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## 2. Background

### 2.1. Introduction by the Directors

It is **highly recommended** that debaters begin by reading the **Topic Introduction post** on the NHSDLC website [here](#). Once debaters are more familiar with the general idea of the topic, then they can proceed with reading the rest of the research packet.

This research packet is a tool for preparing students to debate on the topic, “**Resolved: States should eliminate their arsenals of nuclear weapons.**” This will be the topic for the NHSDLC Fall 2019 season. The first section contains background information about nuclear weapons and the rest of the packet is divided into articles that show support for either the Pro or Con side.

It is up to each debater to read the articles and incorporate their arguments and evidence into their cases accordingly, considering bias, context, and how these articles present their evidence. Additionally, an article under “Pro” may still have sections or statements that support or sound more like the Con side. These categories are not meant to be “only Pro” evidence; they are only designed to help debaters find some basic starting evidence and ideas for each side of the topic. Some of the resources here have been shorted with an ellipsis [...]. However, most of the articles have been posted in their full original length since **reading the whole article allows greater understanding of the context and primary idea.**

It is highly recommended to find articles, evidence, and ideas **from their own research**, as the most successful debaters tend to find unique evidence and arguments that are truly their own. The NHSDLC Academic Team has also included a short note prior to most of the articles, giving some background on the source and outlining the key points and terms.

There is an additional advanced supplement packet for more advanced students. The supplement is **not required** to understand the topic. It contains additional information and some more advanced articles that are more difficult to read and comprehend. It is **highly recommended** that debaters read through this research packet first before reading the advanced supplement as the advanced supplement does not contain the introductory material in this research packet.

Nuclear arsenals, or nuclear weapons, have come to define the modern world and the way states interact with each other. Much of international relations, commonly abbreviated as IR, has been defined by the existence of nuclear weapons. From the end of the Second World War through the Cold War to the modern tensions with North Korea and Iran, the presence of nuclear weapons **has fundamentally altered the world.** This topic discusses the important issue of nuclear disarmament at a time of renewed worry due to



recent instability with India and Pakistan,<sup>1</sup> nuclear testing by North Korea,<sup>2</sup> and new nuclear tensions between the United States and Russia.<sup>3</sup>

This topic is, at its core, a relatively simple and straightforward topic. **It is simply asking if a world where no states (or countries) possessed nuclear weapons is preferable to a world that contains nuclear weapons.** The Pro is taking the side of nuclear disarmament, also known as Global Zero, nuclear abolition, and Ban the Bomb. The Pro is usually going to argue that possessing nuclear weapons **increases the chance of nuclear use** and thus should be eliminated while the Con is usually going to argue that possessing nuclear weapons **makes the world safer** and thus should not be eliminated. While there are some arguments that don't neatly fit into these two categories, **the vast majority of the arguments in the relevant academic papers will fall within these categories.** Scholars George Perkovich and James M. Acton summarize the two sides of this debate in their paper "Abolishing Nuclear Weapons":

Those who think that nuclear deterrence will not be fail-safe forever tend to put a premium on pursuing abolition. So do people who find threats of mass destruction to be morally unacceptable. Lawrence Freedman speaks for the former: "The case for abolition, though, is that it is hard to believe that the past 60 years of self-restraint can continue for the next 60 years." Jonathan Schell adds that "a world without nuclear weapons, though hardly without dangers, would be incomparably safer and more decent than a world with them." None of this means that abolition would be secure and feasible without the removal of major security obstacles. The argument is that the goal of abolition can help motivate both nuclear armed states and those that do not possess nuclear weapons to mobilize power to remove these obstacles.

On the other side are those who think that the risks of major warfare in a world without nuclear deterrence would be greater than the risks that nuclear weapons would actually be used. They worry that focusing on abolition could increase the chance of its being undertaken without reliable alternative means of deterring major aggression. Frank Miller writes: "Nuclear weapons exist because nation states retain the option to use military force in world affairs. Nuclear weapons compensate for conventional military inferiority and moderate against the use of force by one great power against another. The problem lies not in the weapons, but in the nature of humankind." Bruno Tertrais adds: "Nuclear-armed states assume that maintaining nuclear deterrence is a safer means to ensure the absence of major conventional war than taking the risk to disarm." Brad Roberts is more open

<sup>1</sup> Aakriti Bachhawat, "India vs. Pakistan: The 1 Thing That Could Spark a Nuclear War (Billions Dead)", 18 August 2019, National Interest, <https://nationalinterest.org/blog/buzz/india-vs-pakistan-1-thing-could-spark-nuclear-war-billions-dead-74511>.

<sup>2</sup> Associated Press, "North Korea's Kim Jong-un expresses 'great satisfaction' after test of 'new weapon'", 17 August 2019, Guardian, <https://www.theguardian.com/world/2019/aug/17/north-koreas-kim-jong-un-expresses-great-satisfaction-after-test-of-new-weapon>.

<sup>3</sup> Simon Tisdall, "The nuclear arms race is back ... and ever more dangerous now", 17 August 2019, Guardian, <https://www.theguardian.com/world/2019/aug/17/nuclear-arms-race-is-back-and-more-dangerous-than-before>.



to the value of abolition but judges that we underestimate the difficulties of securing it: “How would the major powers do their jobs as global sheriffs against a nuclear-armed challenger?” “Could deterrence of such a challenger be effective by conventional means alone?”<sup>4</sup>

As most of the arguments for or against the possession of nuclear weapons will fall into one of these broad categories, this research packet will not spend a great deal of time on the arguments surrounding nuclear weapons. Instead, this research packet will help debaters understand the **terminology** (key words and concepts) and **history** behind nuclear weapons. **Understanding the history and context of nuclear weapons will separate the good from the best debaters.** This is because the best warrants supporting the claims on either side will be **mostly historical**. For example, drawing upon examples during the Cold War to demonstrate the effectiveness or ineffectiveness of deterrence will help make arguments more persuasive to judges.

However, before we cover the history and terminology on this topic, it is worth discussing **two potential sources of confusion** debaters may have when they begin researching and debating this topic.

**First, this topic is *not* about whether two or more states should eliminate their nuclear arsenals.** Instead, this topic is about whether *all* states should eliminate *all* their nuclear arsenals. It is tempting for debaters to say that “states” is plural and so as long as two or more states (e.g. the United States and Russia) eliminate their nuclear arsenals, they have proven the resolution. However, the term “states” is generic because it does not refer to any specific states, so proving that some states should eliminate their nuclear arsenals *doesn't* prove the resolution.<sup>5</sup> For example, the statement, “dogs have three legs” is *not* generally true even though there are some dogs with only three legs. Likewise, **proving that *some* states should eliminate their nuclear arsenals does *not* prove the resolution.** The core controversy of this topic is centered around whether *any* countries should retain *any* nuclear weapons. Therefore, **the Pro must demonstrate that *all* states should eliminate *all* their nuclear weapons.** If the Con demonstrates that at least *some* nuclear arsenals should remain, then they have disproved the resolution. Of course, both sides are welcome to present *examples* of states that should or should not eliminate their nuclear arsenals. However, these examples alone don't prove whether or not *all* states should or should not eliminate their nuclear arsenals.

**Second, there is a difference between nuclear *energy* and nuclear *weapons*.** The resolution is *not* asking whether states should eliminate their nuclear power plants. It is asking whether or not states should eliminate their nuclear *arsenals*. These are

<sup>4</sup> George Perkovich and James M. Acton, "Abolishing Nuclear Weapons: A Debate", Published September 16, 2008 by Adelphi Paper, London: International Institute for Strategic Studies, pg. 308, [https://carnegieendowment.org/files/Perkovich\\_Acton.pdf](https://carnegieendowment.org/files/Perkovich_Acton.pdf).

<sup>5</sup> Jake Nebel, "Existential Bare Plurals and Quantifier Scope by Jake Nebel", 2 January 2019, Vbriefly, <https://www.vbriefly.com/2019/01/02/existential-bare-plurals-and-quantifier-scope-by-jake-nebel/>.



distinct technologies.<sup>6</sup> The primary difference is that nuclear power plants produce nuclear energy that can't be weaponized because it uses what is known as "low-grade" nuclear material whereas nuclear weapons rely on "weapons-grade" nuclear material.<sup>7</sup> It perfectly plausible for a state to have many nuclear power plants but no nuclear arsenals.<sup>8</sup> In fact, many countries like Japan have nuclear power plants but don't have nuclear weapons. Therefore, **the Pro is only defending that states should eliminate their nuclear weapons, not that they should necessarily eliminate nuclear power plants.** If the Con proves that nuclear power is beneficial, that would *not* necessarily disprove the resolution since it isn't about nuclear *weapons*. There are arguments that do suggest states would have to eliminate their nuclear power plants if they wanted to fully eliminate their nuclear arsenals. However, this is a debate to be had, not one that can be assumed.

With these misconceptions out of the way, let's jump into understanding this topic!

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<sup>6</sup> Ted Nordhaus, "Time to stop confusing nuclear weapons with nuclear power", 14 June 2017, The Hill, <https://thehill.com/blogs/pundits-blog/energy-environment/333329-time-to-stop-confusing-nuclear-weapons-with-nuclear>.

<sup>7</sup> Jenny Marder, "Nuclear Reactors and Nuclear Bombs: What Defines the Differences?", 6 April 2011, PBS NewsHour, <https://www.pbs.org/newshour/science/what-is-the-difference-between-the-nuclear-material-in-a-bomb-versus-a-reactor>.

<sup>8</sup> Ethan Siegel, "Ask Ethan: How Can A Nation Have Nuclear Power Without The Danger Of Nuclear Weapons?", 9 September 2017, Forbes, <https://www.forbes.com/sites/startswithabang/2017/09/09/ask-ethan-how-can-a-nation-have-nuclear-power-without-the-danger-of-nuclear-weapons/>.



## 2.2. Key Terms

**Note from the NHSDLC:** *Having an understanding of all the key terms will allow students to better understand the topic and should help students when they are reading through the articles in this research packet. Debaters should refer back to these as needed when reading through the packet. The definitions were drawn from a variety of different sources.*

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**Nuclear Weapon:** “A nuclear weapon includes both the bomb or warhead and the delivery vehicle. A conventional explosive device rapidly burns up a chemical to cause a blast. A nuclear weapon, meanwhile — such as a bomb or warhead — splits atoms to release millions of times more energy than chemical reactions. Yet the term "nuclear weapon" can also refer to a vehicle that's able to deliver a nuclear attack, such as missiles, fighter jets, stealth bombers, and truck-like mobile launchers. (If flying dinosaurs were alive today and trained to drop nuclear bombs, the creatures may be considered nuclear weapons.)”<sup>9</sup>

**WMD:** “Weapon of mass destruction (WMD), weapon with the capacity to inflict death and destruction on such a massive scale and so indiscriminately that its very presence in the hands of a hostile power can be considered a grievous threat. Modern weapons of mass destruction are either nuclear, biological, or chemical weapons—frequently referred to collectively as NBC weapons.”<sup>10</sup>

**Conventional Weapon:** “A weapon which is neither nuclear, biological, nor chemical.”<sup>11</sup>

**Conventional War:** “Conventional warfare is a form of warfare conducted by using conventional weapons and battlefield tactics between two or more states in open confrontation. [...] It is normally fought using conventional weapons, and not with chemical, biological, or nuclear weapons.”<sup>12</sup>

**Nuclear Proliferation:** “Nuclear proliferation, the spread of nuclear weapons, nuclear weapons technology, or fissile material to countries that do not already possess them. The term is also used to refer to the possible acquisition of nuclear weapons by terrorist organizations or other armed groups.”<sup>13</sup>

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<sup>9</sup> Dave Mosher and Jenny Cheng, "Nuclear weapons are as confusing as they are deadly — here are 16 terms you keep hearing and what they actually mean", 22 July 2018, Business Insider, <https://www.businessinsider.com/nuclear-arms-deal-terminology-definitions-2018-7>.

<sup>10</sup> The Editors of Encyclopaedia Britannica, "Weapon of mass destruction", 27 November 2017, Encyclopedia Britannica, <https://www.britannica.com/technology/weapon-of-mass-destruction>.

<sup>11</sup> Dictionary of Military and Associated Terms. S.v. "conventional weapon." Retrieved from <https://www.thefreedictionary.com/conventional+weapon>.

<sup>12</sup> [https://en.wikipedia.org/wiki/Conventional\\_warfare](https://en.wikipedia.org/wiki/Conventional_warfare).

<sup>13</sup> André Munro, “Nuclear proliferation”, 22 November 2018, Encyclopædia Britannica, <https://www.britannica.com/topic/nuclear-proliferation>.



**Nonproliferation:** “Diplomatic and political efforts to dissuade states from developing, acquiring, or maintaining WMD stockpiles including chemical, biological, and nuclear weapons, e.g. NPT, CTBT, START.”<sup>14</sup>

**Nuclear Arms Race:** “The nuclear arms race was an arms race competition for supremacy in nuclear warfare between the United States, the Soviet Union, and their respective allies during the Cold War.”<sup>15</sup>

**Modernization:** The process of upgrading nuclear arsenals.

**Miscalculation:** “Nuclear miscalculation refers to the risk that a state will mistakenly understand the intentions of another state and respond by launching a nuclear strike. The false belief that an attack is imminent causes a country to “miscalculate” the risk of full-scale war and escalate a conflict to the nuclear level. Miscalculation is more likely to occur in times of heightened tension between nations.”<sup>16</sup>

**Fallout:** “Fallout describes the dangerous leftovers of a nuclear weapon: a cloud of dust, dirt, sand, pebbles, and bits of debris that an explosion has irradiated. Bombs or warheads detonated near the ground vastly increase the amount of fallout by sucking up soil and debris, irradiating it, and spreading it for dozens if not hundreds of miles. Very fine particles can circle the globe and be detected by special airplanes.”<sup>17</sup>

**Nuclear Deterrence:** “The principle of nuclear deterrence states that a country’s possession of nuclear weapons discourages other countries from using nuclear weapons. From the perspective of a country, nuclear deterrence operates on a simple promise: if you use nuclear weapons against us, we’ll use them against you.”<sup>18</sup>

**MAD:** “Mutually Assured Destruction, or mutually assured deterrence (MAD), is a military theory that was developed to deter the use of nuclear weapons. The theory is based on the fact that nuclear weaponry is so devastating that no government wants to use them. Neither side will attack the other with their nuclear weapons because both sides are guaranteed to be totally destroyed in the conflict. No one will go to all-out nuclear war because no side can win and no side can survive. To many, mutually assured destruction helped prevent the Cold War from turning hot; to others, it is the most ludicrous theory humanity ever put into full-scale practice.”<sup>19</sup>

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<sup>14</sup> Iris Malone, "PS 114S. International Security in a Changing World", 2016, <https://web.stanford.edu/~imalone/Teaching/pols114/PoliticsNuclearWeaponsCheatSheet.pdf>.

<sup>15</sup> [https://en.wikipedia.org/wiki/Nuclear\\_arms\\_race](https://en.wikipedia.org/wiki/Nuclear_arms_race).

<sup>16</sup> William J. Perry Project, "Nuclear Miscalculation", no date, <http://www.wjperryproject.org/nuclear-accidents>.

