Rethinking U.S. Nuclear Strategy: differences between Obama and Bush policies

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Resumen

Sesenta y cinco años después de los Estados Unidos detonó la primera arma nuclear, la proliferación sigue siendo un tema de gran interés y preocupación entre los académicos y los responsables políticos. Más naciones han adquirido o están buscando armas nucleares. El temor de una amenaza nuclear y el conflicto plantea las mayores preocupaciones generalmente expresada por los gobiernos y ciudadanos de todo el mundo. El objetivo principal de este trabajo es entender lo que caracteriza a la actual estrategia nuclear de los EE.UU., y la comparación de Bush y las políticas de Obama. Los elementos centrales en discusión aquí están relacionados con la percepción del papel apropiado de las armas nucleares, es decir, el control de armamentos, el desarme, la disuasión y las iniciativas de no proliferación. Por lo tanto, el autor comienza con la contextualización del tema en los debates contemporáneos sobre las armas nucleares que permiten al lector hacer un seguimiento de los principales hechos históricos que lo lleva a la discusión actual de la estrategia nuclear de los EE.UU.

Palabras clave: estrategia de las armas nucleares, Barack Obama, George W. Bush, desarme, disuasión nuclear, revisión de la postura nuclear.

Abstract

Sixty-five years after the United States detonated the first nuclear weapon, proliferation remains a topic of intense interest and concern among both academics and policy makers. More nations have acquired or are seeking nuclear weapons. The fear of a nuclear threat and conflict raises the highest concerns usually expressed by governments and citizens all over the world. The main aim of this paper is to understand what characterizes the current U.S. nuclear strategy, comparing Bush and Obama policies. The core elements under discussion here are related to the perception of the appropriate role of nuclear weapons, i.e. arms control, disarmament, deterrence and nonproliferation initiatives. Therefore, the author begins with the contextualizing of the topic on the contemporary debates on nuclear weapons that allow the reader to track the main historical developments that leads him to the present discussion of the U.S. nuclear strategy.

Keywords: nuclear weapons strategy, Barack Obama, George W. Bush, disarmament, nuclear deterrence, nuclear posture review (NPR)

Introduction

More than sixty-five years have passed since the American use of atomic bombs on Hiroshima and Nagasaki, the only use of nuclear weapons in warfare. The non-use of nuclear weapons since then subsists as one of the most important phenomenon of the nuclear age (Tannenwald, 2007). Yet, any future use of nuclear weapons is likely to be the beginning of catastrophic change in the world order. Those nations able to strengthen their nuclear forces, or to start to acquire nuclear weapons on their own, would like to do so. Consequently, nuclear proliferation would be accelerated (Perry and

Schlesinger, 2009). This is why it is so important to consider, at the present time, about where we may be headed, what outcomes can be regarded as desirable, and what steps should be taken now to increase the prospect of a safer and more secure nuclear order in the years ahead.

Recently, many actors have argued for international cooperation and multilateral action on the limitation of nuclear armament, and consequently nuclear disarmament, as a precondition for international peace and security. The core elements under discussion here are related to the perception of the appropriate role of nuclear weapons, i.e. arms control, nuclear disarmament, deterrence and nonproliferation initiatives. Furthermore, this paper comes at a time when threats have changed and the world has moved closer to a proliferation tipping point (McNamara, 2005).

A persistent theme in United States foreign and national security policy is the importance that nuclear weapons still retain. There is no greater global imperative than that of securing the nuclear peace of the world (Perry and Schlesinger, 2009). Furthermore, assessing the appropriate role for nuclear weapons, arms control initiatives, and nonproliferation programs are vital to understand today's international security problems and their future challenges.

The huge nuclear arsenals developed during the Cold War are being reconsidered in the absence of superpower confrontation and in light of the difficulties of deterring *outliers*[2] states and amorphous terrorist groups. At the same time, maintaining and safeguarding existing nuclear weapons and materials continue to require substantial resources. The number of states possessing nuclear weapons increased by one-third when India, Pakistan and North Korea implemented operational nuclear weapons systems (Vicente and Cabaço, 2011). Iran appears to be following in its footsteps, and other nations, particularly in the Mideast, are starting nuclear power programs using Iran as a model. Growing threats of mass-casualty conflicts are demanding large investments in defensive preparedness against nuclear weapons. The prospects of a further spread of nuclear weapons to

[2] Obama administration characterized States like Iran and North Korea as "outliers," abandoning the Bush-era moniker "rogue states" (Litwak, 2010). This shift in diplomatic language underscores the administration's strategy of engagement toward United States global nonproliferation objectives.

others states and to terrorist organizations, combined with proliferation in nuclear materials and technologies among those who possess or acquire nuclear weapons, constitute persistent threats to America's national interests (Art, 2003; Fukuyama and Ikenberry, 2006; Ikenberry and Slaughter, 2006; Allison, 2010).

Hence, coupled with these developments, the re-emergence of previously subdued ethnic conflict is producing civil war that demand international intervention, the Israeli-Palestinian conflict continues, the world's economic and financial crisis maintains, an unstable and transitional international order arises, climate change and global environmental issues are rising priorities in the agenda, the Arab democratization wave is happening with unpredictable consequences for the region, a global war on terrorism is underway, and the long-range outcome of the war in Afghanistan may be problematic. In this unbalanced security environment, the United States is reducing its nuclear arsenal, fielding an embryonic system of national ballistic missile defenses, restructuring its military and foreign policy, and reorganizing its government in order to promote a vision of a world without nuclear weapons. The implications of the trends for the nuclear deterrence, security investments, and military and strategic postures (e.g. 2010 nuclear posture review, national security strategy and NATO's strategic concept) are continuously evolving, and they raise critical questions about associated policy processes and outcomes.

Moreover, due to the recent shift between the Bush and Obama administrations, and associated complexities of the current world order and security environment exceed the capacities of most Americans to understand and contribute to the sharing of new security and power designs.

Nonetheless, one thing is certain: when analyzing America's nuclear strategy, we are faced with a dilemma. On the one hand, nuclear weapons are the greatest potential threat to the livelihood of citizens; on the other hand, they are also the greatest guarantee to their safety.

Therefore, the main aim of this work is to understand what characterizes the current American nuclear strategy, comparing Bush and Obama policies and their projection on public opinion

perception. Our research endeavors will include the analysis of documents, political speeches, public opinion polls and barometers that provide a framework to assess the American nuclear strategy's tendencies and evolution. Hence, this paper will be divided in three sections: (1) presentation of main characteristics of the American nuclear strategy; (2) examination of the contemporary debate about nuclear weapons; (3) and analysis of the differences between Bush and Obama nuclear policies and their outcomes.

