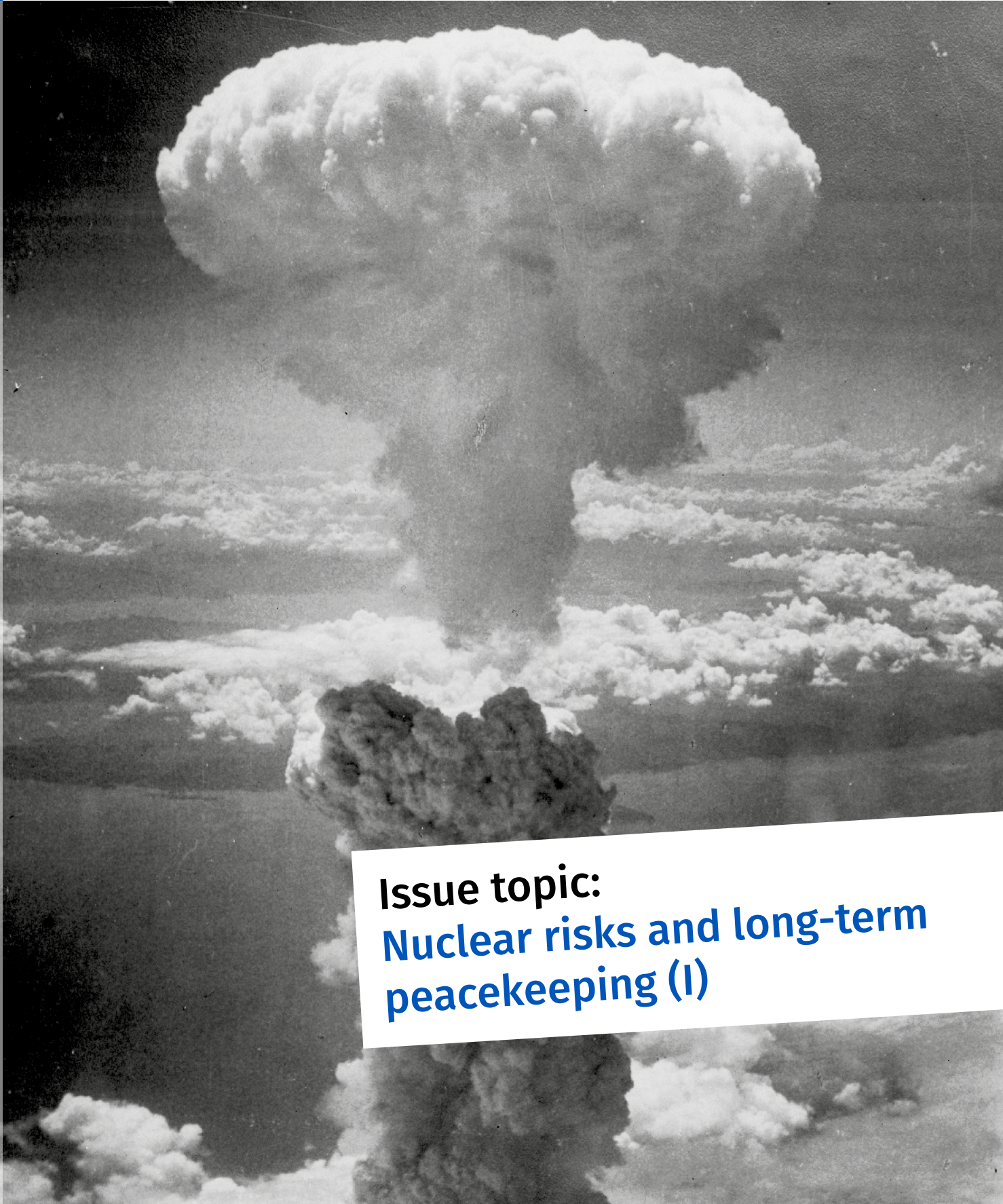


Intergenerational Justice Review

A black and white photograph of a nuclear explosion's mushroom cloud. The cloud is massive, with a thick, dark column rising from the ground and a large, billowing, white and grey cloud head at the top. The background shows a layer of lower-level clouds.

Issue topic:
**Nuclear risks and long-term
peacekeeping (I)**

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The peer-reviewed journal *Intergenerational Justice Review* (IGJR) aims to improve our understanding of intergenerational justice and sustainable development through pure and applied research. The IGJR (ISSN 2190-6335) is an open-access journal that is published on a professional level with an extensive international readership. The editorial board comprises over 50 international experts from ten countries, representing eight disciplines. Published contributions do not reflect the opinions of the Foundation for the Rights of Future Generations (FRFG) or the Intergenerational Foundation (IF). Citations from articles are permitted upon accurate quotation and submission of one sample of the incorporated citation to FRFG or IF. All other rights are reserved.

To future generations, the persistence of thousands of nuclear warheads, coupled with the erosion of arms control agreements, may appear not only reckless but profoundly unjust. Every generation that inherits nuclear arsenals inherits the risks of accident, escalation, and annihilation. And it is not only human life which would be impacted by nuclear use: nuclear testing alone already harms the environment to a massive degree. A nuclear war would fundamentally change the world as we know it, leading to environmental destruction, nuclear winter, and radioactive contamination.

Yet, despite this knowledge, the global frameworks for nuclear arms control are fraying. Once central pillars of international security, agreements such as the Intermediate-Range Nuclear Forces Treaty, the Comprehensive Nuclear-Test-Ban Treaty, and the Non-Proliferation Treaty now appear fragile. At the same time, the Treaty on the Prohibition of Nuclear Weapons, which embodies the ambition of many states to move towards abolition, is often dismissed by nuclear-armed powers as unrealistic. Together, these developments highlight a world in which nationalism, sovereignty, and strategic rivalry increasingly overshadow collective security.