<sup>17</sup> Dave Mosher and Jenny Cheng, "Nuclear weapons are as confusing as they are deadly — here are 16 terms you keep hearing and what they actually mean", 22 July 2018, Business Insider, <https://www.businessinsider.com/nuclear-arms-deal-terminology-definitions-2018-7>.

<sup>18</sup> William J. Perry Project, "Nuclear Deterrence", no date, <http://www.wjperryproject.org/deterrence>.

<sup>19</sup> Robert Wilde, "What Is the Theory Behind Mutually Assured Destruction?", 20 June 2019, ThoughtCo, <https://www.thoughtco.com/mutually-assured-destruction-1221190>.



**First-Strike Capability:** “A state which uses nuclear weapons against a target first.”<sup>20</sup>

**Second-Strike Capability:** “Secure second strike, the ability, after being struck by a nuclear attack, to strike back with nuclear weapons and cause massive damage to the enemy. Secure second strike capability was seen as a key nuclear deterrent during the Cold War. The strategy also partially explained the extraordinarily high number of nuclear weapons maintained by both the United States and the Soviet Union during the arms race.”<sup>21</sup>

**ICBM:** Intercontinental ballistic missile. “An ICBM is a space rocket that can launch a destructive device on top and carry it from one nation to another in a high arc. Technically speaking, an ICBM is any missile capable of delivering one or more warheads from more than 3,415 miles away. The missile silos in the US in which they're stored are sprinkled around the country, with most stationed in middle America. As of 2018, the US has about 400 ICBMs with warheads and 400 more missile-ready warheads in storage, while Russia has 318 ready-to-launch ICBMs and 1,138 total missile warheads (some missiles carry more than one).”<sup>22</sup>

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<sup>20</sup> Iris Malone, "PS 114S. International Security in a Changing World", 2016, <https://web.stanford.edu/~imalone/Teaching/pols114/PoliticsNuclearWeaponsCheatSheet.pdf>.

<sup>21</sup> The Editors of Encyclopaedia Britannica, "Secure Second Strike", 27 May 2018, Encyclopædia Britannica, inc. <https://www.britannica.com/topic/second-strike-capability>.

<sup>22</sup> Dave Mosher and Jenny Cheng, "Nuclear weapons are as confusing as they are deadly — here are 16 terms you keep hearing and what they actually mean", 22 July 2018, Business Insider, <https://www.businessinsider.com/nuclear-arms-deal-terminology-definitions-2018-7>.



## 2.3. Atomic Bomb History

History.com Editors, “Atomic Bomb History”, 6 September 2017, History.com, <https://www.history.com/topics/world-war-ii/atomic-bomb-history>.

**Note from the NHSDLC:** *This is the History.com explanation of the history of the atomic bomb, covering major events that debaters should be familiar with. The debate over whether nuclear weapons are good or bad relies heavily on historical examples, so understanding the historical events behind the development and spread of nuclear weapons is necessary to effectively debate the topic.*

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The atomic bomb, and nuclear bombs, are powerful weapons that use nuclear reactions as their source of explosive energy. Scientists first developed nuclear weapons technology during World War II. Atomic bombs have been used only twice in war—both times by the United States against Japan at the end of World War II. A period of nuclear proliferation followed that war, and during the Cold War, the United States and the Soviet Union vied for supremacy in a global nuclear arms race.

### Nuclear Bombs and Hydrogen Bombs

A discovery by nuclear physicists in a laboratory in Berlin, Germany, in 1938 made the first atomic bomb possible, after Otto Hahn, Lise Meitner and Fritz Strassman discovered nuclear fission.

When an atom of radioactive material splits into lighter atoms, there’s a sudden, powerful release of energy. The discovery of nuclear fission opened up the possibility of nuclear technologies, including weapons.

Atomic bombs are weapons that get their explosive energy from fission reactions. Thermonuclear weapons, or hydrogen bombs, rely on a combination of nuclear fission and nuclear fusion. Nuclear fusion is another type of reaction in which two lighter atoms combine to release energy.

### The Manhattan Project

The Manhattan Project was the code name for the American-led effort to develop a functional atomic bomb during World War II. The Manhattan Project was started in response to fears that German scientists had been working on a weapon using nuclear technology since the 1930s.

On December 28, 1942, President Franklin D. Roosevelt authorized the formation of the Manhattan Project to bring together various scientists and military officials working on nuclear research.

Much of the work was performed in Los Alamos, New Mexico, under the direction of theoretical physicist J. Robert Oppenheimer. On July 16, 1945, in a remote desert location



near Alamogordo, New Mexico, the first atomic bomb was successfully detonated—the Trinity Test. It created an enormous mushroom cloud some 40,000 feet high and ushered in the Atomic Age.

### **Hiroshima And Nagasaki Bombings**

Scientists at Los Alamos had developed two distinct types of atomic bombs by 1945—a uranium-based design called “the Little Boy” and a plutonium-based weapon called “the Fat Man.”

While the war in Europe had ended in April, fighting in the Pacific continued between Japanese forces and U.S. troops. In late July, President Harry Truman called for Japan’s surrender with the Potsdam Declaration. The declaration promised “prompt and utter destruction” if Japan did not surrender.

On August 6, 1945, the United States dropped its first atomic bomb from a B-29 bomber plane called the Enola Gay on Japanese city of Hiroshima. The “Little Boy” exploded with about 13 kilotons of force, leveling five square miles of the city and killing 80,000 people instantly. Tens of thousands more would later die from radiation exposure.

When the Japanese did not immediately surrender, the United States dropped a second atomic bomb three days later on the city of Nagasaki. The “Fat Man” killed an estimated 40,000 people on impact.

Nagasaki had not been the primary target for the second bomb. American bombers initially had targeted the city of Kokura, where Japan had one of its largest munitions plants, but smoke from firebombing raids obscured the sky over Kokura. American planes then turned toward their secondary target, Nagasaki.

Citing the devastating power of “a new and most cruel bomb,” Japanese Emperor Hirohito announced his country’s surrender on August 15, ending World War II.

### **The Cold War**

The United States was the only country with nuclear weaponry in the years immediately following World War II. The Soviets initially lacked the knowledge and raw materials to build nuclear warheads.

Within just a few years, however, the U.S.S.R. had obtained—through a network of spies engaging in international espionage—blueprints of a fission-style bomb and discovered regional sources of uranium in Eastern Europe. On August 29, 1949, the Soviets tested their first nuclear bomb.

The United States responded by launching a program in 1950 to develop more advanced thermonuclear weapons. The Cold War arms race had begun, and nuclear testing and research became high-profile goals for several countries, especially the United States and the Soviet Union.



## Cuban Missile Crisis

Over the next few decades, each world superpower would stockpile tens of thousands of nuclear warheads. Other countries, including Great Britain, France, and China developed nuclear weapons during this time, too.

To many observers, the world appeared on the brink of nuclear war in October of 1962. The Soviet Union had installed nuclear-armed missiles on Cuba, just 90 miles from U.S. shores. This resulted in a 13-day military and political standoff known as the Cuban Missile Crisis.

President John F. Kennedy enacted a naval blockade around Cuba and made it clear the United States was prepared to use military force if necessary to neutralize the perceived threat.

Disaster was avoided when the United States agreed to an offer made by Soviet leader Nikita Khrushchev to remove the Cuban missiles in exchange for the United States promising not to invade Cuba.

## Three Mile Island

Many Americans became concerned about the health and environmental effects of nuclear fallout—the radiation left in the environment after a nuclear blast—in the wake of World War II and after extensive nuclear weapons testing in the Pacific during the 1940s and 1950s.

The antinuclear movement emerged as a social movement in 1961 at the height of the Cold War. During Women Strike for Peace demonstrations on November 1, 1961, roughly 50,000 women marched in 60 cities in the United States to demonstrate against nuclear weapons.

The antinuclear movement captured national attention again in the 1970s and 1980s with high profile protests against nuclear reactors after the Three Mile Island accident—a nuclear meltdown at a Pennsylvania power plant in 1979.

In 1982, a million people marched in New York City protesting nuclear weapons and urging an end to the Cold War nuclear arms race. It was one of the largest political protests in United States history.

## Nuclear Non-Proliferation Treaty (NPT)

The United States and Soviet Union took the lead in negotiating an international agreement to halt the further spread of nuclear weapons in 1968.



The Treaty on the Non-Proliferation of Nuclear Weapons (also called the Non-Proliferation Treaty or NPT) went into effect in 1970. It separated the world's countries into two groups—nuclear weapons states and non-nuclear weapons states.

Nuclear weapons states included the five countries that were known to possess nuclear weapons at the time—the United States, the U.S.S.R., Great Britain, France and China.

According to the treaty, nuclear weapons states agreed not to use nuclear weapons or help non-nuclear states acquire nuclear weapons. They also agreed to gradually reduce their stockpiles of nuclear weapons with the eventual goal of total disarmament. Non-nuclear weapons states agreed not to acquire or develop nuclear weapons.

When the Soviet Union collapsed in the early 1990s, there were still thousands of nuclear weapons scattered across Eastern Europe and Central Asia. Many of the weapons were located in Belarus, Kazakhstan and Ukraine. These weapons were deactivated and returned to Russia.

### **Illegal Nuclear Weapon States**

Some countries wanted the option of developing their own nuclear weapons arsenal and never signed the NPT. India was the first country outside of the NPT to test a nuclear weapon in 1974.

Other non-signatories to the NPT include: Pakistan, Israel and South Sudan. Pakistan has a known nuclear weapons program. Israel is widely believed to possess nuclear weapons, though has never officially confirmed or denied the existence of a nuclear weapons program. South Sudan is not known or believed to possess nuclear weapons.

### **North Korea**

North Korea initially signed the NPT treaty, but announced its withdrawal from the agreement in 2003. Since 2006, North Korea has openly tested nuclear weapons, drawing sanctions from various nations and international bodies.

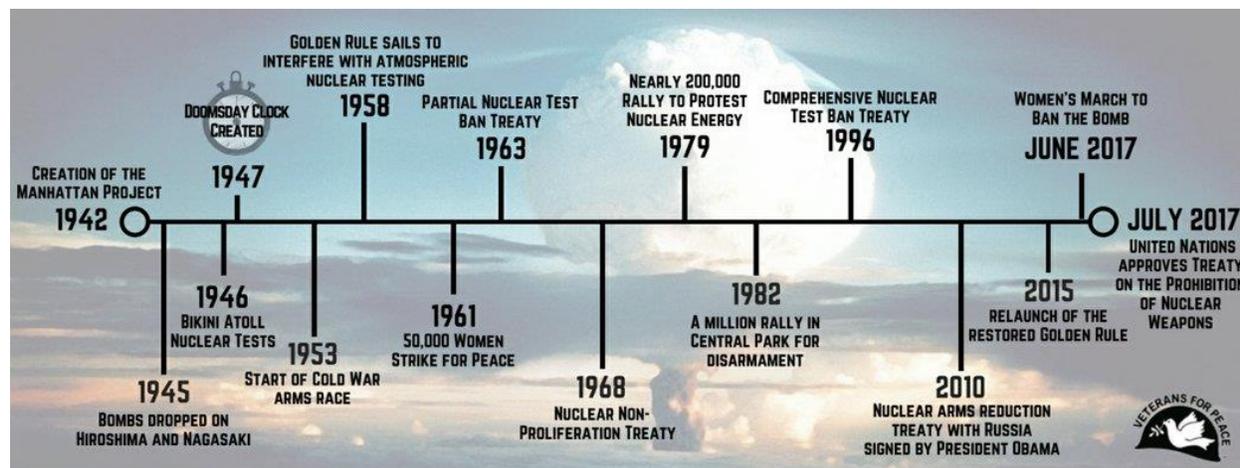
North Korea tested two long-range intercontinental ballistic missiles in 2017—one reportedly capable of reaching the United States mainland. In September 2017, North Korea claimed it had tested a hydrogen bomb that could fit on top an intercontinental ballistic missile.

Iran, while a signatory of the NPT, has said it has the capability to initiate production of nuclear weapons at short notice.



## 2.4. Timeline of Major Nuclear Events

**Note from the NHS DLC:** *This is a timeline of major events concerning the history of nuclear weapons and, in particular, the major events related to the elimination of nuclear weapons. Some of these events were covered in the previous section on the history of the Atomic Bomb but it is worth knowing and understanding the major historical events behind global disarmament. At least being aware of the history will help debaters explain their arguments in more detail.*



**1942 The Manhattan Project:** “The Manhattan Project was the codename for the American-led effort to develop a functional atomic weapon during World War II.”

**1945 Hiroshima and Nagasaki:** “On August 6, 1945, during World War II (1939-45), an American B-29 bomber dropped the world’s first deployed atomic bomb over the Japanese city of Hiroshima. The explosion wiped out 90 percent of the city and immediately killed 80,000 people; tens of thousands more would later die of radiation exposure. Three days later, a second B-29 dropped another A-bomb on Nagasaki, killing an estimated 40,000 people. Japan’s Emperor Hirohito announced his country’s unconditional surrender in World War II in a radio address on August 15, citing the devastating power of ‘a new and most cruel bomb.’”<sup>23</sup>

**1946 Bikini Atoll Nuclear Tests:** “On 1 July 1946, the United States conducted the first nuclear test after World War II. The explosion took place at the Bikini Atoll lagoon, situated in the Marshall Islands in the Pacific Ocean. Test Able was to be the first of a series of 67 tests in the atoll and the second U.S. nuclear test of over a thousand to follow.”<sup>24</sup>

<sup>23</sup> History.com Editors, “Bombing of Hiroshima and Nagasaki”, 18 November 2009, History.com, <https://www.history.com/topics/world-war-ii/bombing-of-hiroshima-and-nagasaki>.

<sup>24</sup> “1 July 1946 - ‘Test Able’, Bikini Atoll”, no date, CTBTO, <https://www.ctbto.org/specials/testing-times/1-july-1946-test-able-bikini-atoll/>.



**1947 Doomsday Clock:** “The Doomsday Clock was created by the board of the Bulletin of the Atomic Scientists in 1947 as a response to nuclear threats. The concept is simple – the closer the minute hand is to midnight, the closer the board believes the world is to disaster. The clock was originally conceived by a group of atomic scientists who had been involved with the Manhattan Project, the scheme responsible for the first nuclear weapons. The scientists regularly produced a bulletin detailing progress and updates in nuclear weaponry and the clock was first designed as an illustration for the cover of the first edition. Since then, the clock has moved backwards and forwards – from seventeen minutes to midnight in 1991 to two minutes to midnight in 1953.”<sup>25</sup>

**1961 Women Strike for Peace:** WSP is an “organization that evolved out of an international protest against atmospheric nuclear testing held on November 1, 1961. On that day between 12,000 and 50,000 women in various nations demonstrated to protest nuclear testing and to voice concern, in particular, about the hazards posed by such testing to children’s health. In the United States some 1,500 women marched in Washington, D.C., to make their appeal. That same year Bella Abzug and Dagmar Wilson, who had been influential in organizing the strike, founded the Women Strike for Peace (WSP) organization. The Soviet Union–U.S. signing of the 1963 Nuclear Test-Ban Treaty has been attributed in part to the early efforts of WSP.”<sup>26</sup>

**1968 Nuclear Non-Proliferation Treaty:** “The NPT is a landmark international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy and to further the goal of achieving nuclear disarmament and general and complete disarmament. The Treaty represents the only binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States. Opened for signature in 1968, the Treaty entered into force in 1970. On 11 May 1995, the Treaty was extended indefinitely. A total of 191 States have joined the Treaty, including the five nuclear-weapon States. More countries have ratified the NPT than any other arms limitation and disarmament agreement, a testament to the Treaty’s significance.”<sup>27</sup>

**1979 Major Rally:** “Thousands of protesters rallied against the nation's dependence on nuclear power in front of the United States Capitol in Washington D.C. on May 6, 1979, nearly two months after the Three Mile Island nuclear accident. While this protest garnered much support, the largest one occurred in Sept. of 1979 in New York City, where 200,000 people attended the protest.”<sup>28</sup>

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<sup>25</sup> Emily Reynolds, “What is the Doomsday Clock and why does it matter?”, 25 January 2018, Wired, <https://www.wired.co.uk/article/what-is-the-doomsday-clock>.