1. U.S. nuclear strategy: a brief overview

The term "nuclear strategy" refers to a military strategy employed by nuclear weapons states (NWS), i.e. states that posses nuclear weapons. Therefore, nuclear strategy details how many nuclear weapons to deploy, what delivery systems to put them on, and what kind of policies to adopt regarding the circumstances in which they would be used. Generally it *involves the development of doctrines and strategies for the production and use or non-use of nuclear weapons* (Vicente and Cabaço, 2011).

Many strategists argue that nuclear strategy differs from other forms of military strategy because the immense and terrifying power of the weapons makes their use in seeking victory in a traditional military sense impossible. Consequently, nuclear weapons are weapons of mass destruction (WMD) and cannot be made to serve rational ends. Nevertheless, NWS claim that nuclear weapons are able to deter nuclear or conventional attack by threatening disastrous retaliation – this policy normally is called "nuclear deterrence"[3].

[3] The use of military force to influence other states in the international relations can take various forms. The most obvious is simply achieving political objectives through brute force of arms. This is often the most costly form of achieving political goals, however, and states prefer simply to achieve their policy goals through other diplomacy options based upon the *threat* of military force. The distinction between these forms of diplomacy comes from whether you want another state to stop performing an action that they are already performing, or whether you want to prevent them from taking an action. The first is commonly considered compellence, or the ability to threaten another actor with unacceptable harm if they do not change their behavior within a set timeframe. The latter concept is called deterrence and is the one which will be analyzed. Deterrence aims to prevent an adversary entity (or State) in a given situation, from using certain coercive because of the existence of a set of means and measures that can pose a threat sufficiently daunting. According to Patrick Morgan (2003: 2)., deterrence *«is distinguished from compellence, the use of threats to manipulate the behavior of others so they stop doing something unwanted or do something they were not previously doing. As with deterrence, in security affairs a compellence threat also normally involves military action and often the*

Throughout human history war has served an end. Carl von Clausewitz (1989: 87) coined the phrase that *"*war is merely the continuation of policy by other means". With the advent of nuclear weapons, however, war and strategizing for military conflict changed its character (Brodie, 1946, 1971; Poirier, 1977; Aron, 1965; Vicente, 2010).

Following the Manhattan Project[4] effort, the nuclear strategy of the United States was born in the aftermath of the decision to drop atomic bombs on Hiroshima and Nagasaki at the end of the Second World War (Brodie, 1946, 1971; Rosenberg, 1983; Williamson and Rearden, 1993; Freedman, 2003). Initial recommendations may have highlighted the tactical potential of nuclear weapons to support a military invasion, but their use clearly followed the principles of strategic bombardment (Brodie, 1971). Insofar as the attacks were meant to coerce Japan to surrender, with the threat of further nuclear deployment in the event of non-compliance, rather than merely to support a conventional operation.

In the beginning the A-Bomb (atomic-fission bomb) was scarce, costly and too bulky for efficient delivery and sceptics expected that atomic bombs would be limited to about the same power (20 kilotons of TNT) and spatial effectiveness. Effective strategic bombing was considered to be the dominant form of war in the postwar world. It was assumed that strategic bombing would rely entirely on air forces, and that strategic bombing could be carried out successfully over any distance separating the powers involved. In the long run, the strategic changes served, among other things, to end completely American territorial invulnerability. However, the strategic implications of the first nuclear bombs were radical in the extreme (Brodie, 1946; Kaplan, 1991).

At the end of the Second World War, the United States had the monopoly on the atomic bomb and attempted to hold it as long as possible. In part, as a response to the possibility of nuclear blackmail, the Soviet Union vigorously pursued the development of its own nuclear capacities. In August 1949,

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unwanted behavior to be stopped or steps to be taken involve the use of force, e.g. stop an invasion that has begun, pull out an occupied area».

[4] The Manhattan Project created the first nuclear bombs. The first human-engineered nuclear detonation was the Trinity test (Gosling, 1999).

the Soviets unexpectedly detonated an atomic bomb. From that moment on the United States could not use nuclear weapons as instrument of offensive warfare.

At the time, the former U.S. diplomat in Moscow, George Kennan (1983) advised the U.S. to pursue the Strategy of Containment (closely related to nuclear deterrence conceptions) considering two main options. On the one hand, in times of peace the U.S. should engage in a policy of "minimum deterrence"[5]. The U.S. should restrict the number of weapons that it would take to make an attack on this country (or its allies) a risky, unprofitable, and irrational undertaking. On the other hand, in times of war the U.S. should accept a strategy of "no first use"[6].

Hence, the nuclear age started on July 16, 1945 – the day before the principal allies in World War II (United States, Soviet Russia, and Great Britain) met during the Potsdam Conference to negotiate the shape of the postwar world – with the testing of the American atomic bomb in the New Mexico desert; Hiroshima and Nagasaki were attacked three weeks later. But the history of the First Nuclear Age is filled with such revisions of thinking and plans. Some of the lessons of the first nuclear age are useful to review, seeking a better understanding of some dynamics and pathologies that could shape the second.

The first lesson was the limited spread of nuclear weapons to other states. Almost no one, at the start of the First Nuclear Age, expected that nuclear bombs would remain a Western monopoly for long, and many people believed they would be used in warfare again eventually, certainly before the of the 20th century. Yet, the nuclear pessimists were wrong because arms control turned out to be much more effective than anyone thought it would be. It worked by both formal treaties and, just as important, informal but widely observed norms of international behaviour[7]. In the context of nuclear

[5] In nuclear strategy, minimal deterrence (also called minimum) is an application of deterrence theory in which a State possesses no more nuclear weapons than is necessary to deter an adversary from attacking. Pure minimal deterrence is a doctrine of *no first use*, holding that the only mission of nuclear weapons is to deter a nuclear adversary by making the cost of a first strike unacceptably high.

[6] This term refers to a pledge or a policy by a nuclear power to not use nuclear weapons as a means of warfare unless first attacked by an adversary using nuclear weapons. The concept can also be applied to chemical or biological warfare.

[7] In particular, the 1968 NPT Treaty worked far beyond anyone's expectation of success. Originally it was seen as a way to buy time, maybe five years, until a more permanent structure came into being, but it lasted much longer, ostracizing countries that tried to get their hands on the weapons. For instance, it was clearly the cases of Brazil, Argentina, South

proliferation and maintaining the balance of power, states also seek to prevent other states from acquiring nuclear weapons as part of their nuclear strategy (that was clearly the case of United States).