Most people would agree that the presence of nuclear weapons in the world indicates non-ideal circumstances. Even those who argue for the centrality of nuclear deterrence in preventing conflict may well agree that ideally, these weapons of mass destruction would not be necessary. Today, however, we do live in a world with nuclear weapons. As such, it may be productive to imagine what kind of world we would like to live in – or indeed, we would like our children to live in – comparing several degrees of non-ideal circumstances. One such thought experiment might be: *Which world is preferable: A world in which two states each possess 5,000 nuclear warheads, or a world in which eight states possess 1,000 each?* Secondly, we might ask ourselves: *Would we rather live in a world in which nuclear powers are all democracies, or one in which both democracies and autocracies wield the bomb?* These scenarios are simplifications, but they illustrate a deeper truth about how best to achieve nuclear containment and non-proliferation, as intermediate steps towards long-term peace. The ideal circumstances should always be in the back of our head: friendly cooperation between states, the spread of democracy, and justice.

In the realm of power relationships, the existence of nuclear arsenals entrenches a two-tiered global order, privileging nuclear states with strategic status while constraining non-nuclear states to rely on international norms they cannot fully enforce. Within nuclear states themselves, the democratic legitimacy and public consent of maintaining such weapons is also open to question. In the United Kingdom, for example, the Trident system stationed at HM Naval Base Clyde in Scotland is central to the nation's defence strategy and standing in NATO. Yet its presence in Scotland remains deeply contested. Independence advocates argue that an autonomous Scotland should not host nuclear weapons, viewing them as an imposition of Westminster that not only undermines Scottish political agency but also makes Scotland a potential target in the event of nuclear conflict.

So how can we maintain long-term peace? In this context, a few key questions emerge that are considered by the authors of this journal: Is the presence of nuclear weapons a regrettable necessity, with deterrence ensuring stability and peace? Or does their presence instead hinder diplomacy, generate mistrust, and make the outbreak of nuclear war more likely? What role should public opinion play in shaping the legitimacy of nuclear deterrence, and why is it that nuclear risks no longer feature in the minds of younger generations in the same way that they did thirty years ago? Why, in contrast, is climate change now widely recognised as the defining existential risk of our time, whilst nuclear risk is largely forgotten?

The first article in this issue focuses on the possibility of nuclear strikes in the Russia-Ukraine conflict. In this article, Ayesha Zafar explores the history of Russia's nationalistic and geopolitical ambitions to illuminate how Moscow uses nuclear posturing as a tool of battlefield coercion and political signalling. She argues for the centrality of both nuclear deterrence and international diplomacy to prevent the conflict from going nuclear.

Tom Sauer continues the discussion of nuclear proliferation and peacekeeping in the second article of this issue, which focuses on sustainable nuclear non-proliferation with Iran as a key case study. In contrast to Zafar, Sauer argues that the presence of nuclear weapons makes further nuclear proliferation and conflict more likely, calling into question the effectiveness of deterrence. Sauer discusses the events which lead to the ratification and the breakdown of the Joint Comprehensive Plan of Action, otherwise known as the 'Iran Deal', before offering two possible future scenarios.

Finally, in the third article of this issue, Rhys Crilley explains how public perceptions of nuclear weapons in the UK are shaped by contested narratives of deterrence, disarmament, and identity. In the 'Third Nuclear Age' – defined by global tensions, emerging technologies, and weakened arms control – the media play a crucial role in framing nuclear debates. Crilley shows how these representations influence emotions, legitimacy, and the futures Britain imagines for its nuclear policy. He then explores how the British public holds simultaneously contradictory opinions about nuclear weapons, supporting both nuclear deterrence and Britain's status as a nuclear-armed state.

This issue concludes with two book reviews. Firstly, Theresa Eisenmann reviews Marianne Takle's *Showing social solidarity with future generations* (2024), which proposes 'solidarity' as a more suitable concept than 'justice' for considering our obligations towards future generations. Following this, Grace Clover reviews an anthology of essays edited by Axel Gosseries and Greg Bogner titled *Ageing without ageism? Conceptual puzzles and policy proposals* (2023), which apply philosophical theories of age-group justice in novel policy proposals.

Jörg Tremmel, *Permanent Editor*
Grace Clover, *Co-Editor*

Preventing a nuclear escalation in the Ukraine conflict

By Ayesha Zafar

The Russia-Ukraine conflict has rekindled global anxieties about the potential use of nuclear weapons. It has exposed the complexities of nuclear deterrence in a highly volatile security environment. As tensions have escalated, the risk of nuclear hostilities – whether tactical, demonstrative, or accidental – has become a major point of concern.¹ The Russian administration has repeatedly threatened to use nuclear weapons and announced an update of its nuclear doctrine in November 2024, thereby lowering the threshold for the use of nuclear weapons. Therefore, in critically examining Russia's nuclear doctrine, this article aims to identify the key triggers for escalation and evaluate the strategic responses of the international community. It investigates how NATO countries, supported by the US's extended nuclear deterrence commitment, have maintained a calibrated approach, combining military assistance to Ukraine and a high level of nuclear readiness, to ensure a precarious balance that prevented a major nuclear escalation. Underscoring the relevance of nuclear deterrence in the Ukraine conflict, it further delineates how Russia employed nuclear sabre-rattling as a deterrent and an enabler to achieve its strategic goals. Likewise, assessing the impact of Donald Trump's re-election and his 'America First' mantra on the Ukraine conflict, this article discusses potential ways to prevent the conflict from going nuclear, while reinforcing the significance of renewed multilateral cooperation, diplomatic engagement, and a unified Western resolve to deter Russian aggression.