<sup>26</sup> The Editors of Encyclopaedia Britannica, “Women Strike for Peace”, 11 September 2018, Encyclopædia Britannica, inc., <https://www.britannica.com/topic/Women-Strike-for-Peace>.

<sup>27</sup> “Treaty on the Non-Proliferation of Nuclear Weapons (NPT)”, no date, United Nations Office for Disarmament Affairs, <https://www.un.org/disarmament/wmd/nuclear/npt/>.

<sup>28</sup> “Anti-nuclear power plant rally”, AP Photo by Barry Thumma, <https://www.nydailynews.com/news/mile-island-nuclear-plant-accident-gallery-1.3011393?pmSlide=1.3011388>.



**1982 Major Rally for Disarmament:** “on June 12, 1982, approximately a million people demonstrated in New York City’s Central Park against nuclear arms and for an end to the arms race of the cold war. Nothing like it had ever happened before. It was not only the largest antinuclear demonstration but the largest political demonstration of any description in American history. Nothing like it has happened again, either. The tide of protest was at its high-water mark, and thereafter receded steadily.”<sup>29</sup>

**1996 Comprehensive Nuclear Test Ban Treaty:** “The Comprehensive Test Ban Treaty (CTBT) prohibits “any nuclear weapon test explosion or any other nuclear explosion” anywhere in the world. The treaty was opened for signature in September 1996, and has been signed by 184 nations and ratified by 168. The treaty cannot enter into force until it is ratified by 44 specific nations, eight of which have yet to do so: China, India, Pakistan, North Korea, Israel, Iran, Egypt, and the United States. [...] In order to verify compliance with its provisions, the treaty establishes a global network of monitoring facilities and allows for on-site inspections of suspicious events. The overall accord contains a preamble, 17 treaty articles, two treaty annexes, and a protocol with two annexes detailing verification procedures.”<sup>30</sup>

**2010 Nuclear Arms Reduction Treaty:** “Obama and Medvedev sign an arms reduction agreement in Prague, replacing the 1991 START (Strategic Arms Reductions Treaty) I treaty that expired in December 2009. The so-called New START treaty commits Washington and Moscow to limiting proliferation of strategic offensive arms. The package, which comes after extensive talks between the two leaders, sets a 30 percent reduction on deployed warheads and lower caps on deployed and non-deployed intercontinental ballistic missile launchers, submarine-launched ballistic missile launchers, and heavy bombers equipped for nuclear weapons.”<sup>31</sup>

**2017 UN Treaty on the Prohibition of Nuclear Weapons:** “By resolution 71/258, the General Assembly decided to convene in 2017 a United Nations conference to negotiate a legally binding instrument to prohibit nuclear weapons, leading towards their total elimination.”<sup>32</sup> “The Treaty on the Prohibition of Nuclear Weapons prohibits States Parties from developing, testing, producing, manufacturing, acquiring, possessing, or stockpiling nuclear weapons or other nuclear explosive devices. Signatories are barred from transferring or receiving nuclear weapons and other nuclear explosive devices, control over such weapons, or any assistance with activities prohibited under the Treaty. States are also prohibited from using or threatening to use nuclear weapons and other nuclear explosive devices. Lastly, States Parties cannot allow the stationing, installation, or deployment of nuclear weapons and other nuclear explosive devices in their territory. In addition to the Treaty’s prohibitions, States Parties are obligated to provide victim

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<sup>29</sup> Jonathan Schell, “The Spirit of June 12”, 2 July 2007, The Nation, <https://www.thenation.com/article/spirit-june-12/>.

<sup>30</sup> Daryl Kimball, “Comprehensive Test Ban Treaty at a Glance,” February 2019, Arms Control Association, <https://www.armscontrol.org/factsheets/test-ban-treaty-at-a-glance>.

<sup>31</sup> “U.S.-Russia Nuclear Arms Control”, Timeline by the Council on Foreign Relations, <https://www.cfr.org/timeline/us-russia-nuclear-arms-control>.

<sup>32</sup> “Treaty on the prohibition of nuclear weapons”, no date, United Nations Office for Disarmament Affairs, <https://www.un.org/disarmament/wmd/nuclear/tpnw/>.



assistance and help with environmental remediation efforts.”<sup>33</sup> It was negotiated by more than 130 states as “a good faith effort to meet their responsibility as signatories of the nuclear Nonproliferation Treaty (NPT) to pursue effective measures on disarmament. [...] It reinforces states’ commitments to the NPT and the Comprehensive Test Ban Treaty (CTBT).”<sup>34</sup>

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<sup>33</sup> “Treaty on the Prohibition of Nuclear Weapons”, 29 March 2019, Nuclear Threat Initiative, <https://www.nti.org/learn/treaties-and-regimes/treaty-on-the-prohibition-of-nuclear-weapons/>.

<sup>34</sup> Daryl Kimball, “The Treaty on the Prohibition of Nuclear Weapons at a Glance, September 2017, Arms Control Association, <https://www.armscontrol.org/factsheets/nuclearprohibition>.



## 2.5. All You Wanted To Know About Nuclear War

Julian Borger and Ian Sample, "All you wanted to know about nuclear war but were too afraid to ask", 16 July 2018, Guardian,

<https://www.theguardian.com/world/2018/jul/16/nuclear-war-north-korea-russia-what-will-happen-how-likely-explained>.

**Note from the NHSDLC:** *This article covers a lot of the basic information concerning nuclear war, nuclear weapons, and the risks associated with nuclear weapons. This should help debaters understand the basics of nuclear war. The full article contains some details that have been mentioned in other sections, so they were omitted.*

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### Which countries have nuclear weapons?

There are nine countries that possess nuclear weapons. Five of these (the US, Russia, the UK, France and China) are members of the official owners club, who made their weapons early and had them legitimised in the Nuclear Non-Proliferation Treaty (NPT) signed in 1968, the key piece of international law governing nuclear weapons possession.

NPT has arguably been quite successful. In the 1960s it was widely anticipated that dozens of countries would get the bomb, as it appeared to be the fast track to clout and status on the world stage. But so far there have only been four rogue nuclear weapons states who ignored the NPT and made their own bombs. In order of acquisition, they are Israel, India, Pakistan and North Korea.

### Has any country ever given up its nuclear weapons?

More countries have given up nuclear weapons programmes than have kept them, coming to believe they were more of a liability than an asset for national security.

The apartheid regime in South Africa secretly built six warheads, but dismantled the bombs and abandoned the whole programme in 1989 just before the system gave way to democracy.

Even Sweden had an advanced and ambitious plan based on heavy water reactors to build up to a hundred warheads, but gave up the project in the 1960s, preferring to spend defence funds on fighter planes.

The military juntas in both Argentina and Brazil pursued covert weapons programmes, although they stopped short of making a bomb, and the two countries gave up their programmes in the early nineties and joined the NPT.

Taiwan and South Korea began developing plutonium production programmes in the late sixties and early seventies before the US persuaded them to halt in the mid-seventies and rely on Washington for security. Japan is generally considered to have a "bomb in the



basement”, in that it has all the materials and know-how to build a warhead quickly if it decided to follow that path and leave the NPT. At present that course seems unlikely.

Three successor countries to the Soviet Union – Ukraine, Kazakhstan and Belarus – inherited nuclear weapons in 1991, and all three agreed to surrender them, in Ukraine’s case in return for sovereignty guarantees from Russia that ultimately proved worthless.

In Iraq, Saddam Hussein dismantled his rudimentary nuclear weapons programme after the first Gulf war in 1991, and Libya’s Muammar Gaddafi handed over his nuclear weapons beginner’s set to the US in 2003. Their ultimate fate offers little incentive for future despots to give up their atomic dreams.

### **How do you make a bomb?**

It is pretty difficult to make a nuclear weapon. If it was not we most likely would no longer be here. And it is difficult on two levels: making the fissile material and then constructing a device that will detonate it.

[...]

Uranium and plutonium are used for nuclear weapons, but only specific atomic configurations, or isotopes, of those elements are fissile. [...] Low-enriched uranium, used in civilian nuclear power, is usually 3%-4% U-235. Weapons-grade uranium is 90% enriched or more. Building enough centrifuges, and getting them to spin fast enough in unison, is the greatest technical challenge along the uranium route.

[...]

### **What is a hydrogen bomb?**

Hydrogen bomb is the colloquial term for a thermonuclear weapon, a second-generation bomb design with vastly more explosive power than a simple fission warhead. [...] All strategic weapons in modern arsenals are now thermonuclear, or hydrogen, bombs.

### **Whatever happened to nuclear disarmament?**

The bargain at the heart of the NPT was that member states without nuclear weapons agreed not to acquire them, as long as the states with weapons reduced their obscenely large arsenals, capable of destroying the planet many times over. That has indeed happened, to an extent – at first as the result of arms control agreements, and then the collapse of the Soviet bloc and the end of the cold war.

From a peak of 70,000 nuclear weapons in the world at the height of the cold war, in 1985, there are now about 14,000, according to the Federation of American Scientists (FAS), still enough to end life on the planet. Then and now, the overwhelming majority (93% in 2018) of these warheads belong to the US and Russia, with between 6,000 and 7,000



apiece, although only about a quarter of those arsenals are deployed and ready for use. The rest are in reserve stockpiles or in the process of being retired and dismantled.

Of the second-tier nuclear weapons powers, again according to FAS estimates, France has 300 warheads, China 270, the UK 215, Pakistan 130-40, India 120-30, Israel 80, and North Korea between 10 and 20.

The last successful arms control agreement, the New Start treaty, was signed by Barack Obama and Dmitry Medvedev in 2010, limiting the US and Russia to 1,550 deployed strategic warheads each. The hope at the time was that the two nuclear superpowers would pursue a follow-on treaty and at one point Obama suggested he might reduce the US arsenal unilaterally by another third. But that did not happen.

What are the chances of a nuclear weapon falling into the hands of a terrorist group? The terrorist nuclear weapon is one of the scariest scenarios the world faces. Unlike states, such groups cannot be deterred from using a weapon as the perpetrator could be very hard to identify in the wake of a blast, difficult to find, and ready to accept death as the price of inflicting devastating damage. Terrorist groups would not need expensive missiles to deliver their warheads. They could be sailed into a port in a shipping container or across land borders in the back of a truck.

After the collapse of the Soviet Union, the US spent substantial resources on dismantling many of its weapons and production facilities as well as ensuring that its many nuclear scientists had alternative employment so as not to be tempted to sell their wares and expertise to the highest bidder. But serious concerns about nuclear weapons security remain. Pakistan in particular is a source of anxiety as its military and intelligence services have radicalised elements within them, with links to terror groups.

There are also fears that a cash-strapped or vengeful North Korea could sell one of its warheads for the right price. A more recent emerging threat is that a rogue group could hack into a nuclear power's command and control computers, triggering a launch, or into an early warning system, giving the impression an enemy attack is imminent.

### **How likely is accidental nuclear war?**

As the years have passed since the cold war, it has become increasingly clear that we had several lucky escapes from nuclear weapons use during that era as the result of miscalculation or technical glitches. For example, in 1979, when a US watch officer left training tapes in the early warning system when he finished his shift, those in the incoming shift saw their screens light up with the tracks of multiple incoming Soviet missiles. It was only good judgment of the duty officers that avoided a nuclear alert.

In such situations, if the glitch is not identified lower down the chain of command and passed upwards as a seemingly genuine alert, a national leader has only a few minutes to decide whether to launch his or her country's missiles before the apparent incoming salvo destroys them. Nearly three decades after the cold war, the US and Russia still keep



hundreds of missiles on hair-trigger alert, ready to launch within minutes, in anticipation of just an occasion.

In the US system, there is no institutional check or barrier to the president launching those missiles once he has identified himself to the Pentagon war room using his nuclear codes.

### **What next?**

Arms control will be on the agenda when Vladimir Putin and Donald Trump meet in Helsinki on Monday. One option is that the two presidents could extend the New Start treaty by another five years, as allowed for in the agreement. The biggest barrier is Trump's distaste for any arrangement inherited from Obama. It is more likely he would argue for a more ambitious arms control agreement he could put his own name to. But Putin will be hard to convince, without the US scaling back its missile defence system, and that is unlikely at the moment.

The threat of a conflict with North Korea has receded somewhat since the Singapore summit, but it is increasingly clear that Pyongyang has no intention of disarming any time soon. The big question is what will Trump do once that becomes apparent to him.

The chances of a nuclear standoff with Iran, meanwhile, are rising. In May, Trump walked out of the 2015 nuclear agreement with Tehran, which curbed Iranian nuclear activities in return for sanctions relief. The US is now piling on sanctions and telling the world to stop buying Iranian oil. Sooner or later it is possible, likely even, that the Iranian government will stop abiding by the agreement and start stepping up its uranium enrichment and other activities. That is likely to raise tensions in the Gulf dramatically and make other regional players rethink whether to acquire nuclear weapons themselves.

Taking all these developments into consideration, the Bulletin of the Atomic Scientists has decided to set its "doomsday clock" to two minutes to midnight, the closest to catastrophe it has been since 1953.

### **Just one nuke, and the damage it would do**

The destruction unleashed by a nuclear weapon comes in many forms. There is the violent, rapid shockwave, the searing fireball, and the invisible radiation, all of which contribute to injuries, deaths and damage. The largest nuclear weapon in the US arsenal is the B83, a free-fall bomb with a yield of 1.2 megatonnes, making it some 75 times more powerful than the 'Little Boy' weapon detonated over Hiroshima in 1945. The devastation produced by such a bomb depends on where it explodes, but also whether it detonates on the ground or in the air.

On impact with the ground, a B83 would create a fireball nearly 3km wide, with temperatures reaching many thousands of degrees Celsius. What is not vapourised in an instant would catch fire or sustain burns. People and animals would be expected to suffer third degree burns more than 11km from the heart of the strike.



Rushing out ahead of the fireball is a powerful shockwave that can travel faster than the speed of sound at sea level, demolishing buildings in its path. The shockwave from a B83 explosion could raze sturdy concrete buildings within a 2.5km radius with near 100% fatalities, and level structurally weaker homes and shops within 5km. The blast could shatter windows more than 12km away.

The radiation released by such a bomb would further drive up deaths and injuries. Within 2.5km of the bomb going off, up to 90% of people could succumb to acute radiation poisoning. More would be exposed as the radiation cloud, which can be many kilometres wide, is blown towards nearby populations. Were a B83 dropped on London, the death toll could reach 700,000 with nearly twice as many injured. According to May 2018 figures from the Federation of American Scientists, the US and Russia each have about 1,600 strategic warheads deployed on intercontinental missiles and at heavy bomber bases.



