



NUCLEAR WEAPONS REMAIN THE MAIN DETERRENCE AGAINST POSSIBLE AGGRESSION

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The renewal of superpower status competition has led, among other things, to enhancing the emphasis on nuclear weapons and nuclear deterrence, all of which relate to China and/or Russia. The challenge of deterrence – discouraging states from taking unwanted actions, especially military aggression – has again become a main issue in defence policy. The Strategic Arms Reduction Treaty (New START), which was signed by the United States and Russia, could be seen as “just one step in a longer journey”. Russia’s reassertion of its status as a major world power has mostly included recurring references by Russian officials to Russia’s nuclear weapons capabilities and its status as a major nuclear power.

China’s nuclear-weapon capabilities are much more modest than Russia’s, but China is modernising its nuclear forces as part of its overall military modernisation effort.

Across the globe and in many different domains, the United States is now dealing with a more immediate requirement for effective deterrence than in any other time since the end of the Cold War. Because many potential adversaries are significantly more capable than they were a decade or more ago and the risks of actually fighting a major war are more significant than ever, deterring such a conflict becomes even more imperative.

Keywords: nuclear weapons; nuclear deterrence; ballistic missiles; constraint; international security;



INTRODUCTION

The world is changing rapidly and fundamentally. We are seeing long-term shifts in the balance of global economic and military power, increasing competition between states, and the emergence of more powerful state and non-state actors. It is increasingly likely to deal with unexpected developments, given that the national security of any state depends on economic security and vice versa.

From the rise of The Islamic State of Iraq and the Levant, the terrorism, pandemics and other biological risks, the escalating climate crisis, cyber and digital threats, international economic disruptions, protracted humanitarian crises, greater instability in the Middle East, the migration, the Ukraine crisis, the threat of cyberattacks, the radical Islam, the potential use of weapons of mass destruction – particularly by non-state actors, which makes militant Islam a threat – the frozen conflicts, the erosion of the rule-based international order, making it harder to build consensus and tackle global threats to the rise of nondemocratic Great Powers – the West’s old Cold War rivals, China and Russia – and the risk of pandemics, all of the above make the world more dangerous and uncertain today than it was ten years ago.

The competition between states and the threats they pose to each other can have a significant impact on international security and Great Powers interests. At the extreme, this risks drawing the Great Powers into military conflict. Russia has become more aggressive, authoritarian and nationalist, increasingly defining itself in opposition to the West. The illegal annexation of Crimea in 2014 and the continuing support to separatists in eastern Ukraine through the use of forbidden, hybrid tactics and media manipulation have shown Russia’s willingness to undermine wider international standards of cooperation in order to secure its perceived interests.

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Russia is mid-way through a major investment programme to modernise and equip its armed forces, including the nuclear ones. It has also increased its nuclear exercises and rhetoric, by threatening to base nuclear forces in Kaliningrad and Crimea. Its military activity around the territory of NATO allies and close to their airspace and territorial waters is designed to test NATO countries response. Russia's behaviour will continue to be hard to predict and, though highly unlikely, we cannot rule out the possibility that it may feel tempted to act aggressively against NATO Allies.

More generally, wider states competition can be a risk to stability. In the Middle East and North Africa, regional powers have been pursuing competing security interests, driven by growing military and economic capabilities. Both South Asia and South East Asia continue to grow in economic importance and political significance, and this has come with increased tensions, exacerbated by unresolved historical disputes. North Korea is the only state to test a nuclear weapon in the 21st century and its continued pursuit of nuclear weapons and ballistic missiles is a serious concern.

NUCLEAR DETERRENCE – A TACTICS TO PROVIDE GLOBAL BALANCE OF POWER –

Defence and protection start with deterrence, which has long been at the heart of the Great Power's national security policy. They will use the full spectrum of their capabilities – armed force including, ultimately, nuclear deterrence, diplomacy, law enforcement, economic policy, offensive cyber and covert means – to deter adversaries and to deny them opportunities to attack. The states will use these means to ensure that there are consequences for those who threaten their security (Clausewitz, 1989, pp. 80-83). Consequently, they will build their resilience to reduce their vulnerabilities.

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Any great power has been under constant threat from ballistic missiles since World War II and non-Euro-Atlantic states and non-state actors now have access to ballistic missile technology. Nuclear deterrence for a state's national security will remain essential as long as the global security situation demands it. It has existed for over 70 years especially in order to deter the most extreme threats to national security, the Western value system and to ensure the security of NATO allies.