Keywords: *sabre-rattling; nuclear deterrence; strategic ambiguity; nuclear escalation; nuclear brinkmanship; escalation management*

Introduction

The Russia-Ukraine conflict marks a watershed moment in the post-Cold War security environment with its effects felt throughout the international system. It strengthened the “kind of camp politics or block politics which polarise international relations, escalate political and ideological tensions and contribute to further militarisation” (Kusa 2022: 11). The conflict significantly shaped the patterns of diplomatic and economic engagements, and highlighted the complexities of geopolitical tension, leaving Ukraine's path to peace fraught with challenges. The US's disregard for its promise of ‘not one inch further’ – an assurance given by the US Secretary of State James Baker to Soviet leader Mikhail Gorbachev in 1990 that NATO would not expand eastward beyond Germany – combined with its misinterpretation of Russia's ‘Nyet means Nyet’ contributed to the emergence of a geopolitical ‘red line’.

On 24 February 2022, President Putin announced the start of a “special military operation,” intended to “demilitarise and denazify Ukraine,” whilst calling out the West for its “eastward expansion of NATO.”

Coupled with this is Russia's ambiguous nuclear doctrine, its history of brinkmanship and President Vladimir Putin's repeated nuclear threats, which have further raised global anxieties about the

probability of a nuclear escalation, whether deliberate or inadvertent. In June 2023, Putin announced the stationing of a first batch of Russia's tactical nuclear weapons in Belarus, calling the move a “containment” and a reminder to those who were “thinking of inflicting a strategic defeat” on Russia (BBC 2023). This was the first time since the Cold War that Russia's nuclear weapons were stationed outside its territory.² Thus, the global nuclear order, which was already under strain due to the collapse of the Intermediate-Range Nuclear Forces (INF) Treaty in 2019 and the uncertain fate of the New Strategic Arms Reduction Treaty (START) agreement after its expiry in 2026, faced renewed threats.

With this, evolving alliances and changing political winds in Western capitals further complicated the situation. For instance, NATO expanded its presence in Eastern Europe with Finland and Sweden becoming members of the alliance in April 2023 and March 2024, respectively. Meanwhile, Ukraine's counter-offensives in the Kharkiv and Kherson oblasts in 2022, and its western-backed efforts in Crimea and Donbas, posed existential dilemmas for Russia. In all of this, President Donald Trump's re-election and his ‘America First’ mantra prompted a significant shift in US foreign policy and raised new concerns in Europe over the reliability of US security guarantees and the future of global alliances.

In June 2023, Putin announced the stationing of a first batch of Russia's tactical nuclear weapons in Belarus, calling the move a “containment” and a reminder to those who were “thinking of inflicting a strategic defeat” on Russia. This was the first time since the Cold War that Russia's nuclear weapons were stationed outside its territory.

This paper endeavours to unpack these complexities by exploring the underlying causes of the Russia-Ukraine conflict. It offers a careful analysis of Russia's nuclear doctrine and explicates how Russia maintains a strategic ambiguity regarding its nuclear use to achieve its intended objectives. Underscoring the relevance of nuclear deterrence theory, this paper critically examines why both sides have refrained from the use of nuclear weapons despite repeated threats from the Russian administration to use these weapons. Highlighting the importance of diplomatic engagement, it also suggests some probable pathways to prevent nuclear confrontation in the future.

Historical context and catalysts of the Russia-Ukraine conflict

On 24 February 2022, President Putin announced the start of a “special military operation,” intended to “demilitarise and denazify Ukraine,” whilst calling out the West for its “eastward expansion of NATO” (President of the Russian Federation 2022). In response, G7 countries condemned Russia's “large-scale military aggression” against the “territorial integrity, sovereignty and independence of Ukraine” and called it an “unprovoked and completely unjustified” move which should be stopped (Council of

the European Union 2022). The then US Secretary of State, Antony Blinken, asserted that the Ukraine conflict is “bigger” than the two countries and it is a “crisis with global consequences” that “requires global attention and action” (Mbah / Wasum 2022: 150). Consequently, in March 2022, Biden announced a ban on Russian oil and gas imports to “inflict further pain on Putin” and noted that “Russia’s aggression is costing us all, and it is no time for profiteering or price gouging” (US Embassy & Consulates in Italy 2022).

Nonetheless, Russia continued its atrocities, especially in southern and eastern Ukraine. By May 2022, Russian soldiers managed to seize the “strategically significant port of Mariupol,” and in September, they took control over four oblasts: Donetsk, Kherson, Luhansk, and Zaporizhzhia (Faqr 2025: 988). The Kremlin’s spokesperson Dmitri Peskov stated, “all these territories are inalienable parts of the Russian Federation,” and “their security is provided for at the same level as [it is for] the rest of Russia’s territory” (Bugos 2022). To counter this invasion, on 8 October 2022 Ukrainian forces exploded the Kerch Strait bridge connecting Crimea and Russia and managed to push back Russian soldiers with successful counteroffensives in Kharkiv and parts of the Kherson region.

In 2023, the front line stabilised though fighting continued in Avdiivka and Bakhmut, which Russian forces took over in early 2024 alongside their advancements in the Donetsk region. As of mid-2025, the situation has not improved with tensions still going on as Russia holds most of Luhansk and large parts of Donetsk and Zaporizhzhia region, while Ukraine controls western Zaporizhzhia and mounts limited counterattacks.³

So as to understand the war today, it is crucial to understand the history of these tensions and the underlying causes behind the onset of this conflict, which has shaken the foundations of European security.