## 3. Pro Arguments

### 3.1. Nuclear Powers Need to Disarm

Conn Hallinan (a columnist for Foreign Policy In Focus; a retired journalism professor, he previously was an editor of People's World when it was a West Coast publication.), "Nuclear Powers Need to Disarm Before It's Too Late", 11 March 2019, Foreign Policy In Focus, <https://fpif.org/nuclear-powers-need-to-disarm-before-its-too-late/>.

**Note from the NHS DLC:** *This article focuses on some the harms and risks of nuclear weapons, focusing in particular on the recent tensions between India and Pakistan to show the high likelihood of nuclear war. This article helps illustrate the current tensions in the world and how the risk of nuclear war is actually quite high. After reading the article, readers should be able to understand the global nature of the impact of a nuclear war, have increased insight into the conflict between India and Pakistan and the role that nuclear weapons plays in that conflict, and explain why eliminating nuclear weapons is the solution.*

The recent military clash between India and Pakistan underscores the need for the major nuclear powers — the U.S., Russia, China, Britain, and France — finally to move toward fulfilling their obligations under the 1968 Nuclear Non-Proliferation Treaty (NPT).

The Treaty's purpose was not simply to prevent the spread of nuclear weapons, but to serve as a temporary measure until Article VI could take effect: the "cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control."

The 191 countries that signed the NPT — the most widely subscribed nuclear treaty on the planet — did so with the understanding that the major powers would de-nuclearize. But in the 50 years since the Treaty was negotiated, the nuclear powers have yet to seriously address eliminating weapons of mass destruction.

While over the years the Americans and the Russians have reduced the number of warheads in their arsenals, they — along with China — are currently in the midst of a major modernization of their weapon systems. Instead of a world without nuclear weapons, it is a world of nuclear apartheid, with the great powers making no move to downsize their conventional forces.

For non-nuclear armed countries, this is the worst of all worlds.

#### There Are No "Local" Nuclear Wars

The folly of this approach was all too clear in the recent India and Pakistan dustup. While both sides appear to be keeping the crisis under control, for the first time in a very long time, two nuclear powers that border one another exchanged air and artillery attacks.



While so far things have not gotten out of hand, both countries recently introduced military policies that make the possibility of a serious escalation very real.

On the New Delhi side is a doctrine called “Cold Start” that permits the Indian military to penetrate up to 30 kilometers deep into Pakistan if it locates, or is in pursuit of, “terrorists.” On the Islamabad side is a policy that gives front-line Pakistani commanders the authority to use tactical nuclear weapons.

The possibility of a nuclear exchange is enhanced by the disparity between India and Pakistan’s military forces. One does not have to be Carl von Clausewitz to predict the likely outcome of a conventional war between a country of 200 million people and a country of 1.3 billion people.

Pakistan reserves the right to use nuclear weapons first. India has a “no first use” policy, but with so many caveats that it is essentially meaningless. In brief, it wouldn’t take much to ignite a nuclear war between them.

If that happens, its effects will not be just regional. According to a study by the University of Colorado, Rutgers University, and UCLA, if Pakistan and India exchanged 100 Hiroshima-sized nuclear warheads (15 kilotons), they would not only kill or injure 45 million people, but also generate enough smoke to plunge the world into a 25-year long nuclear winter.

Both countries have between 130 and 150 warheads apiece.

Temperatures would drop to Ice Age levels and worldwide rainfall would decline by 6 percent, triggering major droughts. The Asian Monsoon could be reduced by between 20 and 80 percent, causing widespread regional starvation.

Between the cold and the drought, global grain production could fall by 20 percent in the first half decade, and by 10 to 15 percent over the following half decade.

Besides cold and drought, the ozone loss would be between 20 and 50 percent, which would not only further damage crops, but harm sea life, in particular plankton. The reduction of the ozone layer would also increase the rate of skin cancers.

The study estimates that “two billion people who are now only marginally fed might die from starvation and disease in the aftermath of a nuclear conflict between Pakistan and India.”

In short, there is no such thing as a “local” nuclear war.

### **The Ultimate Equalizer**



Article VI is the heart of the NPT, because it not only requires abolishing nuclear weapons but also addresses the fears that non-nuclear armed nations have about the major powers' conventional forces.

A number of countries — China in particular — were stunned by the conventional firepower unleashed by the U.S. in its 2003 invasion of Iraq. Though the U.S. occupation of Iraq took a disastrous turn, the ease with which U.S. forces initially dispatched the Iraqi army was a sobering lesson for a lot of countries.

In part, it is the conventional power of countries like the U.S. that fuels the drive by smaller nations to acquire nuclear weapons.

Libya is a case in point. That country voluntarily gave up its nuclear weapons program in 2003. Less than seven years later Muammar Gaddafi was overthrown by the U.S. and NATO. At the time, the North Koreans essentially said, “we told you so.”

The NPT has done a generally good job of halting proliferation. While Israel, Pakistan, India, and North Korea have obtained nuclear weapons — the first three never signed the Treaty and North Korea withdrew in 2003 — South Africa abandoned its program. Other nuclear-capable nations like Japan, Brazil, Argentina, Iran, South Korea, and Saudi Arabia also haven't joined the nuclear club — yet.

But it is hard to make a case for non-proliferation when the major nuclear powers insist on keeping their nuclear arsenals. And one can hardly blame smaller countries for considering nuclear weapons as a counterbalance to the conventional forces of more powerful nations like the U.S. and China. If there is anything that might make Iran abandon its pledge not to build nuclear weapons, it's all the talk in Israel, the U.S., and Saudi Arabia about regime change in Tehran.

### **Regional Tinderboxes**

There are specific regional problems, the solutions to which would reduce the dangers of a nuclear clash.

The U.S. has taken some steps in that direction on the Korean Peninsula by downsizing its yearly war games with South Korea and Japan. Declaring an end to the almost 70-year-old Korean war and withdrawing some U.S. troops from South Korea would also reduce tensions.

Halting the eastward expansion of NATO and ending military exercises on the Russian border would reduce the chances of a nuclear war in Europe.

In South Asia, the international community must become involved in a solution to the Kashmir problem. Kashmir has already led to three wars between India and Pakistan, and the 1999 Kargil incident came distressingly close to going nuclear.



This latest crisis started over a February 14 suicide bombing in Indian-occupied Kashmir that killed more than 40 Indian paramilitaries. While a horrendous act, the current government of India's brutal crackdown in Kashmir has stirred enormous anger among the locals. Kashmir is now one of the most militarized regions in the world, and India dominates it through a combination of force and extra-judicial colonial laws — the Public Safety Act and the Special Powers Act — that allows it to jail people without charge and bestows immunity on the actions of the Indian army, the paramilitaries, and the police.

Since 1989, the conflict has claimed more than 70,000 lives and seen tens of thousands of others “disappeared,” injured, or imprisoned.

India blames the suicide attack on Pakistan, which has a past track record of so doing. But that might not be the case here. Even though a Pakistani-based terrorist organization, Jaish-e-Mohammad (JeM), claims credit, both sides need to investigate the incident. It is not unlikely that the attack was homegrown — the bomber was Kashmiri — although possibly aided by JeM. It is also true that Pakistan does not have total control over the myriad of militant groups that operate within its borders. The Pakistani Army, for instance, is at war with its homegrown Taliban.

The Kashmir question is a complex one, but solutions are out there. The United Nations originally pledged to sponsor a plebiscite in Kashmir to let the local people decide if they want to be part of India, Pakistan, or independent. Such a plebiscite should go forward. What cannot continue is the ongoing military occupation of 10 million people, most of whom don't want India there.

Kashmir is no longer a regional matter. Nuclear weapons threaten not only Pakistanis and Indians, but, indeed, the whole world. The major nuclear powers must begin to move toward fulfilling Article VI of the NPT, or sooner or later our luck will run out.



### 3.2. Time to Ban the Bomb

Beatrice Fihn (the executive director of the International Campaign to Abolish Nuclear Weapons (ICAN), the 2017 Nobel Peace Prize-winning campaign coalition that works to prohibit and eliminate nuclear weapons. She has over a decade of experience in disarmament diplomacy and civil society mobilization, through her work with ICAN, the Women's International League for Peace and Freedom and the Geneva Centre for Security Policy. She has written extensively on weapons law, humanitarian law, civil society engagement in diplomacy and multilateral institutions and gender perspective on disarmament work), "Time to Ban the Bomb", 3 April 2019, Ploughshares Fund, <https://www.ploughshares.org/issues-analysis/article/time-ban-bomb>.

**Note from the NHSDLC:** *This article discusses some of the reasons to abolish nuclear weapons, namely the harms from using nuclear weapons. It then discusses the 2017 Treaty on the Prohibition of Nuclear Weapons and other legal frameworks as an example of how they could provide a clear roadmap for the global elimination of nuclear weapons. After reading the article, readers should be able to identify the risks associated with possessing nuclear weapons as well better understand the way that a treaty could provide a sustainable path to eliminating nuclear weapons.*

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Of late, the world has been reminded that the threat posed by nuclear weapons is severe and worsening.

The United States has signaled that it will withdraw from one of the most important Cold War arms control agreements — the 1987 Intermediate- Range Nuclear Forces Treaty (INF Treaty) — which successfully removed an entire class of nuclear and conventional missiles from Europe. President Trump has assailed the Joint Comprehensive Plan of Action (JCPOA) with Iran. Rhetoric and tensions among nuclear-armed states are rising, and nearly all are engaged in rebuilding their nuclear weapons programs. The United States alone plans to spend close to \$2 trillion over the next 30 years on such efforts.<sup>1</sup> The stage is set for a new global nuclear arms race.

The risk of use of nuclear weapons is higher today than it has been for years. With developments in cyber warfare, autonomous weapons and an increasingly uncertain global security situation, that risk will only increase over time. A security policy based on plans to fight — and “win” — a nuclear war is morally bankrupt and unsustainable. The United States must begin developing a policy for a non-nuclear future, or risk becoming an outlier without moral authority.

The International Campaign to Abolish Nuclear Weapons (ICAN), a global coalition of over 530 organizations, is leading a movement to achieve this non-nuclear future. Over 10 years, together with countless partners in governments, international organizations and civil society groups around the world, we helped incubate and amplify a previously-ignored conversation about nuclear weapons. We placed civilians and the harm caused to them by nuclear weapons at the center of debate. This movement ultimately led to the



adoption of the Treaty on the Prohibition of Nuclear Weapons (TPNW) and to ICAN being awarded the 2017 Nobel Peace Prize for its work in promoting nuclear disarmament.

The Treaty emerged through something new and different in the disarmament debate within the nuclear community – the Humanitarian Initiative. This initiative reframed the discourse around nuclear weapons to make the horrific humanitarian consequences caused by their use the center of discussion, rather than a secondary issue. In seeking the negotiation and adoption of the treaty, we followed the path set by other global weapons prohibitions, including conventions related to biological weapons, chemical weapons, antipersonnel landmines and cluster munitions. The premise, based in international law, is founded on the total abnegation of possession and use of weapons with unspeakable consequences.

No sustainable, smart or effective national security strategy can be based on weapons that cause the level of harm to civilians that nuclear weapons do. This reflects a shift in security and development policies toward a more pre-eminent role for humanitarian concerns, humanitarian law and the protection of civilians. Therefore, such weapons cannot remain legal or be considered legitimate options for states in warfare.

On July 7, 2017, the TPNW was adopted by 122 states at the United Nations (UN). It will enter into force once 50 states have deposited their instruments of ratification, which we expect will happen by 2020. This moment represents an opportunity for the international community to make real progress toward a world free of nuclear weapons. With this in mind, the United States – and all states possessing nuclear weapons – must engage the majority of the world’s countries working toward true global peace and security.

The United States’ path forward is clear: 1) end nuclear saber-rattling and place humanitarian consequences at the center of nuclear policy; 2) commit in good faith to multilateralism with a view to ending the new nuclear arms race, putting legal and diplomatic options above military expansionism; and 3) cease denigrating the TPNW and instead support the treaty and its signatories.

### **Humanitarian Consequences at the Center of Nuclear Policy**

By their nature, nuclear weapons are indiscriminate and inhumane. Any use of nuclear weapons would have catastrophic humanitarian consequences that would quickly ripple across the world, even if a nuclear conflict was localized. The use of a nuclear weapon over a populated area would immediately kill tens of thousands – if not hundreds of thousands – of men, women and children, and injure countless more.<sup>3</sup> We continue to pay the price of atmospheric nuclear testing in many countries around the world with hundreds of thousands, if not millions, of people dying early from cancers.<sup>4</sup>

We also must not forget that the effects of nuclear detonations have disproportionately affected women. Though the immediate effects of nuclear weapons use are indiscriminate – no matter your sex or gender identity – the impact on survivors is not. Women in Hiroshima and Nagasaki have nearly double the risk that men do of developing and dying from solid cancer due to ionizing radiation exposure.<sup>5</sup> Robust findings from the



Chernobyl disaster indicate that girls are considerably more likely than boys to develop thyroid cancer from nuclear fallout.<sup>6</sup> Pregnant women exposed to nuclear radiation face a greater likelihood of delivering children with physical malformations and stillbirths, leading to increased maternal mortality.<sup>7</sup> And these effects last generations.<sup>8</sup> Women's rights, human rights, cannot be fully realized when we are threatened by, or threaten others, with such consequences.

A national security framework that respects human rights must work to eliminate and legally ban any weapon that causes these consequences. The TPNW codifies the stigma against the infliction of such barbarity and can be used as an example of how to incorporate humanitarian consequences at the center of policy. A congressional inquiry is needed on the short- and long-term environmental and human cost of past nuclear programs. Members must ask: Who has died early as a result of these programs and who will die in the future as a result of past misdeeds? And to be credible, such an inquiry must include women and other survivors as an integral part of the process.

### **Commit to Multilateralism**

The key to sustainability in national security is multilateralism. Outside the United States, a cohort of nations is trying to restrain the global military-industrial complex. The adoption of the TPNW is a reaffirmation of this multilateralism. All regions of the world — not just the five permanent members of the UN Security Council — must have a say in the solutions. Just as no nation will be immune to the consequences of nuclear weapons, no nation should be excluded from a seat at the table when it comes to deciding the fate of nuclear security — and through that the fate of the world. In addition to refusing to engage the majority of states who negotiated and adopted the TPNW, the Trump administration is rejecting international solutions to the global nuclear problem. This is the exact opposite of how to ensure security for the United States.

The United States must re-engage with international bodies and the global community on nuclear issues, particularly if it prides itself as being a global leader. Only solutions built upon international law and existing frameworks can provide comprehensive, verifiable and irreversible nuclear disarmament. Once unthinkable, US allies who claim protection through the US nuclear umbrella are facing mounting domestic pressure to reject a security arrangement rooted in nuclear weapons. North Atlantic Treaty Organization (NATO) member states are awakening to the false argument that there can be no NATO except a nuclear NATO.

Spain has signaled an intent to join the TPNW while remaining a full member of the Alliance. Even states like Italy that host nuclear weapons on their territory are considering joining the treaty and renegotiating their security relationship with the United States. These examples make clear that it is time for the United States to refocus attention on how to reduce tensions by engaging in practical arms control and disarmament negotiations. These negotiations were successful during the Cold War and can be successful again in an increasingly multipolar world.