If the greatest surprise of the First Nuclear Age was that more countries did not built nuclear weapons, the second biggest surprise (lesson) was how well deterrence worked. This was not all apparent when nuclear weapons where first deployed in large numbers beginning in 1950s. At this period, the 'massive retaliation'[8] doctrine was in effect. However, the unacceptable implications for nuclear strategists and decision-makers of this reliance on massive retaliation led to a demand for greater flexibility in response options. As Secretary of Defense Robert McNamara (1962: 67), creator of this theory, pointed out in June 1962, the "principal military objectives, in the event of a nuclear war (…) should be the destruction of the enemy's military forces, not of his civilian population".

But it turned out that deterrence was surprisingly resilient in the face of the shocks of the Cold War. Through numerous crises and regimes changes, the nuclear missiles stayed in their silos (Bracken, 1999). *"The Delicate Balance of Terror"*, as once written Albert Wohlstetter (1959), perhaps counterintuitively, has determined how to prevent and deter their use of nuclear weapons, and consequently prevented a nuclear war between the two superpowers. This doctrine established as an important focus of U.S. nuclear strategy and a crucial part of mutual assured destruction (MAD)[9].

The third lesson involves the non-use of nuclear weapons. In fact, more than sixty-five years have passed since the United States employment of atomic bombs on Hiroshima and Nagasaki, the only

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Korea, and Taiwan. South Africa even went from being a nuclear to a non-nuclear weapons state, dismantling its bombs following the end of apartheid. The result in the first nuclear age was that international condemnation forced those who wanted the bomb to go underground.

[8] The 'massive retaliation' doctrine was the key to this asymmetrical approach and would be enshrined in National Security Council, NSC- 162/2. As this document noted, the United States and NATO had manifest determination to use its atomic capability and massive retaliatory striking power to deter a Soviet attack on Europe. Deterrence was defined as the capability to deter the Soviet Union through nuclear superiority.

[9] MAD is the doctrine of a situation in which any use of nuclear weapons by either of two opposing sides would result in the destruction of both the attacker and the defender. The doctrine assumes that each side has enough weaponry to destroy the other side and that either side, if attacked for any reason by the other, would retaliate with equal or greater force. The expected result is that the battle would escalate to the point where each side brought about the other's total and assured destruction - and, potentially, those of allies as well.

use of nuclear weapons in warfare. The nuclear non-use since then remains the one of the most important phenomenon of the nuclear age (Tannenwald, 2007).

The fourth lesson recognized the illogic arms race. Fears of nuclear war did not stop the two superpowers (United States and Soviet Union) from building thousands of nuclear weapons. Their rationale and timing defy logical explanation. Once the two sides understood the mechanism of deterrence, there would appear to have been little reason to keep filling up additional weapons (Bracken, 1999). But that is exactly what happened: for most of the Cold War, overt hostility between the U.S. and Soviet Union (hereinafter USSR), coupled with their enormous nuclear arsenals, defined the nuclear threat[10]. The scenario for nuclear holocaust was simple: heightened tensions between the two jittery superpowers would lead likely to an all-out nuclear exchange.

Finally, one important lesson of the first nuclear age was that while the military capabilities of nuclear forces mattered, the will to use them mattered more. No amount of spending could achieve a tenacity of purpose, and credibility in using force was more important than numbers of weapons[11].

Thus, the reality of First Nuclear Era provided the existence of huge nuclear arsenals, the division of Europe and the political-military antagonism between the U.S. and former USSR, guided by the bipolarity of the international system (Waltz, 1979). But it also enshrined the tradition of non-use of nuclear weapons – the so-called *nuclear taboo* (Tannenwald, 2007; T.V. Paul, 2009). However the threat of using these strategic weapons, alongside the nuclear targeting and war planning that made this threat a reality, did become an integral part of American policy.

Meanwhile, with the collapse of the bipolar order – the result of the fall down of the Berlin Wall in 1989 and implosion of the former Soviet Union in 1991 – the threat of global nuclear war between the United and Russia has decreased dramatically during the last twenty years. This new nuclear age is usually defined as the Second Nuclear Age. This label, was originated by Colin Gray (1999), and

[10] The U.S. arsenal peaked at about 30,000 warheads in the mid-1960s and the Soviet arsenal at 40,000 warheads in the 1980s, dwarfing all other nuclear weapon states (Bulletin of Atomic Scientists, 2011).

[11] For instance, when Beijing went nuclear in 1964, Johnson's administration drew up serious plans to take out its nuclear capabilities. In the end China was the decisive factor in U.S. strategy in Vietnam. Washington limited attacks and was willing to accept a defeat with 50,000 killed rather than risk drawing China into the (potential nuclear) war.

seems quite helpful to thinking about the subject (Payne, 1996; Bracken, 1999, 2003; Freedman, 2003). This period was characterized both by new opportunities to combat nuclear proliferation stemming from the collapse of the USSR – followed by a progressive reduction of nuclear arsenals under the Strategic Arms Reduction (START) I and II Treaties –, and by the emergence of new powers on a regional scale with nuclear ambitions, or even non-state actors (primarily by Islamic terrorist groups), the potential danger of obtaining WMD. And, although there has been a significant change in nuclear and international order, nuclear weapons continued to play a key role in the U.S. Grand Strategy (Posen, 1984).

From the United States point of view, this Second Nuclear Age transformed the national security policy by building active and passive strategic defenses, and directing an assertive foreign policy toward eliminating – rather than containing – the nuclear capacities of others. These policy changes are much deeper than the routine political changes that occur whenever a new administration takes office. In the first years of 21st century, the scale of change – confirmed by the war on Iraq, an endless conflict on Afghanistan, homeland defense, withdrawal from the Anti-Ballistic Missile (ABM) Treaty, and a more aggressive counterproliferation policy – shows America's recognition that the Second Nuclear Age is not only structurally different from the first, but also more dangerous. Importantly, it demonstrates that a non-proliferation regime built in the First Nuclear Age to prevent a Second has, after several decades, finally run out of steam.

2. The contemporary debate about nuclear weapons

Since the inauguration of nuclear era in International Relations, nuclear weapons remain at the heart of strategic and academic debate around the issues related to international security. Nuclear weapons and its strategy have had a profound influence on the choices the U.S. has made regarding the nature of its alliances, its regional policy, and in the way that its domestic resources (scientific, technical, bureaucratic and military) are organized. The Cold War decades of dependence and reliance on nuclear weapons created a vast industry of theories, doctrines and practical procedures to

demonstrate how nuclear capabilities protect U.S. security (Jervis, 1984; Allison, 1971; Drell and Goodby, 2003; Gaddis, 2005; Bundy, 1988; Cirincione, 2008; Schwartz, 1998).