A history of tensions

The Ukraine conflict, now in its fourth year, has deep historical roots that go back to 1991, when Ukraine gained independence. Since then, it has been considered one of Russia’s strongest satellite states. However, after the fall of Soviet Union, Ukraine struggled to decide whether it should lean towards the East (the Russian Federation) or the West (European Union) (Gierczak 2020: 5). During the Orange Revolution (2004-2005), Ukraine “opposed the influence of Russian politics on constitutionally independent Ukraine and indicated Ukrainians’ willingness to institutionalise its democracy” (Gierczak 2020: 2). Protesters marched in favour of pro-Western candidate Viktor Yushchenko, calling the election rigged in favour of pro-Russian candidate Viktor Yanukovich. Nonetheless, due to the religious, ethnic, and linguistic divisions within the society, especially in the Donetsk and Luhansk regions, some parts of the provinces identified themselves as belonging to Russia.

The complex interplay of historical grievances, nationalistic fervour, and geopolitical ambitions with Russia’s annexation of Crimea in March 2014 and Putin’s support for pro-Russian demonstrations in the Donbass area laid the grounds for the current tensions between Russia and Ukraine.

Andreas Umland (2018: 38) argued that there was a “largely manufactured, yet nevertheless widespread collective agreement within large parts of Russia’s population about the rightfulness,

justice and legitimacy of Moscow’s various territorial, political, cultural and economic claims towards Ukraine.” Moreover, Putin’s personality, together with his “imperialist ambitions,” played a key role behind the ongoing crisis (Götz / Ekman 2024: 194). Neil Melvin (2022) asserted that Putin, who often draws parallels between himself and Peter the Great, is “driven by a sense of a historic mission to rectify perceived injustices and to regather lost Russian lands.” Thus, the complex interplay of historical grievances, nationalistic fervour, and geopolitical ambitions with Russia’s annexation of Crimea in March 2014 and Putin’s support for pro-Russian demonstrations in the Donbass area laid the grounds for the current tensions between the two countries.

Kyiv’s path to NATO: A strategic flashpoint with Moscow

NATO’s eastward expansion since the Cold War has posed major challenges. In June 2020, Ukraine became a member of NATO’s Enhanced Opportunity Partners Programme, which gave it “access to interoperability programmes and exercises, and more sharing of information, including lessons learned” (NATO 2020). In response, in November 2021 Putin cautioned against the stationing of missile defence systems in Ukraine, similar to those in Poland and Romania. He asserted that Russia “would have to create a similar threat for those who are threatening” and warned that NATO countries’ deployment of soldiers or weapons would result in crossing the “red line” and trigger a strong response (The Guardian 2021). Besides, Moscow announced the deployment of an estimated 90,000 troops near its border with Ukraine in December 2021 (The Guardian 2021). The Kremlin further demanded a “legally binding guarantee” that NATO would not engage in any military activity in Eastern Europe and Ukraine and the “withdrawal of multinational NATO battalions from Poland and from the Baltic states of Estonia, Latvia and Lithuania that were once in the Soviet Union” (Reuters 2021).

Thus, it is evident from these demands that Ukraine’s membership of NATO alliance as requested by President Volodymyr Zelenskyy is viewed through the “lens of historical rivalry and distrust, reinforcing the perception of Western encirclement and aggression” (Jakupec 2025: 43). Bornu (2025: 190-191) noted that Ukraine’s desire to join NATO and gain EU membership was seen by Russia as a “direct threat to its influence and security”. Likewise, Mearsheimer (2014: 77) asserted that the US and its European allies “share most of the responsibility for the crisis” due to “NATO’s enlargement, the central element of a larger strategy to move Ukraine out of Russia’s orbit and integrate it into the West”. He emphasised that Russian leaders since the mid-1990s had made it clear that they “would not stand by while their strategically important neighbour turned into a western bastion” (Mearsheimer 2014: 77). Stephen M. Walt (2022) argued that “great powers are never indifferent to the geostrategic forces arrayed on their borders, and Russia would care deeply about Ukraine’s political alignment even if someone else were in charge.”

The deputy secretary of the Russian Security Council, Alexander Venediktov, stated that Ukraine’s application for a “fast-track NATO membership is rather a propaganda move” and averred that “Kiev is well aware that such a step would mean a guaranteed escalation to World War Three.”

Consequently, on 17 February 2022, a few days before the war officially started, the Russian Ministry of Foreign Affairs (MOFA) specified its apprehensions about the “increasing US and NATO

military activity in the direct vicinity of Russia's borders, whereas its red lines, core security interests, and sovereign right to defend them continue to be ignored," and proclaimed that Moscow would respond with "military-technical measures" (MFA 2022). The deputy secretary of the Russian Security Council, Alexander Venediktov, further stated that Ukraine's application for a "fast-track NATO membership is rather a propaganda move" and averred that "Kiev is well aware that such a step would mean a guaranteed escalation to World War Three" (TASS 2022). These growing tensions raised alarms regarding the potential use of nuclear weapons further, as discussed in the section below.

Escalation dynamics and nuclear threats in the Russia-Ukraine conflict

The risk of nuclear use has increased as nuclear arms control and disarmament diplomacy are suffering from major setbacks following the Ukraine conflict. During his presidential address in February 2022 Putin emphasised that "even after the dissolution of the USSR and losing a considerable part of its capabilities, today's Russia remains one of the most powerful nuclear states" and that it has "a certain advantage in several cutting-edge weapons" (President of the Russian Federation 2022). Only three days after the conflict started, Putin announced that Russia's nuclear deterrence forces were put on "high alert" and ordered "minister of defence and the chief of the general staff [of the Russian armed forces] to transfer the deterrence forces of the Russian army to a special mode of combat duty" (Roth et al. 2022; Lewis 2022). Tensions escalated further when Russia conducted successful tests of new and advanced Sarmat intercontinental ballistic missile (Talmadge 2022), and when two Russian warplanes, SU-27 fighters and SU-24 attack planes, loaded with nuclear weapons, reportedly violated Swedish airspace in early March 2022 (Szumski 2022).