The US Congress should support and enforce international treaties on nuclear nonproliferation and arms control. It must stop the administration from applying a wrecking ball to agreements that have maintained international peace and security for years. It's easy to rip up agreements, but far harder to make them, and even harder still to make them work. But this is what leaders do. Members of Congress must support the existing international legal order and also urge the administration to engage in good faith in multilateral negotiation to further reduce nuclear arsenals around the world. And when engaging in such negotiations, the humanitarian consequences of any use of nuclear weapons should be at the forefront of all leaders' minds. For they are, in effect, discussing the potential elimination of humankind as a species. Now more than ever, we need more arms control, not less.

### **Engage with the Prohibition Treaty**

The TPNW offers a pathway forward at a time when the world and the United States are in desperate need. Already concerned citizens from cities across the country are stepping forward to have their voices heard, calling on their representatives to come forward in support of nuclear disarmament. Several towns and cities, including Baltimore and Los Angeles, have already endorsed the TPNW and the US Conference of Mayors supports ICAN's work. California, the largest state by economy and population, became the first to endorse the TPNW when it passed CA resolution AJR 33 in August 2018.9

We call on cities, states and municipal authorities throughout the United States to do likewise. Do not stay silent: every resolution that is passed endorsing the TPNW takes us a step closer to a nuclear-free world. Similarly, members of Congress need to put aside shortsighted commercial and military interests and introduce and debate a resolution calling on the United States to join the TPNW.

They must "acknowledge the ethical imperatives for nuclear disarmament and the urgency of achieving and maintaining a nuclear-weapon-free world, which is a global public good of the highest order, serving both national and collective security interests."<sup>10</sup>

A tide of support for the TPNW is rising around the world. It can be seen across NATO member states and within cities, counties and states in the United States. Once ratification is achieved in 50 nations, the ban on nuclear weapons will become international law. This will impact all countries, including those that have not yet joined. The United States will be no exception. Any leader that wants to be taken seriously on security and represent a realistic plan to keep Americans and the world safe must engage with this treaty. Engaging with the TPNW means engaging with the world. This is the only way to finally fulfill the long unfulfilled promise of a world free from these weapons of mass destruction.

No nation, not even one as powerful as the United States, can outrun the nuclear threat. It is time to respect the rights of all people to live free of nuclear terror. Every leader in the United States — from local officials to those that walk the halls of Congress to those in the White House — has the opportunity today to ensure a safe and secure world. Bring the humanitarian consequences of nuclear weapons to the forefront of your nuclear



conversations. Engage in multilateralism and international arms control agreements. Support the TPNW. Change is sweeping across the world, one that the United States cannot afford to ignore.



### 3.3. Nuclear Deterrence Is a Myth

David P Barash (Professor of Psychology emeritus at the University of Washington), "Nuclear deterrence is a myth. And a lethal one at that", 14 January 2018, The Guardian, <https://www.theguardian.com/world/2018/jan/14/nuclear-deterrence-myth-lethal-david-barash>.

**Note from the NHSDLC:** *This article covers a range of historical events to explain why nuclear deterrence does not work. It also examines some theoretical reasons why nuclear deterrence is flawed. Finally, it covers some risks of possessing nuclear weapons. While somewhat long, this is one of the best articles examining every major issue surrounding nuclear weapons using easy to understand examples. After reading this article, readers should be able to provide some arguments against the theory of deterrence utilizing both logic and historical examples.*

In his classic *The Evolution of Nuclear Strategy* (1989), Lawrence Freedman, the dean of British military historians and strategists, concluded: 'The Emperor Deterrence may have no clothes, but he is still Emperor.' Despite his nakedness, this emperor continues to strut about, receiving deference he doesn't deserve, while endangering the entire world. Nuclear deterrence is an idea that became a potentially lethal ideology, one that remains influential despite having been increasingly discredited.

After the United States' nuclear bombings of Hiroshima and Nagasaki in 1945, war changed. Until then, the overriding purpose of military forces had ostensibly been to win wars. But according to the influential US strategist Bernard Brodie writing in 1978: 'From now on its chief purpose must be to avert them. It can have almost no other useful purpose.'

Thus, nuclear deterrence was born, a seemingly rational arrangement by which peace and stability were to arise by the threat of mutually assured destruction (MAD, appropriately enough).

[...]

Importantly, deterrence became not only a purported strategy, but the very grounds on which governments justified nuclear weapons themselves. Every government that now possesses nuclear weapons claims that they deter attacks by their threat of catastrophic retaliation.

Even a brief examination, however, reveals that deterrence is not remotely as compelling a principle as its reputation suggests. In his novel *The Ambassadors* (1903), Henry James described a certain beauty as 'a jewel brilliant and hard', at once twinkling and trembling, adding that 'what seemed all surface one moment seemed all depth the next'. The public has been bamboozled by the shiny surface appearance of deterrence, with its promise of strength, security and safety. But what has been touted as profound strategic depth crumbles with surprising ease when subjected to critical scrutiny.



Let's start by considering the core of deterrence theory: that it has worked.

Advocates of nuclear deterrence insist that we should thank it for the fact that a third world war has been avoided, even when tensions between the two superpowers – the US and the USSR – ran high.

Some supporters even maintain that deterrence set the stage for the fall of the Soviet Union and the defeat of Communism. In this telling, the West's nuclear deterrent prevented the USSR from invading western Europe, and delivered the world from the threat of Communist tyranny.

There are, however, compelling arguments suggesting that the US and the former Soviet Union avoided world war for several possible reasons, most notably because neither side wanted to go to war. Indeed, the US and Russia never fought a war prior to the nuclear age. Singling out nuclear weapons as the reason why the Cold War never became hot is somewhat like saying that a junkyard car, without an engine or wheels, never sped off the lot only because no one turned the key. Logically speaking, there is no way to demonstrate that nuclear weapons kept the peace during the Cold War, or that they do so now.

Perhaps peace prevailed between the two superpowers simply because they had no quarrel that justified fighting a terribly destructive war, even a conventional one.

There is no evidence, for example, that the Soviet leadership ever contemplated trying to conquer western Europe, much less that it was restrained by the West's nuclear arsenal. Post facto arguments – especially negative ones – might be the currency of pundits, but are impossible to prove, and offer no solid ground for evaluating a counterfactual claim, conjecturing why something has not happened.

In colloquial terms, if a dog does not bark in the night, can we say with certainty that no one walked by the house? Deterrence enthusiasts are like the woman who sprayed perfume on her lawn every morning. When a perplexed neighbour asked about this strange behaviour, she replied: 'I do it to keep the elephants away.' The neighbour protested: 'But there aren't any elephants within 10,000 miles of here,' whereupon the perfume-sprayer replied: 'You see, it works!'

The only way to make sure nuclear weapons are not used is to make sure there are no such weapons

We should not congratulate our leaders, or deterrence theory, much less nuclear weapons, for keeping the peace.

What we can say is that, as of this morning, those with the power to exterminate life have not done so. But this is not altogether comforting, and history is no more reassuring. The duration of 'nuclear peace', from the Second World War to the end of the Cold War, lasted less than five decades. More than 20 years separated the First and Second World Wars; before that, there had been more than 40 years of relative peace between the end of the



Franco-Prussian War (1871) and the First World War (1914), and 55 years between the Franco-Prussian War and Napoleon's defeat at Waterloo (1815).

Even in war-prone Europe, decades of peace have not been so rare. Each time, when peace ended and the next war began, the war involved weapons available at the time – which, for the next big one, would likely include nuclear weapons. The only way to make sure that nuclear weapons are not used is to make sure that there are no such weapons. There is certainly no reason to think that the presence of nuclear weapons will prevent their use. The first step to ensuring that humans do not unleash nuclear holocaust might be to show that the Emperor Deterrence has no clothes – which would then open the possibility of replacing the illusion with something more suitable.

It is possible that the post-1945 US-Soviet peace came 'through strength', but that need not imply nuclear deterrence. It is also undeniable that the presence of nuclear weapons on hair-trigger alert capable of reaching each other's homeland in minutes has made both sides edgy.

The Cuban Missile Crisis of 1962 – when, by all accounts, the world came closer to nuclear war than at any other time – is not testimony to the effectiveness of deterrence: the crisis occurred because of nuclear weapons. It is more likely that we have been spared nuclear war not because of deterrence but in spite of it.

Even when possessed by just one side, nuclear weapons have not deterred other forms of war. The Chinese, Cuban, Iranian and Nicaraguan revolutions all took place even though a nuclear-armed US backed the overthrown governments. Similarly, the US lost the Vietnam War, just as the Soviet Union lost in Afghanistan, despite both countries not only possessing nuclear weapons, but also more and better conventional arms than their adversaries. Nor did nuclear weapons aid Russia in its unsuccessful war against Chechen rebels in 1994-96, or in 1999-2000, when Russia's conventional weapons devastated the suffering Chechen Republic.

Nuclear weapons did not help the US achieve its goals in Iraq or Afghanistan, which have become expensive catastrophic failures for the country with the world's most advanced nuclear weapons. Moreover, despite its nuclear arsenal, the US remains fearful of domestic terrorist attacks, which are more likely to be made with nuclear weapons than be deterred by them.

In short, it is not legitimate to argue that nuclear weapons have deterred any sort of war, or that they will do so in the future. During the Cold War, each side engaged in conventional warfare: the Soviets, for example, in Hungary (1956), Czechoslovakia (1968), and Afghanistan (1979-89); the Russians in Chechnya (1994-96; 1999-2009), Georgia (2008), Ukraine (2014-present), as well as Syria (2015-present); and the US in Korea (1950-53), Vietnam (1955-75), Lebanon (1982), Grenada (1983), Panama (1989-90), the Persian Gulf (1990-91), the former Yugoslavia (1991-99), Afghanistan (2001-present), and Iraq (2003-present), to mention just a few cases.



Nor have their weapons deterred attacks upon nuclear armed states by non-nuclear opponents. In 1950, China stood 14 years from developing and deploying its own nuclear weapons, whereas the US had a well-developed atomic arsenal. Nonetheless, as the Korean War's tide was shifting dramatically against the North, that US nuclear arsenal did not inhibit China from sending more than 300,000 soldiers across the Yalu River, resulting in the stalemate on the Korean peninsula that divides it to this day, and has resulted in one of the world's most dangerous unresolved stand-offs.

In 1956, the nuclear-armed United Kingdom warned non-nuclear Egypt to refrain from nationalising the Suez Canal. To no avail: the UK, France and Israel ended up invading Sinai with conventional forces. In 1982, Argentina attacked the British-held Falkland Islands, even though the UK had nuclear weapons and Argentina did not.

Following the US-led invasion in 1991, conventionally armed Iraq was not deterred from lobbing Scud missiles at nuclear-armed Israel, which did not retaliate, although it could have used its nuclear weapons to vaporise Baghdad. It is hard to imagine how doing so would have benefitted anyone. Obviously, US nuclear weapons did not deter the terrorist attacks on the US of 11 September 2001, just as the nuclear arsenals of the UK and France have not prevented repeated terrorist attacks on those countries.

Deterrence, in short, does not deter.

The pattern is deep and geographically widespread. Nuclear-armed France couldn't prevail over the non-nuclear Algerian National Liberation Front. The US nuclear arsenal didn't inhibit North Korea from seizing a US intelligence-gathering vessel, the USS Pueblo, in 1968. Even today, this boat remains in North Korean hands.

US nukes didn't enable China to get Vietnam to end its invasion of Cambodia in 1979. Nor did US nuclear weapons stop Iranian Revolutionary Guards from capturing US diplomats and holding them hostage (1979-81), just as fear of US nuclear weapons didn't empower the US and its allies to force Iraq to retreat from Kuwait without a fight in 1990.

In *Nuclear Weapons and Coercive Diplomacy* (2017), the political scientists Todd Sechser and Matthew Fuhrmann examined 348 territorial disputes occurring between 1919 and 1995. They used statistical analysis to see whether nuclear-armed states were more successful than conventional countries in coercing their adversaries during territorial disputes. They weren't.

Not only that, but nuclear weapons didn't embolden those who own them to escalate demands; if anything, such countries were somewhat less successful in getting their way. In some cases, the analysis is almost comical. Thus, among the very few cases in which threats from a nuclear-armed country were coded as having compelled an opponent was the US insistence, in 1961, that the Dominican Republic hold democratic elections following the assassination of the dictator Rafael Trujillo, as well as the US demand, in 1994, following a Haitian military coup, that the Haitian colonels restore Jean-Bertrand Aristide to power. In 1974-75, nuclear China forced non-nuclear Portugal to surrender its claim to Macau. These examples were included because the authors honestly sought to



consider all cases in which a nuclear-armed country got its way vis-à-vis a non-nuclear one. But no serious observer would attribute the capitulation of Portugal or the Dominican Republic to the nuclear weapons of China or the US.

All of this also suggests that the acquisition of nuclear weapons by Iran or North Korea is unlikely to enable these countries to coerce others, whether their ‘targets’ are armed with nuclear or conventional weapons.

It is one thing to conclude that nuclear deterrence hasn’t necessarily deterred, and hasn’t provided coercive power – but its extraordinary risks are even more discrediting.

First, deterrence via nuclear weapons lacks credibility. A police officer armed with a backpack nuclear weapon would be unlikely to deter a robber: ‘Stop in the name of the law, or I’ll blow us all up!’ Similarly, during the Cold War, NATO generals lamented that towns in West Germany were less than two kilotons apart – which meant that defending Europe with nuclear weapons would destroy it, and so the claim that the Red Army would be deterred by nuclear means was literally incredible. The result was the elaboration of smaller, more accurate tactical weapons that would be more usable and, thus, whose employment in a crisis would be more credible. But deployed weapons that are more usable, and thus more credible as deterrents, are more liable to be used.

Second, deterrence requires that each side’s arsenal remains invulnerable to attack, or at least that such an attack would be prevented insofar as a potential victim retained a ‘second-strike’ retaliatory capability, sufficient to prevent such an attack in the first place. Over time, however, nuclear missiles have become increasingly accurate, raising concerns about the vulnerability of these weapons to a ‘counterforce’ strike. In brief, nuclear states are increasingly able to target their adversary’s nuclear weapons for destruction. In the perverse argot of deterrence theory, this is called counterforce vulnerability, with ‘vulnerability’ referring to the target’s nuclear weapons, not its population. The clearest outcome of increasingly accurate nuclear weapons and the ‘counterforce vulnerability’ component of deterrence theory is to increase the likelihood of a first strike, while also increasing the danger that a potential victim, fearing such an event, might be tempted to pre-empt with its own first strike. The resulting situation – in which each side perceives a possible advantage in striking first – is dangerously unstable.

Third, deterrence theory assumes optimal rationality on the part of decision-makers. It presumes that those with their fingers on the nuclear triggers are rational actors who will also remain calm and cognitively unimpaired under extremely stressful conditions. It also presumes that leaders will always retain control over their forces and that, moreover, they will always retain control over their emotions as well, making decisions based solely on a cool calculation of strategic costs and benefits. Deterrence theory maintains, in short, that each side will scare the pants off the other with the prospect of the most hideous, unimaginable consequences, and will then conduct itself with the utmost deliberate and precise rationality. Virtually everything known about human psychology suggests that this is absurd.

[...]