The questions about the *Spread of Nuclear weapons* (Sagan and Waltz, 2003)[12] and *Nuclear Proliferation* (Kroenig, 2009; Hymans, 2006; Jo and Gartzke, 2007), *Arms Control*[13] (Schelling and Halperin, 1961; Larsen and Rattray, 1996; Bohlen, 2003; Levi and O'Hanlon, 2005) and *Nuclear Disarmament*[14] (Russell, 1959; Müller, 2000; Perkovich and Acton, 2008, 2009; Daalder and Lodal, 2008; Feiveson, 2010; Freedman, 2009) and *Deterrence*[15] (Payne, 1998; Pickell, 1996; Brown and

[12] Kenneth Waltz (2003: 3), Adjunct Professor of Political Science at Columbia University, made a very important distinction towards that subject, explained that*: «I say "spread" rather than "proliferation" because so far nuclear weapons have proliferated only vertically as the major nuclear powers have added to their arsenals. Horizontally, they have spread slowly across the world, and the pace is not likely to change much. Short-term candidates for admission to the nuclear club are not numerous, and they are not likely to rush into the nuclear business. One reason is that the United States works with some effect to keep countries from doing that». Meanwhile,* the scholarly debate pits proliferation optimists, who claim that "more may be better," against proliferation pessimists, who argue that "more will be worse." Kenneth Waltz, and other "proliferation optimists", argue that nuclear weapons increase the cost of conflict, deterring leaders from engaging in war against nuclear-armed states. The spread of nuclear weapons, in the optimists' conception, has a pacifying effect on international politics, leading to international stability. On the other hand, Scott Sagan, Professor of Political Science at Stanford University, and other "proliferation pessimists" argue that "more will be worse", because more nuclear weapons in the hands of more states increases the chance of preventive wars, crisis instability, and accidental nuclear detonation. According to the pessimists, nuclear proliferation contributes to greater levels of international instability. Therefore, economic and technical constraints could weaken U.S. security capabilities, command and control through states, like Iran and North Korea, in order to obtain nuclear weapons at any cost want.

[13] Arms control is an umbrella term for restrictions upon the development, production, stockpiling, proliferation, and usage of weapons, especially WMD. Arms control is typically exercised through the use of diplomacy which seeks to impose such limitations upon consenting participants through international treaties and agreements, although it may also comprise efforts by a nation or group of nations to enforce limitations upon a non-consenting country.

[14] By disarmament means the reduction or abolition of armaments. Although there are relations between the two terms, these are distinct concepts, that is, generally speaking, if all disarmament measures fit on arms control, the reverse is not true. *But, what it really means nuclear disarmament in today's world?* It refers to both the act of reducing or eliminating nuclear weapons and to the end state of a nuclear-free world, in which nuclear weapons are completely eliminated. The proponents of nuclear disarmament, namely the "marginalists" and "abolitionists", say that it would lessen the probability of nuclear war occurring, especially accidentally.

[15] Once the Cold War had ended, the constraints upon U.S. nuclear strategy seemed to be released, but so did much of the need for a powerful deterrent. There was an opportunity to completely reevaluate nuclear strategy and nuclear weapons themselves. Many were excited to present their case for change, many whose ideas through the long Cold War had to take a back seat to US-Soviet arms racing and strategic competition. Notwithstanding, there continued to be two basic camps, besides the nuclear disarmament camp, each with its own solution for how best to utilize nuclear weapons to achieve U.S. national objectives. Fundamentally, however, what delineates these two camps from each other is how each one interprets the effectiveness, and forces required to achieve, nuclear deterrence. Not only are these camps interested in how the U.S. could deter adversaries, but also whether or not we are deterred from utilizing our nuclear forces to achieve other forms of influence such as compellence and warfighting. The two camps are divided between those who favour broad deterrence and supporters of minimum deterrence. The post-Cold War concept of comparing minimal and broad nuclear deterrence is not recent (Mlyn, 2000). However, the latter should not to be confused with Freedman's use of broad deterrence in which strategic weapons are used to deter all war. In this paper broad deterrence refers to any use in addition to deterring an opponent's use of nuclear weapons (Freedman, 2004: 32). Unlike the nuclear disarmament camp, broad deterrence advocates point to scholars and Cold War statesmen such as Sir Michael Howard (1994-95) or Paul Nitze in concluding that nuclear deterrence *was* effective in keeping the peace during the Cold War.

Arnold, 2010) remains vital on today's nuclear debate, and, they are presenting themselves anew as we leave the Cold War behind and enter in the 21st century new perils and challenges.

On the benign side of the ledger, the Warsaw Pact and the USSR collapsed, ending the dangerous bloc-to-bloc-confrontation of opposing military forces. The leaders of the former Soviet Union and subsequently the Russian Federation and other NWS appeared to have decided upon a more cooperative course of relations with the West – essentially agreeing for the first time to serious arms reductions, and promoting multilateral processes on non-proliferation and nuclear disarmament. The new century, and the Second Nuclear Age, however, also features some disturbing trends. First, the emergence of regional powers, no longer participants in the discipline of the old bloc-to-bloc confrontation, appear to be greater liberty to pursue local animosities and grievances, leading to local crises that in some cases challenge U.S. interests (Luttwak, 1995). Second, the spread of WMD in a globalized world with porous national borders, rapid communications, and expanded commerce in dual-use technologies, nuclear know-how and materials travel more widely and easily than before – raising the possibility that terrorists could obtain such materials and crudely construct a nuclear device of their own[16] (Kroenig, 2010; Cirincione, 2008; Brown et al., 2010). But, also, advanced conventional weapons, and modern means of delivery (for example, ballistic and cruise missiles) appear to be promising otherwise third-rate military powers access to weapons of unprecedented lethality. The materials necessary to construct a bomb pervade the world – in part due to programs initiated by the United States and Soviet Union to spread civilian nuclear power technology and research reactors during the Cold War.

In this context, new academic trends and currents emerged and appeared distinctive and sometimes conflicting on how best to deal with nuclear weapons: 'traditionalists' or 'realists' – defending the existence and maintenance of nuclear weapons –, 'marginalists' – those who advocate progressive

[16] Despite measures to protect the secret technology, and the high investment needed for a nuclear program, many observers predicted, since the beginning of the nuclear age, the gradual spread of nuclear powers and the proliferation of nuclear weapons.

nuclear disarmament and the existence of 'virtual nuclear arsenals'[17] –, and the 'abolitionists' – supporting the total and physical elimination of nuclear weapons in the world – positions.