Nonetheless, it was not until September 2022 that the world seemed to be getting much closer to nuclear war, as Putin ordered partial mobilisation of 300,000 reservists (Holmes 2025: 68) and argued that this move was "necessary to protect sovereignty, security, and territorial integrity of Russia" (Vasilyeva 2022). He warned that Moscow had "various high-impact weapons, in some ways more powerful than those of NATO countries" and that Russia would "certainly use all means at its disposal" to counter the threats (The Telegraph 2022). In response, Biden warned against the "risk of nuclear Armageddon," noting that the danger has reached its highest since the Cuban Missile Crisis of 1962 (Al Jazeera 2022a). He asserted that "any use of nuclear weapons in this conflict on any scale would be completely unacceptable to us as well as the rest of the world and would entail severe consequences" (Sky News 2022). The US also sent its Central Intelligence Agency (CIA) director William Burns to meet Sergey Naryshkin, head of Russia's Foreign Intelligence Service, to Ankara, Turkey, to warn Russia of the consequences if it resorted to any use of nuclear weapons in Ukraine (Holmes 2025: 70).

Meanwhile, NATO kicked off its annual nuclear exercise, Steadfast Noon, in October 2022 (Bugos 2022). On the other hand, Moscow dispatched "long-range, nuclear-capable Tu22M3 Backfire bombers and MiG-31 fighters carrying the latest Kinzhal (Dagger) hypersonic cruise missile to Russian bases in Syria and Kaliningrad" (Blank 2022: 67-74). It was during this peak of nuclear escalation that President Xi Jinping of China made a plea after meeting German Chancellor Olaf Scholz that "the international community should [...] jointly oppose the use or threats to use nuclear weapons, advocate that nuclear weapons must not be

used and nuclear conflicts must not be fought, in order to prevent a nuclear crisis in Eurasia" (Al Jazeera 2022b).

Thus, President Xi Jinping's mediation helped discourage Putin from crossing the nuclear threshold. However, the situation remained tense as in March 2023, Putin announced his intention to deploy Russia's nuclear weapons in Belarus and asserted that "around ten Belarusian aircraft are already prepared to use these weapons" (ICAN 2023). In response, the G7 countries reiterated their position that "threats by Russia of nuclear weapon use, let alone any use of nuclear weapons by Russia, in the context of its aggression against Ukraine are inadmissible" (White House 2023). Despite the wider condemnation, Russia did not stop, and in November 2024, Putin announced amendments to Russia's nuclear doctrine, which would be "formalised as necessary" and expanded the "category of states and military unions subject to nuclear deterrence" (TASS 2024).

Henceforth, Putin, who retains control of operational-strategic initiatives, finds no reason to "refrain from attempting to intimidate NATO via rhetorical-threat escalation or operation escalation on the ground" (Blank 2022: 67-74). The section below further investigates Russia's nuclear rhetoric to understand its strategic signalling and identify the key reasons for the non-use of nuclear weapons despite repeated threats.

Russia's nuclear doctrine and strategic signalling

Understanding Russia's nuclear doctrine and its strategic signalling is crucial to comprehending the risk of nuclear escalation in the current conflict. For Moscow, its nuclear doctrine is not merely a military document but a key instrument of political signalling, which aims to influence adversaries' calculations and secure its strategic objectives. It is centred around the idea of "escalate to de-escalate," which implies that "Russian first strike using a tactical nuclear warhead in wartime could shock an enemy and lead to the conflict's ending on terms favourable to Russia" (Bolt 2025; Sokov 2022). Thus, for Russia nuclear weapons play a key role as both a deterrent and a tool for battlefield coercion. Blank (2022: 57) proclaimed that in "Russian political culture, displaying the state's capacity to intimidate others is of utmost importance."

For Moscow, its nuclear doctrine is not merely a military document but a key instrument of political signalling, which aims to influence adversaries' calculations and secure its strategic objectives. Thus, nuclear weapons for Russia play a key role as both a deterrent and a tool for battlefield coercion.

Arceneaux (2023: 567) argued that during the Ukraine war, nuclear weapons "served an enabling function that emboldened Russia to conduct its invasion of Ukraine," and that Moscow leveraged nuclear threats to "pursue its pre-existing interests of territorial control and political influence over Ukraine." He further noted that Russia manipulated the dangers "associated with an escalation to obtain a better bargaining position" and that its language surrounding the use of nuclear weapons remains "uncertain" (Arceneaux 2023: 569). Hence, Russia maintains a certain level of ambiguity and uncertainty regarding the criteria for nuclear use, often framed around threats to a state's survival or territorial integrity, as evident during the Ukraine conflict. The key objective is to create a psychological deterrent effect and leave the opposing side uncertain about the actual threshold of the red lines, causing them to restrain their actions out of the fear of miscalculation. For instance, Russia's deployment of tactical nuclear weapons,

such as the stationing of nuclear arms in Belarus, is not only a military threat but also a powerful political signal aimed at NATO and Ukraine to reiterate the immediacy and proximity of the nuclear risk. Bell (2024: 503) noted that stationing of these nukes on Belarusian soil “does not alter the strategic situation in any way,” but is “designed to create additional unpredictability and risk by creating additional avenues by which things could spiral out of control and across the nuclear threshold.” Further concerns were raised by the Kremlin’s announcement of an update to its nuclear doctrine in November 2024.