When he ordered the attack on Pearl Harbor, the Japanese defence minister observed that: ‘Sometimes it is necessary to close one’s eyes and jump off the platform of the Kiyomizu Temple [a renowned suicide spot].’ During the First World War, Kaiser Wilhelm II of Germany wrote in the margin of a government document that: ‘Even if we are destroyed, England at least will lose India.’

While in his bunker, during the final days of the Second World War, Adolf Hitler ordered what he hoped would be the total destruction of Germany, because he felt that Germans had ‘failed’ him.

Consider, as well, a US president who shows signs of mental illness, and whose statements and tweets are frighteningly consistent with dementia or genuine psychosis. National leaders – nuclear-armed or not – aren’t immune to mental illness. Yet, deterrence theory presumes otherwise.

Finally, there is just no way for civilian or military leaders to know when their country has accumulated enough nuclear firepower to satisfy the requirement of having an ‘effective deterrent’. For example, if one side is willing to be annihilated in a counterattack, it simply cannot be deterred, no matter the threatened retaliation. Alternatively, if one side is convinced of the other’s implacable hostility, or of its presumed indifference to loss of life, no amount of weaponry can suffice. Not only that, but so long as accumulating weapons makes money for defence contractors, and so long as designing, producing and deploying new ‘generations’ of nuclear stuff advances careers, the truth about deterrence theory will remain obscured. Even the sky is not the limit; militarists want to put weapons in outer space.

Insofar as nuclear weapons also serve symbolic, psychological needs, by demonstrating the technological accomplishments of a nation and thus conveying legitimacy to otherwise insecure leaders and countries, then, once again, there is no rational way to establish the minimum (or cap the maximum) size of one’s arsenal. At some point, additional detonations nonetheless come up against the law of diminishing returns, or as Winston Churchill pointed out, they simply ‘make the rubble bounce’.

In addition, ethical deterrence is an oxymoron. Theologians know that a nuclear war could never meet so-called ‘just war’ criteria. In 1966, the Second Vatican Council concluded: ‘Any act of war aimed indiscriminately at the destruction of entire cities or of extensive areas along with their populations is a crime against God and man itself. It merits unequivocal and unhesitating condemnation.’ And in a pastoral letter in 1983, the US Catholic bishops added: ‘This condemnation, in our judgment, applies even to the retaliatory use of weapons striking enemy cities after our own have already been struck.’ They continued that, if something is immoral to do, then it is also immoral to threaten. In a message to the 2014 Vienna Conference on the Humanitarian Impact of Nuclear Weapons, Pope Francis declared that: ‘Nuclear deterrence and the threat of mutually assured destruction cannot be the basis of an ethics of fraternity and peaceful coexistence among peoples and states.’



The United Methodist Council of Bishops go further than their Catholic counterparts, concluding in 1986 that: ‘Deterrence must no longer receive the churches’ blessing, even as a temporary warrant for the maintenance of nuclear weapons.’ In *The Just War* (1968), the Protestant ethicist Paul Ramsey asked his readers to imagine that traffic accidents in a particular city had suddenly been reduced to zero, after which it was found that everyone had been required to strap a newborn infant to the bumper of every car.

Perhaps the most frightening thing about nuclear deterrence is its many paths to failure. Contrary to what is widely assumed, the least likely is a ‘bolt out of the blue’ (BOOB) attack. Meanwhile, there are substantial risks associated with escalated conventional war, accidental or unauthorised use, irrational use (although it can be argued that any use of nuclear weapons would be irrational) or false alarms, which have happened with frightening regularity, and could lead to ‘retaliation’ against an attack that hadn’t happened. There have also been numerous ‘broken arrow’ accidents – accidental launching, firing, theft or loss of a nuclear weapon – as well as circumstances in which such events as a flock of geese, a ruptured gas pipeline or faulty computer codes have been interpreted as a hostile missile launch.

The above describes only some of the inadequacies and outright dangers posed by deterrence, the doctrinal fulcrum that manipulates nuclear hardware, software, deployments, accumulation and escalation. Undoing the ideology – verging on theology – of deterrence won’t be easy, but neither is living under the threat of worldwide annihilation. As the poet T S Eliot once wrote, unless you are in over your head, how do you know how tall you are? And when it comes to nuclear deterrence, we’re all in over our heads.



## 4. Con Arguments

### 4.1. Is “Zero” the Right Target for Disarmament?

Sinan Ulgen (chairman of the Istanbul-based think tank EDAM and a visiting scholar at Carnegie Europe. He has served in the Turkish foreign service in several capacities and was among the international security experts tasked by NATO Secretary-General Anders Fogh Rasmussen with reporting on the transatlantic relationship in advance of NATO's September 2014 summit. His research focuses on nuclear policy, the implications of Turkish foreign policy for Europe and the United States, and the security and economic aspects of transatlantic relations. He is co-author of *The European Transformation of Modern Turkey*). “Is “zero” the right target for disarmament?: A Turkish response.” *Bulletin of the Atomic Scientists*, 2015, 71(1), 95–97.  
<https://doi.org/10.1177/0096340214563688>.

**Note from the NHSDLC:** *This article argues that disarmament would make the world more dangerous. It argues for the idea of deterrence and that a world of disarmament would be inherently unstable. It concludes that total disarmament is impossible but argues that potential reforms would help reduce tensions and accidental use. After reading this article, readers should be able to explain the concept of deterrence and identify some reasons a ban isn't feasible.*

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Complete nuclear disarmament is a dangerous chimera. For three fundamental reasons, pursuing this theoretically laudable goal would likely produce a more dangerous world. First, as a means for maintaining security, it is difficult to identify a credible alternative to nuclear deterrence. Simply put, nuclear deterrence has worked. Even at the height of the Cold War's ideological polarization, the world never witnessed the sort of large-scale wars that, in the absence of a nuclear deterrent, were fought in the first half of the 20th century. Policy makers fully recognize the destructive capability of nuclear weapons and have come to understand the complexities inherent in a nuclear world. The concept of mutual assured destruction has provided, and continues to provide, a sound basis for limiting the scope and scale of confrontations between nuclear weapon states.

Devoid of a nuclear deterrent, the world would immediately become more dangerous. If military assets were limited to conventional weapons, nations would experience fewer inhibitions against armed conflict. This would hold true even for the major powers. With disincentives to conflict reduced, the renewal of conventional arms races would likely be unstoppable. This would have an important effect on, among other things, national budgets. Today, at least for nuclear weapon states, the existence of a nuclear deterrent allows for drastic reductions in defense spending during times of austerity. In a similar vein, countries that fall under another nation's extended nuclear deterrence can spend less on conventional military capabilities than they otherwise would; they benefit from a nuclear dividend. So overall, though it may sound paradoxical, nuclear weapons are a force for stability. It is hard to imagine how similar levels of stability could be achieved through any means other than nuclear weapons.



Second, how would a world without nuclear weapons be managed? If the world were essentially one big “peace cartel,” this cartel would be very fragile indeed. Economic theory indicates that members of a cartel become more likely to engage in cartel-busting behavior as the rewards for doing so increase and the penalties decrease. A similar logic would pertain where nuclear weapons are concerned. In a world without nuclear weapons, breaking one’s cartel commitments by developing a nuclear deterrent would seem to have enormous security benefits. As for penalties, nothing short of a sanctioned military attack intended to destroy the country in question would change the calculus of a rogue regime intent on acquiring nuclear weapons. In other words, ensuring that the world remained free of nuclear weapons would require the establishment of a universal regime devoted to that purpose, backed by the unambiguously credible use of force. The world has never witnessed the emergence of such an institution, and likely never will.

When the first rogue state went nuclear, the nonproliferation regime would likely fall apart completely.

Today, though the regime is not universal, it remains effective in constraining the nuclear ambitions of nations such as Iran. But in a world without the security that nuclear weapons provide, a single episode of noncompliance would likely cause many nations to seek their own deterrents. The result would be a collapse of the regime and a cascade of proliferation. It is a dangerous fallacy to believe that rogue states could be prevented from reintroducing nuclear weapons to a world from which these weapons had been eliminated.

The third factor agitating against total disarmament is the difficulty of effecting a transition to a nuclear-free world. States have developed nuclear deterrents for a variety of reasons, but chief among these—whether for the great powers, or for middle powers such as India, Pakistan, and Israel—has been threat perception. Until the threats that have led these powers to acquire nuclear weapons are permanently eliminated, it is difficult to envision them agreeing to disarm completely. For example, Pakistan’s security and policy establishment will never agree to total disarmament until Pakistan feels secure vis-à-vis India, its more powerful neighbor and its geopolitical rival. A similar argument could be made about Israel. The world will have to become much more adept at peacefully solving or at least managing its regional conflicts, whether through a universal security architecture or a multiplicity of regional architectures, for the middle powers in particular to perceive complete disarmament as safe.

Eliminating nuclear weapons, though a lofty goal, is a difficult proposition. But this is not to say that disarmament efforts should be abandoned. To the contrary, the nuclear weapon states (with the United States and Russia in the lead) should move forward with reducing their arsenals. Otherwise, the consensus that underlies the entire nonproliferation regime will be increasingly open to challenge. But there is a limit to what nuclear disarmament can accomplish without introducing new security risks.

Here’s something that can be achieved: gaining a universal commitment by nuclear weapon states not to use these weapons first. Today, China espouses a no-first-use policy. The United States forswears first use against non-nuclear weapon states that are parties



to the Nuclear Non-Proliferation Treaty and are in compliance with their nonproliferation obligations—though Washington places some restrictions on that commitment (Defense Department, 2010). Russia does not maintain a no first-use policy. This is a complicated picture, and prevailing on all nuclear weapon states to adopt no-first-use policies would be challenging. Ultimately, though, the goal is achievable. If every nuclear-armed state adopted an unconditional no-first-use policy, the risk of nuclear war would be greatly reduced.

The world came to the brink of nuclear war during the Cuban Missile Crisis, but that was more than 50 years ago. Nuclear weapons haven't been used in conflict since 1945. By now, the record suggests that nations have learned to manage these terrible weapons. They have adapted their security concepts to the realities of the nuclear era, developing first the doctrine of nuclear deterrence and then extended deterrence. The system that exists may not be desirable—a residual risk of nuclear warfare persists—but the system has proven itself to work. Nuclear deterrence has served the world well for many decades and would continue doing so even if arsenals were much smaller. Stability could be maintained if arsenals approached—but did not reach—zero. Indeed, that should be the goal of the global nuclear community.



## 4.2. The UN Nuclear Weapons Ban is Damaging

Karl-Heinz Kamp (president of the Federal Academy for Security Policy in Berlin), "The UN nuclear weapons ban is damaging [Commentary]", 7 August 2017, Defense News, <https://www.defensenews.com/opinion/2017/08/07/the-un-nuclear-weapons-ban-is-damaging-commentary/>.

**Note from the NHSDLC:** *This article is a brief criticism of the UN weapons ban treaty. It provides three criticisms: that the ban is not feasible, that the ban fails to take into account why states seek nuclear weapons, and that the ban would not make the world stable. After reading this article, readers should have a better idea of some of the main arguments against a ban.*

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The international ban on nuclear weapons most recently announced by the United Nations is seen by many as a landmark toward a safer world. The U.N. intends to generally proscribe this category of weapons by judging that nuclear weapons must neither be owned, nor produced, nor stationed — and threatening to use them is prohibited, as well.

It is obvious, though, that the verdict will not have any immediate consequences as the nuclear weapons states had stated from the beginning that they would ignore such a decision. Many non-nuclear NATO members, like Germany, boycotted the negotiations and the vote in July 2017, as well.

Still, the political fallout is severe as countries that did not join the ban were harshly criticized.

How dare they oppose banning the undoubtedly most dangerous and inhumane of all weapons? Did that not mean squandering the opportunity for truly radical international disarmament? Didn't President Barack Obama make the case for a nuclear weapons-free world and was awarded the Nobel Peace Prize for doing so?

Indeed, he did, but during his term in office, he, too, had to acknowledge that it is a delusion to believe that this popular demand will ever be fulfilled.

As understandable as the dream of a world without nuclear weapons may be, it founders on the iron laws of realpolitik. There are three reasons that reduce the idea of complete nuclear disarmament to a pipe dream.

First, an abolition of all nuclear weapons is unlikely because it is not feasible: One would have to ensure that no one is keeping or hiding even a single nuclear warhead. Disposing of an entire category of weapons in this way would require a monitoring and a verification regime that goes far beyond what can currently be reconciled with the sovereignty of nation states. States that always vehemently insist on noninterference in their internal affairs — for instance, when it comes to human rights — would have to agree to a form of international monitoring unimaginable to them. One can hardly visit North Korea, let alone check for nuclear weapons.



Second — and this is a reason that President Obama underestimated in his initial optimism — most nuclear weapons states would not dream of complete disarmament because they do not want to cede their nuclear weapons. Weapons are not the cause of tensions, but the reverse is true: States arm themselves with nuclear or conventional weapons because they believe that it serves their security interests. Pakistan has nuclear weapons because it feels threatened by India, and India became a nuclear weapons state out of fear of China. Moscow is expanding its nuclear arsenal to compensate for Russian inferiority in the conventional field. North Korea strives to obtain nuclear weapons because it considers itself to be at war with virtually the entire world, and as for France, its status as a nuclear weapons state still makes up part of its international self-confidence. One may argue about each of these justifications, but for the countries in question, they are absolutely compelling.

And third, even if full disarmament succeeds, it remains unclear whether a nuclear weapons-free world would really be more stable. The knowledge of nuclear fission and nuclear fusion is out there, and the know-how to build nuclear weapons cannot be erased. Uranium and plutonium are produced every day. And if a state should decide to use the nuclear option in a conflict to attain a decisive advantage, it would probably take only weeks to manufacture the first nuclear warhead. What would it mean for international stability if every serious crisis resulted in a race to be the first to obtain a nuclear weapon?

Even many nuclear weapons opponents recognize this problem and, therefore, argue that they strive for nuclear weapons to be condemned rather than abolished. This way, they say, an international norm could be developed that would undermine the reliance on nuclear weapons in the long run.

They argue that this has already been achieved for biological and chemical weapons. This, however, is where the problem lies: After all, this would also undermine the idea of nuclear deterrence to prevent wars, an idea that NATO has successfully relied upon for nearly seven decades.

Condemning nuclear weapons this way would be a very one-sided affair. After all, autocratic states that are concerned neither about public opinion in their country nor about their international reputation tend to be unimpressed by U.N. decisions and will continue to threaten to use their nuclear weapons. Syria's head of state Bashar Assad, for instance, has used chemical weapons again even though they are internationally prohibited — and Russia stands by its ally regardless.

A ban on nuclear weapons may serve to silence people's conscience in an insecure world, but it will not help to make the world more secure or stable. The nuclear genie is out of the bottle, and no good wishes force it back.