Meanwhile, the multilateral nuclear disarmament has once again become a topic of serious policy debate around the world. In this context, Sir Lawrence Freedman (2009: 14), Professor of War Studies at King's College, University of London, proposed recently the need for a new theory about the nuclear disarmament:

> the founding assumption for any new theory of disarmament must be the same as the old. It is a means to an end and not an end in itself, and the true end is the prevention of nuclear war. We can agree that total abolition of nuclear weapons is the best way to achieve this, but only so long as the process itself does not trigger the event we are trying so hard to avoid (…). What is new in the current situation is that the conceptual problem is not so much bringing down the arsenals of the great powers (...). The conceptual problems now reside in the interaction between small arsenals and complex and often highly volatile regional settings where political relations are strained, and how this might impact on the more orderly processes of disarmament that are now envisaged. This is where we need a new theory.

However, and in relation to the contemporary debate about the need for a new theory of nuclear disarmament there are different views. Some argue, like Halit Mustafa Tagma (2010) or Tanya Ogilvie-White and David Santoro (2011), that will be needed a realist explanation of nuclear disarmament[18].

3. Comparative Analysis of Bush's and Obama's Nuclear Policies

The contemporary debate about nuclear weapons, and the evolution of American nuclear strategy during the Cold War provides an important historical context for the changing nature of its nuclear

[17] Michael J. Mazarr (1997: 4), Professor in the Georgetown University, originally suggested the notion of virtual arsenals as arms control proposal to complete nuclear disarmament. This concept *«focuses on the operational status of nuclear weapons rather than their number. It seeks to remove all nuclear weapons from status by partially dismantling them – removing the warheads from the missiles, for example»*.

[18] Realists Kenneth Waltz (2003) and Benjamin Frankel (1993) have argued that realism remains as a valuable school, and that the transition from bipolarity to multipolarity will likely speed up the nuclear proliferation process. John Mearsheimer (1993) holds a more ambiguous position on the deterrent strength of nuclear weapons, which helps to explain why he believes that states still seek security through offensive action. There are two main branches within realism: defensive and offensive realism. Offensive realism stresses the objective of a state should be to increase its relative capabilities in the system due to the anarchic nature of the system (Mearsheimer, 2001). On the other hand, defensive realists maintain that more power does not necessarily mean that a state will be more secure (Walt, 1987). Following defensive logic, Halit Mustafa Tagma's (2010) assumes that nuclear strategies originate in their relative capabilities, and sometimes compel states to give up their nuclear weapons to ensure survival. If a state does not possess a secure second-strike capability then it would be rational for that state to give up its nuclear assets. Others, like Bruno Tertrais (2010), may think that the nuclear disarmament enhance some "unconvincing rationales", but could be achievable in a long term. Some critics, such George Quester (2009) and Andrew O'Neil (2009), frequently support historical constraints to nuclear disarmament. For instance, they sustain that nuclear disarmament realists and abolitionists often dismiss the "prisoners' dilemma" argument, the situation that might emerge where everyone would move again toward the bomb, for fear that other powers were doing so.

strategy after the Cold War and, more specifically, for the debate over the Bush's more recent nuclear revisions. They have been the key in shaping the existing nuclear force structure and policy that was recently reviewed under President Obama, and their outcomes provide important background to his 2010 NPR (Nuclear Posture Review[19]).

During his presidential campaign, George W. Bush began a scathing attack on the Clinton administration's nuclear strategy. He understood that although a decade had passed since the end of the Cold War, U.S. nuclear policy still resided in that already distant past and remained locked in a Cold War mentality. After taking office, President Bush directed (Congress also mandated) the Department of Defense (DoD) to review U.S. nuclear strategy from the bottom up. Excerpts from the classified NPR were submitted to Congress in December 2001 and later leaked to the public. The review is considered a comprehensive blueprint for developing and deploying nuclear weapons.

Firstly, the Bush administration was vague in public on the new nuclear weapons they intended to develop, but their plans were revealed in some detail in leaks of selected parts of the NPR text. In extracts published by the *Los Angeles Times* and the *New York Times*, the Pentagon outlined a list of contingencies and targets where nuclear weapons might be used, in three types of situations: against targets able to withstand non-nuclear attack; in retaliation for attack with nuclear, biological or chemical weapons; or in the event of surprising military developments. It listed seven countries – China, Russia, Iraq, North Korea, Iran, Libya and Syria – as potential nuclear targets, and talked of scenarios involving the use of nuclear weapons during an Arab-Israel conflict, an Iraqi attack on Israel or its neighbors, a North Korean attack on South Korea or a military confrontation between China and Taiwan. Building on the 1994 NPR, the 2001 Nuclear Posture Review mentioned the need to use nuclear weapons to destroy the stocks of WMD, such as biological and chemical arms (DoD, 2002).

[19] The Nuclear Posture Review is a legislatively-mandated review that establishes U.S. nuclear policy, strategy, capabilities and force posture for period between five to ten years.

Secondly, Bush's nuclear strategy moves away from the "threat-based" strategy that dominated America's defense planning for nearly half a century and adopts a new "capabilities-based" approach – one that focuses less on who might threaten the United States, from where, and more on how it might be threatened and what is needed to deter and defend against such threats (Rumsfeld, 2002). So, the Bush administration stated in the NPR there are three kinds of targets that may need to be attacked with nuclear weapons if they pose a threat to the United States. These are: (1) Hard and Deeply Buried Targets (HDBT), (2) Mobile and Relocatable Targets, and (3) Chemical and Biological Agent Defeat.

Thirdly, the nuclear deterrent of MAD is replaced by the full-spectrum deterrent of unilaterally assured destruction. Accordingly, the Bush administration thinks that the United States should abandon the nuclear deterrent doctrine of MAD which defends against the unilateral threat of the former USSR, because it cannot deal with the wide variety of immediate and potential threats faced by the United States and cannot meet the new requirements of America's security. In place of MAD, the Bush administration pursued a full-spectrum deterrence that can effectively discourage and defeat a broad range of opponents that potentially threaten the U.S., its allies, and friends, such as a rising regional power challenging the hegemony of the United States. To match the fundamental changes of America's nuclear deterrent strategy, the Cold War Triad completely dependent on offensive nuclear forces – composed of land-based ICBMs, SLBMs, and long-range nuclear-armed bombers – was replaced by the New Triad of nuclear and non-nuclear offensive strike forces, missile defense systems, and a responsive defense infrastructure.