Other states continue to have nuclear arsenals and there is a continuing risk of further proliferation of nuclear weapons. Is not excluded the risk that states will use their nuclear capability to threaten, try to impede the crisis decision-making process or support nuclear terrorism.

In general, weapons of mass destruction owning states are committed to maintaining the minimum amount of destructive power needed to deter any aggressor. This requires them to make sure that their deterrence is not vulnerable to pre-emptive action by potential adversaries. As a rule, only the highest office in the state can authorise the launch of nuclear weapons, which ensures that political control is maintained at all times.

Deterring a deliberate nuclear attack against the United States and its allies is one of the keys to prevention and is the fundamental purpose of US nuclear forces. These forces exist to ensure that the costs of aggression by potential adversaries will far outweigh any political or military gain. Any rational adversary facing the prospect of such costs should be deterred, and by the same token, US allies should be reassured. These dual outcomes have been the main objectives of US military power for seven decades (Blair, 2018, p. 15).

China feels its nuclear deterrent is at risk because of US targeting capabilities, missile accuracy, and potential ballistic missile defences. Beijing is, therefore, modernising and expanding its missile force to restore its deterrent value.

On the other hand, the United States' ability to attack and destroy Russian nuclear forces is not without cost. Russia and China are all too aware of their vulnerability and try to compensate through operational

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measures. In the case of Russia, these may include launching their weapons on warning of an incoming American attack. This tactic will get many of the Russian missiles into the air before they can be destroyed on the ground but would have catastrophic consequences if Russian early warning was actually a false alarm.

The Russians may take other risky measures during a crisis if they perceive their forces are vulnerable, such as pre-delegating launch authority to lower echelons for fear of a decapitating strike on national leaders. Moreover, dispersing weapons to improve survivability increases the possibility of accident and theft by or diversion to terrorists.

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While nuclear deterrence remains a pillar of US national security and a security umbrella for US allies, its central organising principle of threatening massive destruction in response to nuclear aggression was more suited to the Cold War confrontation with the Soviet Union and China than to the modern rivalry among the United States, Russia, and China. But despite the anachronistic nature of today's nuclear postures, these competitors have been unable to replace the paradigm of nuclear deterrence with a new security architecture. They remain under its yoke, seemingly condemned to maintain and rebuild vast arsenals by permanently relating to technological evolutions.

Russian defence and security documents have not only emphasised that Russia views NATO enlargement as a key threat to its security, they have also highlighted the need for Russia to be able to deter NATO's use of precision conventional weapons, such as the U.S. Navy's Tomahawk sea-launched cruise missiles (*The Military Doctrine of the Russian Federation*, 2010, pp. 3-6; 23-31). Russia already has a wide

range of conventional and nuclear capabilities that can threaten US allies in NATO. For example, its shorter-range systems, like the Iskander missiles, which can carry either conventional or nuclear warheads, can reach into Poland and the Baltic states, particularly if they are deployed in Belarus or Kaliningrad (Mizokami, 2017).



CONCEPTUAL CLARIFICATIONS

A few very brief introductory remarks could usefully be made in order to set out the concept of *deterrence* and to situate this analysis in the historical context of the time. Although the precise wording of definitions may vary with particular authors, the core components remain constant. *Deterrence* means that any potential aggressors know that any benefits they may seek to gain by attacking a state will be outweighed by the consequences for them. *Military deterrence* can be defined as the process of convincing a potential enemy, by the threat of force, that he is better off if does not use military force against you (Carnesale, 1983, pp. 32; 146).

One of the leading figures of the deterrence literature, Glenn Snyder, employed the following statement: “*Deterrence means discouraging the enemy from taking military action by posing for him a prospect of cost and risk outweighing his prospective gain*” (1961, pp. 3; 9-41). Further, the perception of credibility is inherent to effective deterrence: “*deterrence works on the enemy’s intentions; the deterrent value of military forces is their effect in reducing the likelihood of enemy military moves*” (Ibid.) In its basic dimension, the deterrent posture seeks to convince a potential adversary that any hostile action undertaken will result in unacceptable costs and risks in relation to any gain that could result from that hostile action.

Credibility in turn consists of two independent dimensions. The deterring State or actor must not only have the necessary capabilities to withstand the threat of retaliatory action, but must also convey to the opponent that it has the necessary will and resolution to answer to the use of force with equivalent or greater force in defence of the interests at stake (Craig, George, 1983, p. 172).