### 4.3. How Relevant is Nuclear Deterrence Today?

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**Note from the NHSDLC:** *This is a long article, but it is an excellent defense of deterrence. It provides many historical examples, rebuts alternative explanations for why war has not occurred, defends the possession of nuclear weapons from common criticisms, and argues that nothing is as effective at deterrence as nuclear weapons. After reading this article, readers should be more familiar with the details and warrants for the theory of deterrence, being able to explain how deterrence works using historical examples.*

In Russia, China, India, Pakistan, North Korea or Israel, the relevance of nuclear deterrence is hardly questioned. However, in Western countries, nuclear deterrence has been the target of criticism on strategic, legal and moral grounds since 1945. In the past decade, the renewed debate on nuclear disarmament has been accompanied by an increase in such criticism. Efforts led by four US statesmen, or the more radical Global Zero movement, as well as various diplomatic initiatives, have been accompanied by a flurry of new, serious academic studies questioning the legitimacy of nuclear weapons. More than ever, nuclear deterrence is attacked by many, both on the Left and on the Right. To the traditional arguments related to the credibility of nuclear deterrence are now added two other factors. First, nuclear weapons, it is argued, have limited value vis-à-vis proliferation and terrorism, and such risks bolster the case for nuclear disarmament. Second, alternatives such as high-precision conventional means and missile defense are said to now be much more effective than they were in the past. This paper refutes these arguments on the grounds that nuclear deterrence has proven to be an effective war prevention instrument, that it is cost-effective, and that today’s challenges confirm its relevance.

#### **Nuclear Weapons Have Been Effective War-Prevention Tools**

It is by definition impossible to prove that deterrence has worked, and correlation is not causality. But History gives us solid arguments in support of the positive role played by nuclear weapons, especially since our database now covers seven decades. Firstly, no major power conflict has taken place in 70 years. The role of nuclear deterrence to explain this historical anomaly has been highlighted by leading historians and authors such as John Lewis Gaddis, Kenneth Waltz, and Michael Quinlan. No comparable period of time has ever existed in the history of States. There were two dozen conflicts among major



powers in the equivalent amount of time following the Treaties of Westphalia (1648), and several after the Vienna Congress (1815).<sup>1</sup>

Secondly, there has never been a direct military conflict between two nuclear States. Beyond this mere observation, two studies have shown that the possession of nuclear weapons by two countries significantly reduced the likelihood of war between them (Pasley, 2008; Rauchhaus, 2009). Events in Asia since 1949 provide an interesting test case. China and India fought a war in 1962, but have refrained from resorting to arms against each other ever since. There were three India-Pakistan wars (1962, 1965 and 1971) before both countries became nuclear; but since the late 1980s (when the two countries acquired a minimum nuclear capability), none of the two has launched any significant air or land operations against the other.

Thirdly, no nuclear-armed country has ever been invaded. This proposition too can be tested by the evolution of regional crises. Israel was invaded in 1948, on the day of its independence. But in 1973, Arab States deliberately limited their operations to disputed territories (the Sinai and the Golan Heights). It is thus incorrect to take the example of the Yom Kippur war as a “proof” of the failure of nuclear deterrence. Likewise, India refrained from penetrating Pakistani territory at the occasion of the crises of 1990, 1999, 2002 and 2008, whereas it had done so in 1965 and 1971. Another example is sometimes mistakenly counted as a failure of nuclear deterrence: the Falklands War (1982). But this was a British Dependent Territory for which nothing indicated that it was covered by nuclear deterrence.

Fourthly, no country covered by a nuclear guarantee has ever been the target of a major State attack. Here again evidence is hard to give, but can be found a contrario. The United States refrained from invading Cuba in 1962, for instance, but did not hesitate in invading Grenada, Panama or Iraq. The Soviet Union invaded Hungary, Czechoslovakia and Afghanistan, but not a single US ally. China has refrained from invading Taiwan, which benefits from a US defense commitment. North Korea invaded its southern neighbor in 1950 after Washington had excluded it from its “defensive perimeter”, but has refrained from doing so since Seoul has been covered with a nuclear guarantee. Neither South Vietnam nor Kuwait were under the US nuclear umbrella. Russia could afford to invade Georgia and Ukraine because these countries were not NATO members. A partial exception is the shelling of Yeongpyeong island (2011); but the limited character of the attack and its location (in a maritime area not recognized by Pyongyang as being part of South Korean territory) make it hard to count it as a major failure of extended deterrence.

### **Alternative Explanations Are Not Satisfying**

Some have suggested alternative explanations which all rest, to some extent, on the idea that international society has undergone major transformations since 1945: the development of international institutions, the progress of democracy, the rise of global trade, etc., to which is often added the memories of the Second World War. Thus for authors such as John Mueller, nuclear weapons played only a marginal role in the preservation of peace (Mueller, 1989). The Soviet Union, it is also argued, was a status quo power in Europe which would not have taken the risk of a major war on the continent.



But such explanations are not satisfying. The rise of international trade from 1870 onwards did not prevent the First World War: Norman Angell's "Great Illusion" was a fallacy. The construction of a new global order based on the League of Nations did not prevent the Second. Kenneth Waltz reminds us that "in a conventional world even forceful and tragic lessons have proved to be exceedingly difficult for states to learn" (Waltz, 1990: 743). In the same vein, Elbridge Colby holds that such cultural argumentation markedly overestimates the durability of historically contingent value systems while seriously downplaying the enduring centrality of competition, fear, uncertainty and power (Colby, 2013). Major powers have continued to use military force in deadly conflicts, especially in the two decades after 1945: "war fatigue" is a limited and rather recent phenomenon. As for democratization, it is obviously a red herring: during the Cold war, the risk of major war was between pro-Western (not all of them democratic until at least the late 1970s) and totalitarian regimes.

No one knows how a non-nuclear cold war would have unfolded in Europe. However, without nuclear weapons, Washington might have hesitated to guarantee the security in Europe ("no nukes, no troops"), and might have returned to isolationism; and without US protection, the temptation for Moscow to grab territory in Western Europe would have been stronger.<sup>2</sup> And as Michael Quinlan puts it, in order to claim that nuclear deterrence was key in the preservation of peace, one does not need to postulate a Soviet desire for expansionist aggression: it is enough to argue that "had armed conflict not been so manifestly intolerable the ebb and flow of friction might have managed with less caution, and a slide sooner or later into major war, on the pattern of 1914 or 1939, might have been less unlikely" (Quinlan, 2009: 28).

Alternative explanations might not even suffice to explain the absence of conflict among European countries: the integration process which began in 1957 and culminated with the creation of the European Union in 1991 might have been much more difficult without the US umbrella (Colby, 2013). Neither are they satisfying regarding regional powers. It is hard to believe that the political, economic and cultural factors mentioned above are enough to explain the absence of a major conventional war involving Israel, India or Pakistan since these countries have become nuclear powers.

Deterrence has limited the scope and intensity of conflict among the major States. If Cold War crises in Europe, as well as wars in Asia and the Middle East, did not turn into global conflicts, it is probably due largely to nuclear weapons. The fear of nuclear war and the precautions taken by decision-makers during the Cold war to reduce the risks of direct conflict have been made clear by a collective study that contradicts Mueller's thesis (Gaddis, Gordon, May and Rosenberg, 1999).<sup>3</sup> One could go as far as saying that the international stability obtained thanks to nuclear deterrence (in its national and extended forms) has been a form of "global common good". All non-nuclear weapons States benefitted from it during the past 70 years – even though some of them suffered from the indirect conflicts made possible by the stability-instability paradox. Without it, for instance, it is dubious that Asia would have known the peace and stability that allowed for its massive transformation and development, leading to hundreds of millions of human beings being lifted out of poverty. Nuclear weapons may even have hastened the end of



the Cold war, by giving confidence to Soviet leaders that the country's survival would be assured even after the loss of the Eastern European glacis.

### **Nuclear Deterrence Also Contributed to the Reduction of Proliferation Risks**

No nuclear-endowed country has ever been the victim of a chemical or biological attack. Here, the history of modern Middle Eastern wars is instructive. Egypt had used chemical weapons against Yemen (1962-1967), but failed to do so against Israel in 1967 and 1973. Likewise, Iraq had done the same in its war against Iran (1980-1988), but only fired conventional missiles at Israel during the First Gulf War (1991)

Security guarantees (“nuclear umbrellas”) have limited the risk of nuclear proliferation. The role of such guarantees in the prevention of proliferation seems to be well-established.<sup>4</sup> In Europe, from the late 1940s through the 1960s, several countries were tempted to develop nuclear programs, and then gave up in no small part due to the US commitment to defend its NATO allies, including by nuclear means: this was the case for Norway and Germany, but also Sweden. In Asia, the US nuclear umbrella has permitted a dampening of the nuclear temptation in Japan, South Korea and Australia. Of course, the existence of a nuclear guarantee is not always “necessary” or “sufficient” to prevent a State from going nuclear (see the case of France). Still, extended nuclear deterrence has proven to be one of the best non-proliferation measures ever devised.

### **The Costs of Deterrence Remain Acceptable**

Of course, the benefits of nuclear deterrence have to be measured in relation to its actual or potential costs.

Some authors have claimed that crises and low-intensity conflicts have multiplied due to the existence of nuclear deterrence. What has been called the “stability-instability paradox” by Glenn Snyder is a reality. But the number of international conflicts had slowly been declining since 1945. And – leaving Korea and Vietnam aside if one was to claim that such wars were by-products of nuclear deterrence – was not that a relatively small price to pay for the prevention of major power conflict? It is not incorrect to state that the possession of nuclear weapons may encourage proliferation: for instance, Pakistan became nuclear mostly because India did; the Indian program was largely motivated by that of China; Beijing wanted nuclear weapons because Washington and Moscow did, etc. But apart from the fact that the number of actual nuclear countries has always remained rather low, the history of nuclear programs – in particular those of the past 20 years – shows that conventional superiority is a much greater incentive to pursue nuclear weapons. Thus paradoxically a world in which Western countries would not have nuclear weapons anymore might be – if disarmament had not been accompanied by much stricter international controls – a world in which proliferation might have much stronger chances to develop. Another potential cost of nuclear deterrence is the risk of miscalculation or accident. The risk of accidental nuclear war was the subject of numerous reflections and studies during the Cold war. More recently, a school of thought embodied by the works of Scott Sagan and Bruce Blair has put the emphasis on the risks inherent to complex systems and organizations such as those which manage nuclear weapons (Sagan, 1993).



It remains a fact, however, that no nuclear explosion has taken place in 70 years (other than nuclear tests), and that, for what is publicly known, there not been either an accidental or unauthorized launch, a weapon stolen, or a serious weapon accident. The procedures that guarantee safety and security were simple if not rudimentary during the Cold war, but they are much more robust and effective today in Western countries, and for what is publicly known, rather elaborate in most other nuclear-armed countries. No system is infallible, and there may very well be one day a major nuclear incident; but the probability that such an incident would lead to the actual detonation of a nuclear weapon seems to be vanishingly small. Likewise, the probability of nuclear terrorism seems to be vastly exaggerated.

As far as deterrence itself is concerned, it would be wrong to calculate its inherent risks as one does for complex technological systems: it primarily rests on human reasoning – which itself is far from being infallible, but as Robert Jervis says, it does not take a lot of rationality for deterrence to work (Jervis, 1979).

To claim that “we have been lucky so far”, as have many analysts and politicians, is either metaphorical or unverifiable. By contrast, as explained below, statistical studies have shown that the possession of nuclear weapons significantly reduced the probability of war among two countries. Kenneth Waltz does not exaggerate when he claims that “the probability of major war among states having nuclear weapons approaches zero” (Waltz, 1990: 740).

Nuclear pessimism has a long lineage of authors who have been proven wrong. In 1960, C. P. Snow wrote that if a dozen new countries were to build nuclear weapons, the risk of a nuclear explosion in the next decade would be a “mathematical certainty” (Snow, 1961: 255-262). In 1973, Fred Iklé, one of the most brilliant American minds of the Cold war, who could not see any other explanation for non-use than mere luck, predicted that nuclear deterrence would probably fail before the end of the 20th century (Iklé, 1973: 267-285). There is no reason to take seriously the allegedly scientific previsions made over the past few years, such as that of Martin Hellman (1% risk of failure per year) or that made by the Scientific American magazine (one chance out of 30 for the current decade) (Hellman, 2008; Matson and Pavlus, 2010).

The risk of escalation has to exist if deterrence is to be operative. But if one sets aside the Cuban Missile Crisis (1962) for the Soviet Union and perhaps, to some extent, the Yom Kippur War (1973) for Israel, there does not seem to be any example when nuclear weapons have been really “close” to being employed: neither in Korea (1950), nor at Dien-Bien-Phu (1954), nor in the Formosa Straits (1954-1955 and 1957-1958); neither during the second Berlin crisis (1961), nor during the battle of Khe Sanh (1968), the Ussuri river crisis (1969), the US/North Korea tensions (1969), the “madman” nuclear alert (1969) or the South Asia war (1971). Likewise for the Able Archer incident (1983), the Gulf War (1991), or the South Asian crises of 1990, 1999 and 2002. To envision the possible use of nuclear weapons, discuss it with one’s advisers, seriously consider it if the crisis was to worsen, possibly make it known publicly (and/or put forces on a higher state of alert), have it planned by military staffs is one thing. To have “the finger on the button” and be



on the verge of ordering a nuclear strike is quite another. We will never know if nuclear weapons would have been used if one of these crises had further escalated. But they showed that with very few exceptions, the highest political authorities – of various types of regimes and personality – have been extraordinarily prudent regarding their use.<sup>5</sup>

Most exercises and wargames showed that possessors of nuclear weapons were extraordinarily reluctant to engage in massive nuclear strikes. George Quester, one of the most subtle American analysts of deterrence theory, considers, for instance – after a rigorous analysis of the early days of the Cold war – that ethical motivations were paramount to explain the absence of any US nuclear use when it was in a situation of monopoly (Quester, 2000). Hence the idea of a “nuclear taboo” proposed by Nina Tannenwald for the United States or that of a “tradition of non-use” suggested by T. V. Paul for nuclear-armed countries in general (Tannenwald, 2007 ; Paul, 2009). It is not an exaggeration to claim that the nuclear terror message conveyed by popular culture (novels, movies, cartoons, documentaries, photographs...) played a role in the consolidation of this taboo.

As for the risk of “inadvertent” nuclear war, this is hardly a credible scenario. Multiple false alarms took place during the Cold war. But contrary to what some journalists and novelists may believe, there is no reason to think that a US or Russian president has ever been close to launching nuclear weapons due to a mere alert. One example frequently cited is that of the 1995 Norwegian sounding rocket launch; the Russian early warning system, at that time in very poor condition, had signaled that it might be a missile. President Yeltsin had been summoned, and the nuclear “briefcase” had reportedly been presented to him. It is possible and even likely that Russia has a “launch-on-warning” posture. But can one seriously believe that Moscow would have launched a nuclear attack (against whom?) just because an unknown object had been launched from Norway, and even before it was ascertained whether the object was going to reach Russian territory (which was not the case)? As for the Cold war false alarms – there were several in the United States in the 1980s, including because of software glitches – they never led a US President to envision a nuclear strike. In the United States, an alert regarding a possible nuclear attack has to be confirmed by two different types of sensors; a threat assessment conference then would decide if political authorities should be contacted.

Likewise, the risk of an “accidental” (non-deliberate) or “unauthorized” strike is considerably exaggerated by disarmament activists. In most if not all countries, to be launched, nuclear forces have to receive a series of complex instructions with multiple verifications. As recalled by a former commander of USSTRATCOM, General Chilton, US missiles are not on a “hair-trigger alert” posture: they are “in the holster” (Grossman, 2009). The nuclear forces of the five NPT-recognized Nuclear-Weapon States have been detargeted, and Asian nuclear warheads are reportedly separated from their launchers. Such procedures have been devised partly so that catastrophist fiction scenarios – which were, it should be said, much more credible until at least the 1960s – could not materialize. Serious incidents regarding the custody of nuclear forces have been reported, but none that ever posed the gravest risk. An American author has interestingly suggested that since 1945, the tens of thousands of persons that have had the charge, at one level or another, of nuclear weapons “must have taken much greater care than is taken in any



other situation involving human agents and complex mechanical systems” (Caplow, 2010: 38).