Fourth, the multilateral cooperation in the field of nuclear arms control gives way to a unilateral approach (e.g. unilateral withdrawal from the ABM Treaty, opposition to the Comprehensive Test Ban Treaty - CTBT, etc). More important, the Bush's nuclear strategy highlights the war-fighting role of nuclear weapons and considers developing a new low-yield nuclear weapon and resuming nuclear testing. Therefore, many feared the NPR signaled a greater willingness to use nuclear

weapons in regional conflicts. The use of nuclear weapons against non-nuclear countries or terrorist groups runs counter to U.S. promises made in association with the NPT, so-called Negative Security Assurances made by President Clinton in 1997 that the United States would never use nuclear weapons to attack a non-nuclear state.[20] The NPR doctrine clearly breaches these promises, undermining non-proliferation policy.

In the face of U.S. nuclear strategy adjustments, some countries shifted their own nuclear or military strategy, developing stronger nuclear forces or acquiring WMD. On the one hand, this would cause a chain reaction, demolishing regional and global stability and peace (e.g. North Korea nuclear bomb, A. Q. Khan nuclear selling technology network, Iran's nuclear program, etc). On the other hand, the development of the New Triad and the possible development of low-yield nuclear weapons would blur the distinction between nuclear and conventional weapons, as well as that between nuclear and conventional war, including increasingly the possibility of nuclear weapons use, resulting in the spread of nuclear weapons and ballistic missiles. Hence, this would not increase but would decrease America's security.

However, the election of Barack Obama, as the 44th president of the United States of America, promises significant changes in the country's nuclear policy and priorities compared with the George W. Bush administration. One issue that has always been in front and centre for Obama has been nuclear disarmament. He even wrote about it in college[21]. During his Senate career, he finally had the opportunity to work on legislation regarding nuclear non-proliferation issues (e.g. Lugar-Obama act). As President, he has been passionate about how we can work toward a world free of nuclear

[20] In 1995 President Clinton issued a Declaration reaffirming that *«the United States (…) will not use nuclear weapons against non-nuclear-weapon state-parties to the Treaty on the Non-proliferation of Nuclear Weapons, except in the case of an invasion or any other attack on the United States, its territories, its armed forces or other troops, its allies, or on a state toward which it has a security commitment carried out, or sustained by such a non-nuclear-weapon state in association or alliance with a nuclear-weapon state»* (Clinton, 1995).

[21] In 1983, at the height of the Cold War, young Obama (1983: 3), then a senior student in Political Science at Columbia University, wrote in a campus newsmagazine – Sundial – about the vision of a nuclear free world. He railed against discussions of *«first versus second strike capabilities»* that *«suit the military-industrial interests»* with their *«billion dollar erector sets»* and agitated for the abolition of global arsenals holding tens of thousands of deadly warheads.

weapons. He has been realistic that it is a difficult process and that will take a long time; he expressed this in a speech a year ago in Prague.

Thus, it is symbolic that President Obama, in his historic speech, on 5 April, 2009, in Prague, has promised "to put an end to Cold War thinking" and believed that Americans' "will reduce the role of nuclear weapons" in their National Security Strategy (NSS)[22], "and urge others to do the same", and its commitment "to seek the peace and security of a world without nuclear weapons" (Obama, 2009). This speech caused an unprecedented paradigmatic shift in U.S. nuclear strategy. At the same time, Obama would recognize that the current nuclear forces and policies, as well as their attitude, is a legacy of the Cold War and an effort to prevent the USSR nuclear threat, a country which no longer exists. Therefore, the challenge has evolved from deterring the Soviet Union to working with Russia and other nuclear powers (especially China, Britain and France) to prevent the spread of nuclear weapons and reduce the dangers of nuclear terrorism, under the NPT regime.

It so happens that the success of this new nuclear world order will depend on the following assumptions: i) how nuclear energy will spread to new countries, and on what terms, peaceful or hostile; ii) domestic policy and the characteristics of governance of new nuclear states iii) the success or failure of plans by terrorists to attack nuclear facilities or steal fissile material; iv) and, fundamentally, the measures taken by the international community to improve the security mechanisms, standards of protection of fissile materials, and the myriad of international agreements which form the core of the global non-proliferation regime.

The support of such regime implied the adoption of a new doctrine: towards a world free of nuclear weapons[2324]. This doctrine presupposes, according to the Obama Administration, a new balance

[22] U.S. Grand Strategy involves, also, the National Security Strategy, as one of their most important strategies.

[23] The new doctrine builds on the January 4, 2007 and January 15, 2008, Wall Street Journal op-eds by former Secretaries of State George Shultz and Henry Kissinger, former Defense Secretary William Perry and former Senator Sam Nunn. The op-eds links a vision of a world free of nuclear weapons with urgent steps designed to reduce nuclear dangers. At the same time, Ivo Daalder the current U.S. Ambassador to NATO, and Jan Lodal, the former President of the Atlantic Council of the United States, wrote a prominent *Foreign Affairs* article, entitled "*The Logic of Zero: Toward a World Without Nuclear Weapons"*, urging the necessity of the United States and their allies to lead the process of nuclear disarmament. Earlier calls by prominent former U.S. officials that this should be the declared goal of US policy include those by Robert McNamara, Paul Nitze, and by the former head of Strategic Command, Lee Butler, and former NATO

between the priorities – often competing and conflicting – of deterrence and disarmament, or reconciliation between nuclear realists and abolitionists perspectives. While it defends minimum deterrence through a nuclear force maintained at levels below the current quantitative, it is also a doctrine capable of promoting international cooperation and security, essential to the current challenges of nuclear proliferation.

The pursuit of this new paradigm implies basically two assumptions: the rupture with the previous nuclear doctrine of George W. Bush's administration and the return to multilateral policies.

Regarding the first premise, the following should be noted. On the one hand, the changes undertaken on nuclear weapons deployment strategy and policy – under 2010 NPR –, which will be analyzed below; on the other hand, the gradual replacement of counterforce targeting and the abandonment of broad deterrence doctrines[25] for the implementation of a progressive adoption on the capability of inflicting damage upon enemies with the use of a small arsenal of nuclear weapons – minimum deterrence –, or the doctrine based on reserve nuclear weapons just for one mission: "to deter the use of nuclear weapons" by others – "minimal" deterrence (Kristensen et al., 2009: 21). Moreover, we must not forget the importance of the elimination of Bush's unilateralist policies, which led to: i) the formal withdraw from the 1972 ABM Treaty with Russia; ii) the inability to establish a new START Treaty; iii) the opposition to the ratification of the CTBT; and iv) the political willingness and readiness for nuclear testing. In another sign of rupture with Bush's administration policies, the new doctrine is based on the revision of the nuclear anti-missile system in Europe – in the context of

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Supreme Allied Commander Andrew Goodpaster. It should also be noted that Presidents Reagan and Gorbachev at the Reykjavik summit in October 1986 came close to endorsing a nuclear-weapon-free world.