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Deterrence is an effort to affect the thinking of an adversary in order to discourage a resort to nuclear weapons. History shows that deterrence has been useful only under very specific conditions. In the Cold War, mutual assured destruction was very good at preventing one outcome: total nuclear war that could kill hundreds of millions of people. But nuclear deterrence did not prevent the Soviets' other bad behaviour, including invading Hungary, Czechoslovakia, and Afghanistan. The key Cold War takeaway is not that policymakers should use deterrence more. It seems that some things are not deterrable, no matter how much we wish they were.

Meanwhile, changes in the international security environment have altered the context for deterrence, possibly challenging long-held assumptions and creating new requirements. This perspective has drawn on a range of recent and classic studies to review the concepts and fundamental principles about deterrence.

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Any strategy to prevent aggression must begin with an assessment of the interests, motives, and imperatives of the potential aggressor, including its theory of deterrence (taking into account what it values and why). In the process, as it will be argued, history strongly suggests that aggressor motivations are varied and complex, and as often grounded in a desperate sense of a need to act as they are the product of aggressive opportunism (Mueller, Castillo, Morgan, Pegahi&Rosen, 2006, pp. 19-38).

Deterrence turns out to be about much more than merely threatening a potential adversary: it demands the nuanced shaping of perceptions so that an adversary sees the alternatives to aggression as more attractive than war.

Deterrence is the practice of discouraging or restraining someone – in world politics, usually a nation-state – from taking unwanted actions, such as an armed attack. It involves an effort to stop or prevent an action, as opposed to the closely related but distinct concept of “*compellence*”, which is an effort to force an actor to do something.

Denial versus punishment. The classic literature distinguishes between two fundamental approaches to deterrence. *Deterrence by denial strategies* seeks to deter an action by making it infeasible



or unlikely to succeed, thus denying a potential aggressor confidence in attaining its objectives – deploying sufficient local military forces to defeat an invasion, for example (Beaufre, 1965, pp. 23, 51). At their extreme, these strategies can confront a potential aggressor with the risk of catastrophic loss. Deterrence by denial represents, in effect, simply the application of an intention and effort to defend some commitment. A capability to deny amounts to a capability to defend; *“deterrence and defense are analytically distinct but thoroughly interrelated in practice”* (Morgan et al., *Ib.*, p. 32).

The most common way of measuring the health of a deterrence threat grounded in denial capabilities is the immediate balance of forces in the contested territory – but, the local balance of forces is not the only, or even always the most important, factor. Deterrence by denial should not be equated with military balances alone.

Deterrence by punishment, on the other hand, threatens severe penalties, such as nuclear escalation or severe economic sanctions, if an attack occurs. These penalties are connected to the local fight and the wider world. The focus of deterrence by punishment is not the direct defence of the contested commitment but rather threats of wider punishment that would raise the cost of an attack. Most classic studies suggest that denial strategies are inherently more reliable than punishment strategies (Huth, Russett, 1988, p. 42). The steps taken to deny, such as placing significant military capabilities directly in the path of an aggressor should be enough relevant. An aggressor might doubt, on the other hand, a defender’s willingness to impose punishments.

An aggressor might also convince itself that the defender will hesitate to follow through on threats to punish because of attendant risks, such as further escalation, respectively the deterring state may not be willing to run once the moment arrives. As Thomas Schelling noted, there are threats that a state would rather not fulfil, and weakness in deterrence can emerge when an aggressor believes the defender will ultimately prove unwilling to carry out its threats (1980, pp. 175-177; 187-189; 207-208; 230; 257-266).

The strategic weapons are deployed on a *“triad”* of delivery systems: submarine- and land-based ballistic missiles and long-range bombers.

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Few terms in discussions of nuclear weapon are more misused, misunderstood, or distorted than “*deterrence*”. The Department of Defense’s 2009 *Quadrennial Roles and Missions Review Report* (2009) defines deterrence operations as “*integrated, systematic efforts to exercise decisive influence over adversaries’ decision-making calculus in peacetime, crisis, and war*” (p. 5). Without mentioning whom or what is being deterred, the word can refer to either nuclear deterrence or conventional deterrence, and to either retaliatory or first strike attacks. Throughout the Cold War – and even today – nuclear “*deterrence*” had many definitions and many roles.

