policy of fear. This is much like the terrorist model presented by Wilson, who says these policies are much more likely to end in conflict because of the heightened defense that America forces on other countries, which they think they are successfully deterring. If there was to be a fight between a strong man and a weak man and the fight was determined by strength, the strong man would win. In an attempt to better his outcome, the strong man being who he is, will motivate the weak man to pack on serious muscle until the sides are even. This is exactly what is happening through Americas polices. Instead of negotiating, both sides are looking to get bigger and stronger which would ultimately make the fight bloodier and more violent.

To strengthen this analysis, let us identify two significant paradoxes on the matter. The first is the fact that nuclear weapons are like any other weapon in the sense that they are meant to be used. However, they can never be used again because if they are the world will see definite irreversible destruction. The issue in resolving this discrepancy is that the countries of the world are simply not acting as if this is the case. The theory of deterrence is blinding leaders of this reality because of the goal to constantly match one another. The effect of this is more nuclear weapons that simply widen this paradox. In order to

mitigate and hopefully diminish such a discrepancy, the only realistic policy would be to reduce the amount of weapons to the point where this is no longer the case. The second paradox present is that governance is most needed in this area of international nuclear weapons agreements, but ultimately there is no basis for binding international rules. The treaties on nuclear weapons for the most part have been effective, but in reality these agreements are nothing more than mere suggestions. The fact of the matter is when it comes down to such an immense and rather uncharted reality of nuclear weapons, states will ultimately choose to act in a way that is aligned with survival in mind. The problem here is essentially figuring out which is the best way to survive, and the deeper problem is that countries are settling with scare tactics to keep themselves safe.

Although the world has seen seventy plus years of no nuclear catastrophes, arms races and tensions remained ever so high. Throughout this research, there has been conclusive evidence to suggest that America is in part the reason behind such nuclear hostilities that have been present. Just because there has not been nuclear attacks, does not mean American policies are keeping the country and the world safe. There needs to be much more concern in planning what is truly effective, after carefully considering how other countries will view and respond to such actions. The non-proliferation policies have grounds to them but America must remove the toxic deterrence model from the equation. If this is not implemented, irrational and rogue leaders will continue to look for ways to even the field and not find any reason to discontinue their attempts at gaining nuclear capabilities. Thus, our current situation could worsen and conceivably lead to world disaster. What has happened has happened and we cannot undo the past. However, we must

realize that we are indeed living in a nuclear world and because of this; we cannot keep devising treaties and developing weapons with the aim at deterring other nations from using theirs. We must put it behind us and transition our efforts towards diplomacy if we ever want to see tensions deescalate and the world become a safer place.

REFERENCES

- Benson, Alvin K. "Steven Weinberg." *Salem Press Biographical Encyclopedia*, January. EBSCOhost.
- Bruce Bueno de Mesquita, author and author William H. Riker. "An Assessment of the Merits of Selective Nuclear Proliferation." *The Journal of Conflict Resolution*, no. 2, 1982, p. 283. EBSCOhost,
- Charnysh, Volha. "A Brief History of Nuclear Proliferation." *Nuclear Age Peace Foundation*, 7 Jan. 2010, pp. 1–23.
- Clarfield, Gerard H. and William M. Wiecek. *Nuclear America : Military and Civilian Nuclear Power in the United States, 1940-1980*. New York : Harper & Row, ©1984., 1984. EBSCOhost
- Mohn, Elizabeth. "Kenneth Waltz." *Salem Press Biographical Encyclopedia*, 2017. EBSCOhost
- Perry, William J. *U.S. Nuclear Weapons Policy: Confronting Today's Threats*. Edited by George Bunn and Christopher F. Chyba, Washington, D.C., Brookings Institution Press, 2006. JSTOR
- Rotblat, Joseph, et al. *A Nuclear-Weapon-Free World : Desirable?, Feasible?*. Boulder : Westview Press, 1993., 1993. A Pugwash monograph. EBSCOhost.
- Sagan, Scott Douglas and Kenneth N. Waltz. *The Spread of Nuclear Weapons : An Enduring Debate*. New York : W.W. Norton & Co.