Whereas Russia’s military doctrine (2000) had allowed for nuclear use “in situations critical to the national security,” and the 2010 edition limited them to situations in which “the very existence of the state is under threat” (Sokov 2022), the 2024 edition allowed new conditions for nuclear use. Dmitry Peskov, the Kremlin’s spokesperson declared that “Russia will view an aggression from a non-nuclear state, carried out with participation or support of a nuclear state as their joint attack” (TASS 2024). Moreover, “massive launch of strategic and tactical planes, cruise missiles, drones, hypersonic and other aerial vehicles and their violation of the Russian border will become grounds for the use of nuclear weapons” alongside any “aggression against Belarus” (TASS 2024).

Russia maintains a certain level of ambiguity and uncertainty regarding the criteria for nuclear use, often framed around threats to a state’s survival or territorial integrity. The key objective is to create a psychological deterrent effect and leave the opposing side uncertain about the actual threshold of the red lines, causing them to restrain their actions out of the fear of miscalculation.

In all of this, the stationing of North Korean troops in Russia adds a new layer to the strategic dynamics. It reflects the conventional military reinforcement and political solidarity against the West. Under the Mutual Defence Pact, signed in June 2024, both North Korea and Russia agreed to come to each other’s defence if either of them was under attack. They appreciated the developing ties between the two countries as the North Korean President Kim Jong Un called the deal “the strongest ever treaty” that strengthened the relations to a “higher level of an alliance” and “accelerated the creation of a new multipolar world” (McCurry / Roth 2024).

By contrast, NATO Secretary-General Jens Stoltenberg told the media that Putin’s trip to Pyongyang “confirms the very close alignment between Russia and authoritarian states like North Korea” and stated that the West is “concerned about the potential support that Russia provides to North Korea when it comes to supporting their missile and nuclear programmes” (Butts 2024). The White House spokesperson Jean-Pierre told a news briefing that Russia and North Korea ties “should be of great concern to anyone interested in maintaining peace and stability in the Korean Peninsula” (Butts 2024).

Nonetheless, James Acton, co-director of the nuclear policy programme at the Carnegie Endowment for International Peace, stated, “the big picture here is how much Russia is re-evaluating its interests about a nuclear-armed North Korea” (Butts 2024). He asserted that Russia “might still not be ready to provide direct support for North Korea’s nuclear programme and was more likely to aid North Korea’s missile or submarine programmes.” (Butts 2024). Likewise, Choi Yonghwan asserted that the key purpose behind such developing ties is North Korea’s “own strategic

objectives” as Pyongyang is trying to “reshape the geopolitical landscape on the Korean Peninsula,” which is part of its foreign strategy described as ‘New Cold War Structure Utilisation Strategy’ (RUSI 2024). According to Yonghwan, the Ukraine war provided Kim with an opportunity to rely on Russia and China to “effectively paralyse any international effort to monitor breaches” of its UN sanctions (RUSI 2024). On the other hand, for Russia, the strengthening of ties with North Korea operates as a form of nuclear signalling, even if Pyongyang’s direct contribution is conventional. By invoking a partnership with another nuclear-armed state, Moscow amplifies the perception of a wider nuclear front aligned against the West. This creates additional deterrent pressure, reinforcing uncertainty over how far escalation dynamics could extend if the conflict deepens.

By invoking a partnership with another nuclear-armed state, Moscow amplifies the perception of a wider nuclear front aligned against the West. This creates additional deterrent pressure, reinforcing uncertainty over how far escalation dynamics could extend if the conflict deepens.

Thus, the partnership and deployment of troops have a psychological and political effect and signal the gradual emergence of a bloc of authoritarian states willing to support Russia’s war effort and undermine the West’s ability to isolate Moscow. It heightens the possibility of a new nuclear state alliance that could encompass North Korea, Belarus and Iran.

In this complex situation, the absence of reliable crisis management and communication channels between Russia and the West further elevates the risk of unintended escalation. It is unclear what comprises the red lines and when these would be crossed and what Russia’s resultant response would be. However, one thing that would certainly trigger significant nuclear escalation would be NATO’s decision to engage in direct military intervention in Ukraine and the latter’s membership of the alliance. Therefore, NATO has, so far, practised restraint and employed nuclear deterrence to avoid direct combat roles while providing Ukraine with sufficient support to defend itself as explained in the following section.

Ukraine conflict and nuclear deterrence: understanding the nuclear restraint

Nuclear deterrence, a strategic concept, provides deeper insights into why the threat of using nuclear weapons prevents adversaries from taking hostile actions. Relying on the principle of Mutually Assured Destruction (MAD), whereby nuclear attack from one party triggers a devastating retaliatory response from the other, it is clear that the potential use of nuclear weapons makes the cost of conflict unpredictably high. The early development of this theory came after the US dropped the first nuclear weapons at Hiroshima and Nagasaki in 1945. With that, the Soviet Union’s atomic test in 1949 ended the US monopoly and intensified the arms race. Thus, nuclear weapons became a weapon to deter.

Scholars like Bernard Brodie (1946) argue that the key role of nuclear weapons is “not to win conflicts but to prevent them.” Kenneth Waltz, likewise, notes that “the more states have nuclear weapons, the less likely are they to use them” (Guchua / Maisaia 2023: 129). Mearsheimer (1984-85: 20) further emphasises that “nuclear weapons, because of the horror associated with their use, really are the ultimate deterrent”. He argued that conventional forces can never have the same deterrent value as nuclear

weapons. According to him, “in the nuclear world, the danger associated with any conflict between the superpowers is so great that it becomes difficult for them to think about achieving political objectives by going to conflict against each other” (Mearsheimer 1984-85: 22).