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Cold War Deterrence. For example, during the Cold War, nuclear forces based in the continental United States were intended to deter, among other things, Soviet conventional attacks on NATO Europe, Japan, and South Korea, by threatening nuclear damage to the Soviet Union as the likely response. But the threat of Soviet nuclear retaliation – whether counterforce or counter value – tended to weaken the plausibility of any American nuclear threat. That is, Soviet nuclear forces deterred the US deterrent, thus, the ability to execute a “*first strike*” to destroy Soviet nuclear systems on the ground was ironically viewed as a valuable part of the U.S. nuclear “*deterrent*” mission, and enormous resources were devoted to that goal.

Similar intentions were ascribed to the Soviet defence establishment, which, some believed, might be tempted to alter the balance of power by launching a disarming first strike against US central strategic nuclear forces. As a result, in the strange logic of the Cold War, both sides felt that threats of surprise nuclear first strikes were counted as “*deterrence*”. While this might have contributed to deterring a conventional attack, it created a dangerously unstable nuclear competition because both sides knew or suspected the other of preparing to execute a first strike. “*Deterrence*” has become to be defined as whatever it is that nuclear weapons do. Nuclear weapons have simply become deterrence no matter what mission they have.

Deterrence Today. US State Department documents describe “*nuclear deterrence*” as the fundamental component of national

security policy. The US Nuclear Weapons Employment Policy that entered into effect in 2004 stated in part: *“US nuclear forces must be capable of, and be seen to be capable of, destroying those critical war-making and war-supporting assets and capabilities that a potential enemy leadership values most and that it would rely on to achieve its own objectives in a post-war world”* (Kristensen, Norris, Oelrich, 2009, pp. 15-16). *“Safe, credible, and reliable nuclear forces continue to play a critical role. We are strengthening deterrence by developing a New Triad composed of offensive strike systems (both nuclear and improved conventional capabilities); active and passive defenses, including missile defenses; and a responsive infrastructure, all bound together by enhanced command and control, planning, and intelligence systems. These capabilities will better deter some of the new threats we face, while also bolstering our security commitments to allies. Such security commitments have played a crucial role in convincing some countries to forgo their own nuclear weapons programs, thereby aiding our nonproliferation objectives”* (2006, p. 22). *“For example, the United States will maintain its nuclear arsenal as a primary deterrent to nuclear attack, and the New Triad remains a cornerstone of strategic deterrence”* (2008, p. 12). The new triad offers a portfolio of capabilities and the flexibility required to address a spectrum of contingencies.

The deterrence challenge of today is quite different from that of the Cold War, partly because of differences in who is being deterred, but primarily because of differences in what is being deterred. Simply carrying forward the deterrence logic and assumptions based on *“the who”* and *“the what”* of the Cold War thinking results in profound and dangerous fallacies in today’s radically different world. It is quite remarkable that discussions about deterrence and what may be needed for it often avoid mentioning any actions that are supposed to be deterred. Indeed, the new strategy intentionally leaves that unclear. Uncertainty about what the US response will be and when it will be triggered, so the argument goes, helps make deterrence work.





Treaty on the Non-Proliferation of Nuclear Weapons (NPT) signed in 1968 and entered into force in 1970, commits the five officially recognized nuclear weapons states (United States, United Kingdom, Russia, France, and China) to disarmament but is not an outright ban on possession. Nonnuclear weapon states, NPT foreswear nuclear weapons and place nuclear materials and facilities under international safeguards.

NUCLEAR WEAPONS – TYPES AND DEPLOYMENT

During the Cold War, the US nuclear arsenal contained many types of delivery vehicles for nuclear weapons. These included short-range missiles and artillery for use on the battlefield, medium-range missiles and aircraft that could strike targets beyond the theatre of battle, short and medium-range systems based on surface ships, long-range missiles based on US territory and submarines, and heavy bombers that could threaten Soviet targets from their bases in the United States.

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The NPT nuclear weapon states, also the five permanent members of the UN Security Council, oppose the Treaty on the Prohibition of Nuclear Weapons also known as the nuclear “*ban treaty*”. Negotiations ended on 7 July 2017, when 122 countries voted to approve the treaty. The United States, UK, and French UN Permanent Representatives issued a joint press release stating: “*A purported ban on nuclear weapons that does not address the security concerns that continue to make nuclear deterrence necessary cannot result in the elimination of a single nuclear weapon and will not enhance any country’s security, nor international peace and security*” (*Joint Press Statement, 2017*).