[24] In 2009, however, an influential bipartisan Congressional commission on U.S. nuclear strategy released its report, entitled *"America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States,"* influenced dramatically the 2010 NPR. Led by former Defense Secretaries Bill Perry and James Schlesinger, the commission stated that *«the conditions that might make possible the global elimination of nuclear weapons are not present today and their creation would require a fundamental transformation of the world political order»* (Perry and Schlesinger, 2009: xvi). Until then, the report says, the U.S. must have a strong and credible nuclear deterrent. To do so, the U.S. must maintain its triad of nuclear-delivery systems – bombers, missiles and submarines – a course of action that will require some *«difficult and expensive decisions»* (Ibid: 25).

[25] However, George W. Bush administration in his second term leans for the concept of tailored deterrence which was introduced in the 2006 Quadrennial Defense Review. As the document notes, tailored deterrence reflects *«a shift from one size fits all'deterrence toward more tailorable capabilities to deter advanced military powers, regional WMD states, or non-state terrorist»* (United Sates Department of Defense *[DoD]*, 2006).

NATO[26] –, and replaces an aggressive counter-proliferation policy with the renewal of the non-proliferation regime, after several years of collapse. In fact, concerning counter-proliferation, the new administration has both embraced the goal of nuclear-weapons-free world and signaled openness to exploring interim "grand bargains" with the key countries of Russia and Iran.

The second premise relies on the revolutionary idea of a world free of nuclear weapons, through the development and recovery of multilateral policies such as: the ratification of the CTBT, the negotiations of a Fissile Material Cut-off Treaty (FMCT), the strengthening of the NPT Treaty by increasing the capacity and International Atomic Energy Agency (IAEA) authority on global non-proliferation regime, the creation of an International Fuel Bank (IFB), along with the holding of the Nuclear Security Summit[27] and the extensive role of non-governmental organizations (NGOs), think tanks and research institutes as a means to determine ways in which they can work on promoting the overall goals of the global threat reduction programs – are aimed at reducing the threat posed by terrorist organizations or states of concern seeking to acquire WMD expertise, materials and equipment.

Alongside the development of these multilateral policies, the strengthening of bilateral relations with Russia is also very important to pursue a new nuclear doctrine and order. Russia, regardless of not having the military, economic and symbolic power of previous times, still remains a major nuclear superpower. Besides, in the international nuclear order it could still speak of a bipolar system, in that the Americans and the Russians combine more than 80% of the world's nuclear arsenals (Federation of American Scientists, 2011). In this sense, Russia is an indispensable partner in pursuit of a world free of nuclear weapons and a stable nuclear order. One of the main steps of the nuclear agenda is also reconstructing a process of arms control and at the same time be able to reinvigorate the process

[26] Instead of a *nuclear shield* defence system based on land designed to handle intercontinental ballistic missiles (ICBMs), the military leadership favoured a more flexible structure based on weapons from ships and submarines that can intercept and destroy medium-range missiles - the so-called "Phased, Adaptive Approach".

[27] On April 12-13, 2010, nearly 50 heads of state join President Obama in Washington, for two days focusing on one issue: how to secure all nuclear weapons and all weapons-usable material worldwide to a gold standard – beyond the reach of terrorists or thieves.

of strategic arms disarmament. In this sense, the New START[28], signed on 8 April, 2010, necessarily deals with, in the coming years, with some of the most important and difficult issues such as: great reductions in strategic arms, tactical weapons systems, missile defense systems, and dismantling nuclear warheads.

Yet, the proliferation of nuclear weapons to certain regional powers and terrorist groups – like Al-Qaeda – can destabilize the international order and *harm* the challenging objectives proponed by President Obama. In fact, the possession of WMD (particularly nuclear weapons) by some states remains a serious threat, whether we talk about the Bush or the Obama administration. This concern about nuclear proliferation implies and follows a pessimistic view, advocated by Scott Sagan. He and other "proliferation pessimists" argue that "more will be worse" because more nuclear weapons in the hands of more states increases the chance of preventive wars, crisis instability, and accidental nuclear detonation. In short, nuclear proliferation contributes to greater levels of international instability.[29]

Therefore, in order to avoid a potential scene of confrontation between a great power – the United States – and smaller and middle powers[30] – like Iran and North Korea –, the Obama administration will seek to exclude a foreign policy based on *hard power*, with the threat of preemptive and preventive nuclear actions, and insist on diplomacy and persuasion – a kind of *smart power*[31] (Nossel, 2004; Armitage and Nye, Jr., 2007). On the one hand, this effort has the objective to deter

[28] According to article I from the New START, the United States agreed with Russia to New START limits of 1,550 accountable strategic warheads, 700 deployed strategic delivery vehicles, and a combined limit of 800 deployed and non-deployed strategic launchers (United States Department of State, 2010). This new U.S.-Russia nuclear arms reduction treaty was ratified by the U.S. Congress on December 22, 2010, and entered into force with the exchange of Instruments of Ratification between Secretary Clinton and Foreign Minister Lavrov in Munich on February 5, 2011.

[29] On the contrary, Kenneth Waltz, and other "proliferation optimists" argue that "more may be better" because nuclear weapons increase the cost of conflict, deterring leaders from engaging in war against nuclear weapons states. In this sense, the world can live without the hysteria with a nuclear Iran or North Korea, as we have lived more than 45 years with a nuclear China, a country once seen as a rogue state.

[30] The general theory of international relations, *grosso modo*, implies that there are no armed conflicts between great powers *status quo*, the possibility of their existence would provide change wars that could affect the distribution of powers in the international system.

[31] The term gained expression on Obama's foreign policy, when Hillary Clinton (2009) used it during his confirmation hearing in the Senate on January 13, 2009, for the post of Secretary of State, explaining that the U.S *«must use what has been called smart power – the full range of tools at our disposal – diplomatic, economic, military, political, legal, and cultural – picking the right tool, or combination of tools, for each situation. With smart power, diplomacy will be the vanguard of foreign policy»*.

these states to initiate programs to develop nuclear weapons. On the other hand, if the pressure increases from those states, the solution is to establish appropriate strategies of deterrence and containment and avoid the temptation to mindlessly attack against phantom threats. The problem is that so far the U.S. nuclear strategy has only been successful in deterring nuclear attacks in its territory, but has not prevented the search and development of nuclear weapons by other states under article V of the NPT Treaty.