This is evident during the Ukraine conflict where the nuclear potential of both sides restrained them from taking any action. According to a SIPRI 2024 report, the US has a military stockpile of around 3,708 nuclear weapons, out of which “1,770 were deployed (100 being tactical), while the rest remained in reserve or were waiting to be dismantled” (Kristensen et al. 2024). Russia, on the other hand, has around “4,380 warheads in its nuclear stockpile,” out of which “1,710 strategic warheads are deployed” (Kristensen et al. 2024). In this equation, French and British nuclear forces may “provide limited deterrence against conventional aggression” but “they provide more potent deterrence against nuclear use” and “offer a degree of cover for their forces if Russia decides to re-invade Ukraine, or if efforts to sustain Ukraine have to be stepped up because of increased Russian military pressure” (Freedman 2025).

Hence, the presence of such a massive stockpile of nuclear weapons creates a deterrence that prevents both sides from engaging in direct conflict which could lead to potential nuclear use. Though the conflict is causing massive casualties and physical and economic damage to Ukraine and Russia, both NATO (particularly the US, as a patron of Ukraine) and Moscow are constraining their behaviour. Some military movements might appear more attractive during the conflict; however, due to the fear of escalation, both sides are refraining from undertaking any action that could significantly escalate the conflict and lead to potential nuclear use. For instance, Russia has chosen not to attack the arms shipment of NATO countries en route to Ukraine, nor has it launched a direct attack on any NATO member, which would certainly escalate the situation. Despite Putin announcing the decision to put strategic forces on high readiness alert and his use of Iskandar M short-range ballistic missiles and Kinzhal hypersonic cruise missiles against Ukrainian targets, he did not order an attack on any NATO shipment due to the fear of nuclear escalation.

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On the other hand, though the West imposed economic sanctions, it refrained from engaging directly in the Ukraine conflict and refused the deployments of troops on Ukrainian soil. The US was also initially hesitant to authorise the use of US-supplied ATACMS by Ukraine to launch attacks inside Russian territory due to fears of escalation (Vock 2024). In response to this hesitation and delays in the delivery of weapons to Ukraine, Oleksandra Ustinova, a Ukrainian member of parliament, stated,

“I have been hearing about nuclear escalation since the first day. First, it was, ‘if Ukraine gets MIGs from Poland, he is going to use nukes.’ Then it was the HIMARS, then Patriots, then tanks [...] It is like we are running behind the train. Every time we ask for something, we get it months or a year later, when it will not make as much of a difference as it would have before” (Bosco 2024).

Nonetheless, after North Korea was reported to be deploying around 11,000 to 12,000 troops in Russia, the then US Air Force

Major General Pat Ryder stated in November 2024 that “troops [who] engage in combat support operations against Ukraine” will become the “legitimate military targets” (Garamone 2024). Following this, the Biden administration lifted the ban on Ukraine’s use of long-range ATACMS missiles with a range of 190 miles (300 km) to launch attacks on targets inside Russian territory (Sabbagh 2024). In response, Putin emphasised that such actions indicate the Western nations’ “direct involvement” in armed conflict and Russia would respond to such “acts of aggression” (President of the Russian Federation 2024). On the other hand, despite being the top supplier of military equipment to Ukraine, Germany refused to supply the Taurus long-range missile to Ukraine with a strike range of over 500 km, due to escalation concerns (Mukhina 2025). Instead, in August 2025, Berlin announced that it would deliver two Patriot systems to Ukraine in the coming months, under an agreement with the United States stipulating that Germany would be first in line to receive the latest systems in return (Reuters 2025).

Thus, this “salami” or “learning by doing” tactics of the US, and NATO’s “provision of military aid to Ukraine, combined with a clear nuclear boundary around NATO territories and ambiguous messaging about escalation thresholds, creates a complex deterrent framework” (Holmes 2025: 27). It is due to this deterrence that despite Russia’s repeated threat to use nuclear weapons to deter Western support for Ukraine, no such weapons have been used. Moreover, when Moscow’s nuclear threats escalated, NATO reinforced its nuclear stance through strategic messaging and public warnings. For instance, in March 2022, Biden stated that NATO is “going to provide more support for Ukraine” and that it is ready to “defend every single inch of NATO territory with the full might of a united and galvanised NATO” (White House 2022). The then national security adviser to President Biden, Jake Sullivan, also warned Russia of “catastrophic consequences” if Moscow used nuclear weapons to hold territory in Ukraine (Sanger / Tankersley 2022). In March 2022, NATO announced its plans to place its rapid response forces, around 300,000 troops, on high alert (Sabbagh 2022).

However, to avoid escalation, Biden asserted that “direct confrontation between NATO and Russia is World War Three, something we must strive to prevent” (White House 2022). On another occasion, he stated: “so long as the United States or our allies are not attacked, we will not be directly engaged in this conflict, either by sending American troops to fight in Ukraine or by attacking Russian forces” (US Embassy in Ukraine 2022). Thus, statements and changes in NATO’s force posture demonstrated capability while carefully employing strategic ambiguity regarding the nuclear threshold, leaving their response to Russia’s escalation deliberately undefined, which created uncertainty among Russian leadership (Holmes 2025: 72-74).

The Russia-Ukraine conflict has restated the relevance of nuclear deterrence, which, so far, has prevented a direct military confrontation and a full-scale nuclear conflict between Russia and NATO. Nonetheless, the prospects of advancing US-Russia arms control were poor prior to the conflict and are even less promising today.