Eight sovereign states have publicly announced successful detonation of nuclear weapons. Five are considered to be nuclear-weapon states under the terms of the Treaty on the Non-Proliferation of Nuclear Weapons. In order of acquisition of nuclear weapons these are the United States, Russia (the successor state to the Soviet Union), the United Kingdom, France, and China. Since the NPT entered into force in 1970, three states that were not parties to the Treaty have conducted overt nuclear tests, namely India, Pakistan, and North Korea. North Korea had been a party to The NPT but withdrew in 2003. Israel

is also generally understood to have nuclear weapons, but does not acknowledge it, maintaining a policy of deliberate ambiguity, and is not known definitively to have conducted a nuclear test. Israel is estimated to possess somewhere between 75 and 400 nuclear warheads. One possible motivation for nuclear ambiguity is deterrence with minimum political cost.

Arms control and nonproliferation efforts have produced formal treaties and agreements, informal arrangements, and cooperative threat reduction and monitoring mechanisms. Progress in negotiating and implementing these agreements was often slow, and subject to the tenor of the broader US-Soviet relationship (Durkalec, 2019). States that formerly possessed nuclear weapons are South Africa (developed nuclear weapons but then disassembled its arsenal before joining the NPT) and the former Soviet republics of Belarus, Kazakhstan, and Ukraine, whose weapons were repatriated to Russia.

According to Stockholm International Peace Research Institute, the worldwide total inventory of nuclear weapons as of 2019 stood at 13,865, of which 3,750 were deployed with operational forces. In early 2019, more than 90% of the world's 13,865 nuclear weapons were owned by Russia and the United States (World nuclear forces, 2020, pp. 326-330).

The United States and Soviet Union signed the *Intermediate-Range Nuclear Forces (INF) Treaty* in December 1987 (*INF Treaty, 1987*). In the INF Treaty, the United States and Soviet Union agreed that they would ban all land-based ballistic and cruise missiles with ranges between 500 and 5,500 kilometres. The ban would apply to missiles with nuclear or conventional warheads, but would not apply to sea-based or air-delivered missiles. The United States suspended its participation in the treaty and submitted its official notice of withdrawal 2 February 2019. Russia responded by suspending its participation on 2 February 2019, as well. The treaty lapsed on 2 August 2019, six months after the United States submitted its notice of withdrawal (Durkalec, *ib.*).

The New START Treaty. The United States and Russia has participated in numerous arms control and nonproliferation efforts



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over the past 60 years. These efforts have produced formal treaties and agreements that impose restrictions on US and Russia military forces and activities, informal arrangements and guidelines that US and Russia have agreed to observe. The changing international environment in the 1990s led many analysts to believe that the United States and other nations could enter a new era of restraint in weapons deployments, weapons transfers, and military operations. These hopes were codified in several treaties signed between 1991 and 1996, such as the *Strategic Arms Reduction Treaties (START I and START II)*, the Chemical Weapons Convention, and the Comprehensive Nuclear Test Ban Treaty. START limited long-range nuclear forces – land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and heavy bombers - in the United States and the newly independent states of the former Soviet Union. The United States and Russia began to hold talks on a new treaty.

The formal talks resumed in late January 2010, and the parties concluded the *New START Treaty* in early April 2010. Presidents Obama and Medvedev signed the *Prague Treaty* on 8 April 2010; it entered into force on 5 February 2011. *The New START Treaty* contains three central limits on U.S. and Russian strategic offensive nuclear forces. First, it limits each side to no more than 800 deployed and nondeployed ICBM and SLBM launchers and deployed and nondeployed heavy bombers equipped to carry nuclear armaments. Second, within that total, it limits each side to no more than 700 deployed ICBMs, deployed SLBMs, and deployed heavy bombers equipped to carry nuclear armaments. Third, the treaty limits each side to no more than 1,550 deployed warheads. Deployed warheads include the actual number of warheads carried by deployed ICBMs and SLBMs, and one warhead for each deployed heavy bomber equipped for nuclear armaments (*New START Treaty*, 2010).

The warhead limits in New START differ from those in the original START Treaty regarding the sublimits on warheads attributed to different types of strategic weapons and each side will simply declare the total number of warheads deployed across their force. The *New START Treaty* contains a monitoring and verification regime that resembles the regime in *START*.