At the heart of the new nuclear doctrine lies the U.S. NPR, which establishes: i) a significant reduction of its nuclear arsenal, without jeopardizing its ability to retaliate against any nuclear State in the event of an attack the U.S. or its allies; ii) a change in the structure of their nuclear forces, especially the cancellation of the Reliable Replacement Warhead (RRW) program and the adoption of the "DeMIRving" process[32] are both concrete and positive evidences of the commitment for the Obama administration's vision of world free of nuclear weapons, without forgetting the progressive replacement of nuclear forces by conventional forces; iii) when building a no-first use policy, the Obama administration assumed that the U.S. will not use or threaten to use nuclear weapons against Non-nuclear Weapons States (NNWS) that are party to the NPT and in compliance with their nuclear nonproliferation obligations, and would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.[33] That is a clear signal to the international community on Obama's new intentions, while the U.S. has never adopted in its fullness this policy; iv) maintaining strategic deterrence and stability, but at lower nuclear force levels, the role of U.S. nuclear weapons to deter and respond to non-nuclear attacks – conventional, biological, or chemical –, based on previous Nuclear Triad parameters, has declined significantly; v) a new paradigm missile defense, in addition to renewal and modification of the

[32] The U.S. will reduce each missile (all deployed ICBMs) to a single warhead. A "MIRVed" ballistic missile carries Multiple Independently targetable Re-entry Vehicles (MIRVs). This step will enhance the stability of the nuclear balance by reducing the incentives for either side to strike first (DoD, 2010b).

[33] To that end, the U.S. is now prepared to strengthen its long-standing "negative security assurance". However it reserved the right to employ nuclear weapons to deter CBW attack on the United States and its allies and partners. See the 2010 Nuclear Posture Review Report.

nuclear missiles program in Europe, Northeast Asia, the Middle East, and Southwest Asia, this includes pursuing a "Phased Adaptive Approach" in these regions – as described in detail in the 2010 Ballistic Missile Defense Review (DoD, 2010a) – outlined above. Therefore, if the ambition of President Obama is to reduce the role of nuclear weapons in his Grand Strategy, and specifically in its National Security Strategy, it will be interesting to see how the role of systems for missile defense will really change.

Within this strategic framework, it must take into account also the perception of a transitional and unstable international environment, as well as the peaceful but problematic emerging countries such as China, India and Brazil, but mainly the crisis of unipolarity since the 2003 invasion in Iraq (has produced a progressive shift, on international system, from unipolar to multipolar order), that affects the political-strategic position from U.S. in current international system. Though, the U.S. is still considered a Great Power when compared with all others[34], their nuclear capability acquires a special importance (compared with Russia only in quantitative terms) and a reference to the development of nuclear capabilities of other countries. But not having the same pre-eminence of the international system of yore, the U.S. is obliged to cooperate with other powers, in order to pursue the goal of a world free of nuclear weapons. Noting, on the one hand, the domino effects and reflection of the nuclear capability of some states to others; and, on the other hand, taking into account what was addressed within the NPT Treaty regarding the elimination of the undeniable danger of nuclear weapons. The issue arises when the states that originally have nuclear military capability criticize the nuclear ambition or assumed nuclear capacity of other states. Nevertheless, the five NPT powers (U.S., Russia, China, United Kingdom and France) own nuclear power because, in extremis, the latter may acquire it as well.

Thus, in the context of that *addict* relationship between states who have nuclear capacity and states who are seeking to have nuclear capability, it must be remembered that messianic imperialism,

[34] In terms of a uni-multipolar world order, the U.S. is considered a superpower (Huntington, 1999).

which is one of the features that characterizes American foreign policy, has contributed to perpetuate the nuclear threat in the U.S. Grand Strategy. In fact, the Bush administration gave primacy to nuclear deterrence based on the threat of preemptive use of nuclear weapons. Furthermore, it is unlikely, given the adoption of a new nuclear doctrine, that nuclear weapons will have the same importance in the U.S. National Security Strategy – at least in the same terms of the previous nuclear Bush doctrine, which dubbed it as an essential pillar (Vicente, 2010).

Instead, the Obama administration believes that nuclear weapons have been misused as an instrument of extreme military capability, when its existence *per se* has led to more instability in the domain of International Relations. On the one hand, because the world is dangerous and unpredictable, the possibility of a nuclear attack against a great world city is intolerable, and therefore the existence of this technology should desirably be eliminated. On the other hand, logically, because they constitute a threat to the American people, it is essential that nuclear weapons should progressively have a secondary or no role at all in the U.S. National Security Strategy, and global nuclear disarmament a central role in this process, and simultaneously it is their *sine quo non* condition. Hence, it is concluded that the role of nuclear strategy in its National Security Strategy and consequently on its Grand Strategy increasingly tends to get a lesser role, and only makes sense to be used as an extreme option[35] as long as nuclear weapons exist.

Conclusion

This paper presents an overview of the American nuclear strategy concentrating on the evolution of the policies implemented by Bush and Obama's presidential administrations. This work was built on the academic literature and government documents on nuclear strategy. The author begins with the contextualizing of the topic on the contemporary debates on nuclear weapons that allow the reader to track the main historical developments that leads him to the present discussion of the 2010 Nuclear Posture Review.

[35] In order to, deter other States or non-state actors from attacking the U.S. and/or in response to a nuclear attack.

In the paper's perspective, the 2010 NPR can bring about the most significant change in American nuclear strategy doctrine since the end of the Cold War, a first step in President Obama's vision of the complete elimination of nuclear weapons. However, the technical and political challenges that confront proponents of nuclear disarmament are complex and serious. What is clear, though, is that the existing NWS cannot reach the peak of a nuclear free world without the active partnership of the current NNWS. The NWS and NNWS have a shared responsibility for nuclear disarmament in the future, and will share a common fate if they fail to cooperate more effectively.

Furthermore, the comparative analysis of Bush's and Obama's nuclear policies showed clearly the divide that pervaded the U.S. nuclear policy in the last years. The transformations under the Obama administration imply basically two major assumptions: the rupture with the previous nuclear doctrine of George Bush administration; and the return to multilateral policies (on the framework of the construction of a global non-proliferation regime).

Despite the exploratory character of the analysis pursued here, the author believes that this contribution has important implications for our understanding of the American nuclear strategy: the historical background of the two nuclear ages; the different visions that separate the preceding and the present presidential administration (and the policy outcomes derived from it). The author argues that, even more important than the domestic challenges to abolishing nuclear weapons, the United States have to face an international environment dominated with mutual suspicions between and among NWS and NNWS, in a context where many point to the necessity of a robust collective security system (and, in this sense, the nuclear abolition regime could help cause a reduction in threats and strengthen international security significantly).

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