### **Alternatives to Nuclear Deterrence Are Not Credible**

Furthermore, costs and risks associated with nuclear deterrence have to be measured in comparison with possible alternatives. But alleged possible substitutes lack credibility.

As is well-known, conventional deterrence has a long record of failure – in fact, as long as civilization itself. As former UK Prime Minister Margaret Thatcher once reportedly said, there is a monument to its failures in every French village.<sup>6</sup> The threat of conventional bombing is not enough to make an adversary desist when the stakes are extreme or vital: even when they are more limited, the crises of the past 20 years – Iraq in 1991, Serbia in 1999, Afghanistan in 2001, Iraq again in 2003 – have shown that it does not always lead adversaries to change their strategic calculus. The reasons are well-known. Besides the intrinsically frightening character of nuclear weapons, due to radioactivity, these weapons have important specific characteristics.

There is still today a large difference – at least an order of magnitude – between conventional and nuclear yields. According to open literature, the smallest known nuclear weapons yields are measured in hundreds of tons of equivalent-TNT (300 tons for the lowest yield of the US B-61 bomb), whereas the most powerful conventional bombs, which were tested during the past decade, are measured at the maximum in tens of tons of equivalent-TNT (a little over 10 tons for the US Massive Ordnance Air Blast, perhaps twice for the equivalent Russian device). For this reason, conventional weapons cost much more for an equivalent effect. Going back to conventional deterrence, even assuming that such deterrence was credible for the defense of vital interests, would be a return to the logic of big battalions. It is far from certain that Western countries – with the possible exception of the United States – would have the means or the political will for the arms races that would probably follow. This difference in yields is particularly relevant when one attempts to maintain a second-strike capability: other things being equal, an SSBN fleet endowed with conventional missiles would be extraordinarily costly. Even more than its nuclear counterpart, conventional strategy relies on the threat of targeted strikes on key assets and centers of gravity. Such a logic places extraordinary demands on intelligence and C3. The amount of energy expended by nuclear weapons makes them “forgiving” (less demanding in these respects). Conventional means today still cannot credibly threaten two particular categories of targets. The most important one consists of hardened targets. Just to give an example: in 1999, NATO failed to disable Pristina’s military airport (Ripley, 1999). As the former director of a US nuclear lab reminds us, “some targets are simply too hard to be destroyed by anything less than a nuclear explosion” (Younger, 2009: 122).

Another category is deeply buried targets. In order to neutralize a buried installation (by coupling effect), a conventional weapon would need to penetrate much more deeply than a nuclear one, and in many cases much beyond what is feasible today.<sup>7</sup> Of course, using nuclear weapons to destroy such installations would pose a well-known problem: fallout could be massive in case of shallow penetration, which could make a political leader



hesitate. But let us recall once again that this is about deterrence, not use (the challenge being to persuade the opposing leader that we would not be self-deterred by such a prospect).

The other essential characteristics of nuclear weapons are political. A massive and sustained bombing campaign could, in many scenarios, have a physical effect equivalent to several nuclear weapons. However, as stated above, it is far from obvious that Western public opinion would bear the conduct of such a prolonged campaign, the unfolding of which would be visible 24/7 on television and the Internet. As was seen on several occasions recently – Kosovo, Afghanistan, Iraq, Southern Lebanon, Gaza, Libya... – the media and publics get impatient very quickly, demand fast results and are shocked by collateral damage and targeting errors. (In a major war, domestic sensitivity to collateral damage inflicted to the adversary's population would certainly be limited. But this would play out at the global level, potentially affecting the political context of the war.) And that is without taking into account possible asymmetrical reprisals (terrorism, cyberattacks...) which could be conducted by an adversary. A conflict can be winnable in theory, but not in practice; and even in situations of obvious conventional superiority, the outcome is never guaranteed. As stated by Kenneth Waltz, "so complex is the fighting of wars with conventional weapons that their outcomes have been extremely difficult to predict" (Waltz, 1990: 734). Once again, other things being equal, nuclear weapons give the political authorities the quasi-certainty of massive but targeted destruction.

Could the threat of a massive regime change operation be enough to make an adverse leader think twice about major aggression or the use of WMDs? This is unlikely. The difficulties of the US-led coalition in Iraq have probably devalued the threat of regime change for at least a generation.

These two specific features of nuclear weapons have clear deterrence benefits.

It is unlikely that technological evolutions on the horizon will make this argumentation obsolete. Peacetime Western superiority is global, not necessarily local. Conventional forces remain time-consuming to mobilize and deploy, and their use often leads to protracted and bloody wars. From a technical standpoint, Elbridge Colby compares the substitution of nuclear weapons by conventional ones to an asymptote curve: to threaten the kinds of targets mentioned above, the difficulties become exponential (Colby, 2010). Future long-range precision strike weapons will not alter this. In 2004, a Defense Science Board task force concluded that the United States would not have, by 2030, an intelligence, surveillance and reconnaissance architecture commensurate with the ambitions of the Prompt Global Strike program (Office of the Undersecretary of Defense for Acquisition, Technology, and Logistics, 2004). It is for these reasons that, from the point of view of a former commander of USSTRATCOM, such means cannot replace nuclear weapons even by "ten-for-one" (Chilton, 2010: 25).

Many arguments opposed to the idea of conventional weapons as substitutes for nuclear ones can also be applied to missile defense.



Missile defense can play many useful roles. It reinforces the freedom of action of political leaders, acts as a “deterrent by denial”, covers cases where nuclear deterrence does not apply, and can be a damage limitation instrument. But deterrence by denial can never be as powerful as deterrence by retaliation: from the aggressor’s point of view, the potential costs of the former are nothing compared with those of the latter. And the damage limitation role of missile defense cannot be applied today to massive threats – nor will it be in the foreseeable future. The cost-effectiveness of missile defense remains questionable. The United States spent more than 150 billion dollars over the past 30 years on missile defense, and continues to spend about 10 billion a year. In concrete terms, this investment has given it 30 Ground-Based Interceptors (an ability to intercept no more than 15 relatively primitive ICBMs), as well as about 100 SM-3 and 30 THAAD interceptors. It is clear that even if it were desirable, the complete protection of such a large territory as the United States by non-nuclear means would remain out of reach.

Finally, even assuming the total coverage of one’s territory by defensive modes (anti-aircraft, anti-ballistic- and cruise missiles) in front of a major threat, something that today can only be achieved at a reasonable cost for very small territories such as Israel’s, such defenses would not take into account non-traditional modes of employment of nuclear weapons such as terrorism.

### **The Continued Usefulness of Nuclear Deterrence**

Even admitting that nuclear deterrence was effective when we faced a major threat, could it still be as useful in today’s strategic context?

The fact that most threats are now more limited does not mean that nuclear deterrence is irrelevant. Vital interests may be threatened in a more limited fashion than was the case during the Cold war. In the sense of nuclear deterrence, “vital” is broader than “survival”.

Without nuclear deterrence, Western powers would be much more reluctant to intervene against a nuclear-armed adversary to defend their political or strategic interests, or even to protect populations. Imagine that Libya had completed its nuclear program: would NATO have intervened to prevent a carnage in Benghazi without the insurance that they would be protected against Libyan nuclear coercion or blackmail? Of course, it is far from being certain that the Alliance would have intervened if Libya had had nuclear weapons (some member States would certainly have opposed a NATO operation); but the point here is that the possession of nuclear weapons as a “counter-deterrent” reinforces the chances of intervention to defend strategic or humanitarian goals.

As for deterrence vis-à-vis major powers, a word of caution is in order. Even those who claim that the possibility of a new major threat in the coming two decades is close to nil have to admit that today’s partners can become tomorrow’s enemies in much less time than that. Libya is, to some extent, a case in point. So is Russia.

The potential adversaries of Western countries may have value systems different from ours, and exercising credible deterrence vis-à-vis them would not be easy. But there is no reason to believe that they are “irrational”. Iraq, Iran, Pakistan, North Korea and China



have shown that they perfectly understood the logic of deterrence through the threat of retaliation. Most of the regimes that are possible objects of Western nuclear deterrence (Iran, China, North Korea...) have shown throughout their history that they could, just as the Soviet Union had during the Second World War, bear a very high number of civilian casualties during a conflict. In dealing with such regimes, threatening centers of power is not only a moral choice: it is also a rational one.

Regarding the chemical or biological threat that may be posed by regional powers, the experience of the First Gulf War seems to validate the idea that nuclear deterrence can play a useful role. Several countries, including France, the United States and India, explicitly consider that a biological attack, in particular, would entail the risk of nuclear retaliation.

Nuclear weapons also play a residual role to prevent a State from using terrorist means to attack vital interests (such as, precisely, an act of nuclear terrorism). Such a role has been publicly stated by the United States, France and the United Kingdom.

Finally, the nuclear horizon continues to affect the relationships among great powers. It prevents crises among them from becoming direct military conflicts. Russia would probably not have invaded Georgia and Ukraine had these country been covered by a nuclear guarantee. Washington, for its part, might have been tempted to undertake a stronger military reaction had Russia not been a nuclear power.

It is sometimes said that public opinion would not accept the use of nuclear weapons and that Western leaders would be under immense pressure during a major crisis to avoid using them – to the point that they would be self-deterred. The argument is not without merits, but it meets three objections. First, one should not underestimate the reactions of Western publics to a mass attack – witness Pearl Harbor or 9/11. Second, a nuclear response could be executed in a very short amount of time, and thus once decided would not be subject to public pressure, in contrast with a conventional bombing campaign. Third, what Western analysts believe ultimately does not matter: what matters, of course, is what the adversary believes (though he may believe that “we would not dare”).

Finally, extended deterrence remains fully relevant to limit proliferation risks: the demand for security guarantees is as strong in North-East Asia, and stronger in the Middle East, than it was during the Cold war.

### **The Enduring Legitimacy of Nuclear Deterrence**

One can also claim that the very legitimacy of nuclear deterrence has been bolstered in the past 20 years – or, at the very least, that the evolutions of the political and strategic context have not delegitimized it.

From the point of view of customary law, the legality of the possession of nuclear weapons can be said to have been confirmed by the unanimous extension for an indefinite duration of the NPT (1995), by the vote of resolution 984 (1995) of the UN Security Council on



security assurances, and by the conclusion of several new treaties establishing nuclear-weapon-free-zones, with protocols to be ratified by the Nuclear Weapons States.

The fact that all the new nuclear-armed nations have adopted – at least rhetorically – doctrines of deterrence, and the continuation of nuclear restraint (the absence of any operational use), have also reinforced the taboo or tradition of non-use which exists regarding nuclear weapons.

An acute regional nuclear crisis would certainly lead to an immediate intervention of major powers – as was seen in 1990, 1999 and 2002 in South Asia – or even, had nuclear weapons been used, to military action to “quench the nuclear fire”. Again, the risk of fast escalation to the extremes is never zero: but it is weaker than it was in the past.

Technological progress with regard to accuracy and intelligence collection (as well as MIRVing) has led to the adoption in Western countries, of more discriminate targeting strategies, and to the abandonment of their most powerful, “city-busting” weapons. Such countries, which also benefit from conventional superiority in relation to most of their adversaries, were also able to give up for good the temptation of seeing nuclear weapons as a means to compensate for conventional imbalances, and thus associated nuclear deterrence with “extreme circumstances of self-defense” (an expression used by the 1996 ICJ advisory opinion). The development of missile defenses reinforces that trend.

At the same time, drilling machines have become cheaper and more efficient: the burial of sensitive installations, which can be much more easily threatened by nuclear weapons than by conventional ones (with the caveats mentioned above), seems to be a long-term trend.

The argument according to which, in the early 21st century, a political leader would not dare to use a nuclear weapon due to public pressure – especially in a society where information is widely and immediately disseminated – can actually be turned on its head. As stated above, a nuclear strike would be almost instantaneous and thus less subject to opinion pressure than a conventional bombing campaign would be; and, again, we should not underestimate the possibility that our publics would be the first to cry for blood. As for the fear of being dragged in front of an international court, one can doubt that it would weigh heavily on a leader whose country has just been the target of a massive or horrendous aggression (besides the fact that he or she would probably remain legally immune in his or her own country).

In short, many of the arguments traditionally used to challenge the legitimacy of nuclear deterrence tend to increasingly lose their credibility: deterrence is less and less about threatening cities; the characteristics of modern weapons would make their use less indiscriminate than in the past; the risk of escalation to the extremes is lower than it used to be; one can better defend against a nuclear attack; and indirect conflicts are less numerous than in the past.

Other arguments can bolster the domestic legitimacy of nuclear deterrence policies. First, in the past 20 years the decrease in nuclear arsenals has been accompanied by a



continuation of economic growth: thus the percentage of national wealth devoted to nuclear deterrence is lower – at least for Western countries and Russia – than it was 30 or 40 years ago. Second, for countries which are ageing (which will soon be the case for a majority of nuclear weapons possessors), or in which the demand for social protection will increasingly weigh on national budgets, it will be possible to present nuclear deterrence as a relatively low-cost form of national security insurance. The argument according to which decreasing defense budgets should imply a transfer of nuclear expenses to conventional forces (often heard in Europe) could be reversed: without going back to the Cold war logic of nuclear weapons as a means to compensate for conventional deficiencies, it could be claimed that societies that, in the long run, may lose some of their abilities to intervene around the world to defend their interests will need at least to have the capacity to protect their core vital interests at all times.

### Final Remarks

Nuclear deterrence is comparable what Winston Churchill said about democracy: the worst possible war-prevention instrument with the exception of all the others. It could be considered a temporary, but effective, as well as legally and morally acceptable way to prevent war among major powers, or aggression against their allies, until democratic peace comes.

That said, the enduring acceptability of nuclear deterrence should not be considered a given. It is a fact that political, intellectual and religious elites tend to be less immediately convinced of its relevance today. Uncontrolled nuclear proliferation would lead many officials and analysts – it is already the case in the United States – to consider that its risks outweigh its benefits. A fortiori should a major nuclear event occur such as a severe nuclear crisis, an act of terrorism or a deadly accident: such an event could have such a psychological effect that it might lead, volens nolens, to a generalized move towards abolition. It is also to be noted that in the longer run, the continuation of nuclear arsenal reductions might lead to the temptation of going back to the targeting of cities – thus raising anew some old ethical dilemmas.

Likewise for its efficiency. For instance, today potential adversaries of Western countries – which often consider the latter as being “weak” – might be less convinced of their determination to defend themselves than the Soviet Union probably was. Thus in the coming decades, nuclear weapons will only be able to play a major role in the preservation of global peace and security if political leaders pay attention to factors that could affect the acceptability and effectiveness of deterrence. This is especially the case since the images of Hiroshima and those of atmospheric testing are beginning to fade from collective memory. It is not impossible that nuclear weapons may lose, over time, their terrifying character; the ultimate paradox of the nuclear taboo would be that it ends up generating its own destruction.