The United States and the Russian Federation have agreed to extend the treaty through 4 February 2026 (*New START Treaty*, 2020). The information provided through the treaty’s implementation contributes to reducing the risk of strategic surprise, mistrust, and miscalculations that can result from excessive secrecy or decisions based on worst-case assumptions.

Table no. 1 consists in a list of states that have admitted the possession of nuclear weapons or are presumed to possess them, the approximate number of warheads under their control, and the year they tested their first weapon and their force configuration (List of states with nuclear weapons, 2020, p. 316). This list is informally known in global politics as the “*Nuclear Club*”. With the exception of Russia and the United States (which have subjected their nuclear forces to independent verification under various treaties) these figures are estimates, in some cases quite unreliable estimates.

From as much as 70,300 active weapons in 1986, as of 2019 there are approximately 3,750 active nuclear warheads and 13,890 total nuclear warheads in the world. Many of the decommissioned weapons were simply stored or partially dismantled, not destroyed. It is also noteworthy that since the dawn of the *Atomic Age*, the delivery methods of most states with nuclear weapons has evolved with some achieving a nuclear triad, while others have consolidated away from land and air deterrents to submarine-based forces. P.19. The New START Treaty contains three central limits on U.S. and Russian strategic offensive nuclear forces.

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Table no. 1: “States that have admitted the possession of nuclear weapons or are presumed to possess them, the approximate number of warheads under their control, and the year they tested their first weapon and their force configuration” (List of states with nuclear weapons, lb.)

Country	Warheads		Date of first test	Site of first test	CTBT status	Delivery methods	Tests
	Deployed	Total					
The five nuclear-weapon states under the NPT							
United States	1.750	5.800-6.185	16 July 1945 (<i>Trinity</i>)	Alamogordo, New Mexico	Signatory	Nuclear triad	1,054



A nuclear triad is a three-pronged military force structure that consists of land-launched nuclear missiles, nuclear-missile-armed submarines, and strategic aircraft with nuclear bombs and missiles. Specifically, these components are land-based intercontinental ballistic missiles, submarine-launched ballistic missiles, and strategic bombers.

Country	Warheads		Date of first test	Site of first test	CTBT status	Delivery methods	Tests
	Deployed	Total					
Russia	1.572	6.372-6.490	29 August 1949 (<i>RDS-1</i>)	Semipalatinsk, Kazakhstan	Ratifier	Nuclear triad	715
United Kingdom	120	200-215	3 October 1952 (<i>Hurricane</i>)	Monte Bello Islands, Australia	Ratifier	Sea-based	45
France	280	290	13 February 1960 (<i>Gerboise Bleue</i>)	Sahara, French Algeria	Ratifier	Sea and air-based	210
China	(?)	300-320	16 October 1964 (596)	Lop Nur, Xinjiang	Signatory	Nuclear triad	45
Non-NPT nuclear powers							
India	(?)	150	18 May 1974, (<i>Smiling Buddha</i>)	Pokhran, Rajasthan	Non-signatory	Nuclear triad	6
Pakistan	0	160	28 May 1998, (<i>Chagai-1</i>)	Ras Koh Hills, Balochistan	Non-signatory	Land and air-based	6
North Korea	0	30-40	9 October 2006	Kilju, North Hamgyong	Non-signatory	Terestru și de pe mare	6
Undeclared nuclear powers							
Israel	0	90	1960 - 1979	Unknown	Signatory	Suspected nuclear triad	N/A

These five states are known to have detonated a nuclear explosive before 1 January 1967 and are thus nuclear weapons states under the NPT also happen to be the UN Security Council’s permanent members with veto power on UNSC resolutions.

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The purpose of having this three-branched nuclear capability is to significantly reduce the possibility that an enemy could destroy all of a state’s nuclear forces in a first-strike attack. This, in turn, ensures a credible threat of a second strike, and thus increases a state’s nuclear deterrence.

Nuclear weapons share. Under NATO nuclear weapons sharing, the United States has provided nuclear weapons for Belgium, Germany, Italy, the Netherlands, and Turkey to deploy and store. This involves pilots and other staff of the “non-nuclear” NATO states practicing, handling, and delivering the U.S. nuclear bombs, and adapting non-US warplanes to deliver US nuclear bombs. However, since all U.S. nuclear weapons are protected with Permissive Action Links, the host states cannot easily arm the bombs without authorisation codes from the US Department of Defense. US nuclear weapons were also deployed in Canada as well as Greece from 1963 to 1984. However, Canada withdrew three of the four nuclear-capable weapons systems by 1972. The single system retained, the AIR-2 Genie, had a yield of 1.5 kilotons, was designed to strike enemy aircraft as opposed to ground targets, and might not have qualified as a weapon of mass destruction given its limited yield. As of April 2019, the United States maintained around 150 nuclear weapons in Europe, as reflected in *table no. 2*.

Table no. 2: “US nuclear weapons in host countries”
(Kristensen, Korda, 2019, pp. 122-134)

Country	Air base	Custodian	Warheads
Belgium	Kleine Brogel	52 nd Fighter Wing	20
Germany	Büchel	52 nd Fighter Wing	20
Italy	Ghedi Torre	52 nd Fighter Wing	40
	Aviano	31 st Fighter Wing	
Netherlands	Volkel	52 nd Fighter Wing	20
Turkey	Incirlik	39 th Air Base Wing	50
Total			150



Former Soviet Republics renounced the nuclear weapons inherited from the Soviet Union (Lisbon Protocol, 23 May 1992). Belarus had 81 single warhead missiles stationed on its territory after the Soviet Union collapsed in 1991. They were all transferred to Russia by 1996.

States formerly possessing nuclear weapons. Nuclear weapons have been present in many nations, often as staging grounds under control of other powers. However, in only one instance has a nation given up nuclear weapons after being in full control of them. The fall of the Soviet Union left several former Soviet republics in physical possession of nuclear weapons, though not operational control which was dependent on Russian-controlled electronic Permissive Action Links and the Russian command and control system. South Africa.

South Africa produced six nuclear weapons in the 1980s, but dismantled them in the early 1990s. South Africa could not have constructed such a nuclear bomb until November 1979. South Africa signed the Nuclear Non-Proliferation Treaty in 1991.

Former Soviet Republics renounced the nuclear weapons inherited from the Soviet Union (Lisbon Protocol, 23 May 1992). **Belarus** had 81 single warhead missiles stationed on its territory after the Soviet Union collapsed in 1991. They were all transferred to Russia by 1996. In May 1992, Belarus acceded to the Nuclear Non-Proliferation Treaty.

Kazakhstan inherited 1,400 nuclear weapons from the Soviet Union, and transferred them all to Russia by 1995. Kazakhstan has since acceded to the NPT. **Ukraine** has acceded to NPT. Ukraine inherited “as many as 3,000” nuclear weapons when it became independent from the Soviet Union in 1991, making its nuclear arsenal the third-largest in the world. By 1994, Ukraine had agreed to dispose of all nuclear weapons within its territory, with the condition that its borders were respected, as part of the Budapest Memorandum on Security Assurances. The warheads were removed from Ukraine by 1996 and disassembled in Russia. Despite Russia’s subsequent and internationally disputed annexation of Crimea in 2014, Ukraine reaffirmed its 1994 decision to accede to the NPT as a non-nuclear-weapon state.

Not everyone wants nuclear weapons. What most people do not realise is that 12 countries have either abandoned nuclear programs and, dismantled existing weapons. By contrast, only nine have nukes today (the United States, Russia, Britain, France, China, India, Israel,

Pakistan and North Korea) (Wilson, Ford, Quiles, Tertrais, 2013, pp. 2-9). Nuclear weapons were born out of fear, nurtured in fear and sustained by fear. According to NPT five states have the right to possess nuclear weapons, but it does not give them the right to keep those weapons forever. On the contrary, its Article VI unequivocally commits them to “nuclear disarmament” and “a treaty on general and complete disarmament” (NPT, 1968).

There were six nuclear powers in 1989, eight in 1998 (India, Pakistan) and nine in 2006 (North Korea). Measures of unilateral, multilateral, even coercive disarmament prevented six countries from acquiring or keeping nuclear weapons.

CONCLUSIONS

The most important overarching lesson of this review is that deterrence and dissuasion must be conceived primarily as an effort to shape the thinking of a potential aggressor. Deterrent policies are often viewed through the perspective of the state doing the deterring and focus on actions that it takes to raise the costs and risks of an attack. Whatever the utility of nuclear weapons during the Cold War, nuclear weapons today threaten the security of the United States and the world more than they enhance it.

Nuclear deterrence can also be regarded as a solution, a way of action, a means, a method, a manner, that is used as a justification by nuclear weapon states and their allies for the continued possession and threatened use of nuclear weapons. The circumstances in which any use of nuclear weapons might have to be contemplated are extremely remote. As long as nuclear weapons exist, NATO will remain a nuclear alliance (*Politica NATO în domeniul nuclear*, 2020). The supreme guarantee of the security of the Allies is provided by the strategic nuclear forces of the Alliance, particularly those of the United States and the independent strategic nuclear forces of the United Kingdom and France, which have a deterrent role of their own and contribute to the overall deterrence and security of the Allies. NATO is committed to maintaining an appropriate mix of nuclear, conventional,



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and missile defence capabilities for deterrence and defence to fulfil its commitments as set out in the *Strategic Concepts*.

The security strategies of the great powers are stated that safe, credible and reliable nuclear forces continue to play a critical role in the deterrence strategy and strengthen deterrence. These capabilities will better deter some of the new threats with which democratic states are facing, while also bolstering security commitments between allies. Such security commitments have played a crucial role in convincing some countries to forgo their own nuclear weapons programs.

The sole reason for possessing nuclear weapons is to deter the use of a nuclear weapon against their own state and its allies. In recent years, much broader reasons have been given for the utility of nuclear weapons. Their numerous roles led to huge stockpiles and elaborate war plans. The purpose of nuclear strike planning is no longer to achieve an advantage over an adversary's nuclear forces or limit damage to its own state, but entirely to provide a secure retaliatory strike capability to deter nuclear attack. Knowing that the attack on infrastructure would follow if any nation were unwise enough to attack the United States or its allies with nuclear weapons should be enough of a deterrent – to the extent anything is – to prevent an attack in the first place.

The White House policy statements does not specify that it is a nuclear deterrent but assumes that a strong deterrent in this context means nuclear. As long as other states maintain nuclear arsenals, the US must maintain a reliable, safe, and secure nuclear deterrent.

It is very difficult to explain the absence of any major-power war since 1945 without acknowledging the role of nuclear weapons. Alternative explanations are not satisfying. Nuclear deterrence as a theory was developed for ex-post-facto rationalisation of the nuclear arms race. So, when we speak of the future of nuclear disarmament it is inextricably tied to the future of the nuclear arms race and theories of nuclear deterrence.

Some of the post-Cold War nuclear players, however, most notably Pakistan and North Korea, have displayed a propensity for maintaining



instability as a means of establishing deterrence. Therefore, besides an increase in the number of nuclear players, there is now a lack of understanding, or a lack of desire to play by the established rules of the game of nuclear deterrence. As more countries join in, the complexities can only increase.

In a crowded nuclear world, one can only hope that each player has an equally effective control over its nuclear assets, so as to minimise the existential risks of accidental or unauthorised use of the nuclear weapon. In addition, non-state actors threaten forcing access to the nuclear “sanctuary”. Al-Qaeda is, of course, the most well-known case in its desire to acquire nuclear weapons, but there could be others. And if that were happen, classical nuclear deterrence would not be able to prevent the use of nuclear weapons.

Despite all security measures in place, peace proved to be elusive. The acquisition of nuclear weapons, whether through national possession or extended deterrence, brought security but not peace. It is an irony that, while the risks of a nuclear confrontation have come down, the risks of a nuclear attack have increased.

It can be found that some of the security challenges of today cannot be solved by military means – whether in Kashmir, India and Pakistan, the Middle East; Israel, Palestine or Iran, China and Taiwan, or the Korean peninsula for example. However, the degree to which this policy provides a genuine deterrent is debated. Some analysts argue that Israel’s nuclear deterrence prevented a chemical weapons attack by Iraq in the first Gulf War. Others argue that the fact that Israel has been attacked by Egypt and Syria (1973) and Iraq (Scud missile attacks in 1991), despite Israel’s nuclear arsenal, as indicate that it is not an effective deterrent.

Of course, new initiatives for nuclear disarmament and non-proliferation will have to be introduced in order to achieve the goal of a nuclear weapons-free world. But this cannot be achieved outside a multilateral framework. This is why it is crucial that eventually all nuclear Weapon-States become fully incorporated in the disarmament process. It is clear that the United States and Russia, holding some 95% of the world’s nuclear armaments, have a special responsibility.

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Academics and policy analysts focus on aspects of the power of nuclear weapons, including the military power, destructive power, political power and coercive/persuasive power. The principle focus of analysts, however, is the destructive power of nuclear weapons and the relationship between this and military power.

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