Thus, the Russia-Ukraine conflict has restated the relevance of nuclear deterrence, which, so far, has prevented a direct military confrontation and a full-scale nuclear conflict between Russia and NATO. Nonetheless, the prospects of advancing US-Russia arms

control were poor prior to the conflict and are even less promising today. The New START treaty, the last major arms control treaty between the US and Russia is due to expire in 2026; the chances of a new treaty being negotiated before the end of the year are slim. This agreement limited the US and Russia to 700 deployed intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and nuclear-equipped heavy bombers; 1,550 deployed nuclear warheads; and 800 deployed and non-deployed launchers and bombers (US Department of State 2023). The US demands future agreements to consider both Russia's strategic and non-strategic nuclear weapons, as well as China, whose growing arsenals are not constrained by any treaty. By contrast, Russia has demanded that any renewal of the New START treaty must include a broader strategic dialogue addressing US missile deployments in Europe and Western support for Ukraine. It insists that arms control cannot be separated from the overall security environment and mutual trust.

Consequently, the future of arms control and peace in Ukraine, which gave up its nuclear weapons in exchange for security assurances from the UK, Russia, and the US in 1994 under the Budapest Memorandum (Jakupec 2025), remains indistinct. President Donald Trump has further complicated the equation as discussed in the section below.

Shift in the US policy: Trump in power

The re-election of President Trump has marked a visible shift in the US's approach towards the Ukraine conflict. He has long criticised the Biden administration's support for Ukraine's NATO membership, asserting that the ignorance of "Russia's security concerns has contributed to the outbreak of Russo-Ukraine conflict" (Jakupec 2025: 44). Opposing the substantial scale of military aid to Ukraine by the US (estimated \$67 billion), Trump stated on 28 February 2025 that he has "no cards" and "effectively no choice" left but to "sue for peace with Russia" and paused all military and intelligence support to Ukraine (McGurk 2025). He further criticised Zelensky, calling him the "greatest salesman on Earth" (Leeson 2024).

Trump raised further concerns regarding the NATO allies' defence spending, affirming, "it is common sense, right [...] If they do not pay, I am not going to defend them" (Hunnicut / Brainstorm 2025). Consequently, NATO's Secretary General, Mark Rutte, has called for increased defence spending among NATO members, potentially up to 5% of the GDP, to address the issue of uneven burden sharing (Jakupec 2025: 51). In this regard, a 2025 report by RAND emphasised, the "shift in European defence spending has been accompanied by a new sense of urgency to improve Europe's ability to act alone by promoting greater cooperation and integration on defence and security" (Federick et al 2025: 36). Within a few weeks of the conflict, the EU also came up with its Strategic Compass for Security and Defence, a joint strategy which called for strengthening the Bloc's defence and building its resilience. Thus, the Ukraine conflict raised new questions regarding European security and compelled the leaders to reconsider the relations of modern interstate conflict and the tools available to defend against external threats.

Overall, Trump has stuck to his 'America First' Mantra and his focus is on ending the conflict, "regardless of which of the warring parties loses" (Jakupec 2025: 7). Nonetheless, he is facing issues as Moscow is insisting on Ukraine's denunciation of NATO's membership and recognition of the four oblasts (Donetsk, Kherson, Luhansk, and Zaporizhzhia) and Crimea as Russian territory,

while Ukraine is urging the alliance to accept Zelensky's 'Victory Plan', which focuses on restoration of Ukraine's territorial integrity, holding Russia accountable through international justice and post-conflict security guarantees (Jakupec 2025: 8). In such a complex situation, if Trump pursued a strategy of territorial compromise, it would have implications for Western unity and would raise questions about NATO's commitment to support Ukraine's sovereignty for as long as it takes.

The Ukraine conflict raises new questions regarding European security and compelled the leaders to reconsider the relations of modern interstate conflict and the tools available to defend against external threats.

To deal with this complexity, on 15 July 2025 Trump came up with new steps to pressure Russia to end the conflict. He warned Russia of severe economic punishment, asserting,

"We are going to be doing very severe tariffs if we do not have a deal in 50 days [...] Tariffs at about 100%, you would call them secondary tariffs. You know what that means [...] I use trade for a lot of things [...] it is great for settling conflicts" (Liptak 2025).

Matt Whitaker, the US ambassador to NATO, stated that the tariffs imply sanctions on countries buying oil from Russia, thereby impacting the Russian economy (Liptak 2025). However, Putin stressed that Russian economy is "strong enough to withstand the pressure of 100 percent tariffs" (The Telegraph 2025). Besides, Russia's foreign minister Sergei Lavrov dismissed Trump's threat of tariffs and stated that Moscow "had been through all of that before," adding that "Russia adapts to sanctions and will adapt to the new ones" (The Telegraph 2025). Deputy Foreign Minister Sergei Ryabkov noted that "any attempts to make demands, especially in the form of ultimatums, are unacceptable to us [Russia]" while indicating Moscow's readiness for peace talks (Metzel 2025).

President Trump is left with two options: to show indifference toward the conflict and abandon diplomacy while allowing Ukraine to lose ground or to reinforce diplomacy with a commitment to support Ukraine through military resupplies and impose additional costs on Putin if he chooses to continue the conflict.

Resultantly, on 7 September 2025 Moscow launched the largest-ever aerial assault on Ukraine, involving an estimated 810 drones and 13 missiles (Josephs / Hagan 2025). In response to this, President Trump stated that he "is not happy with the whole situation" and met with the EU's most senior sanctions envoy on September 8 to discuss further actions against Moscow (Rankin 2025). Meanwhile, Zelensky expressed his gratitude to the US, Germany, and Norway for their pledge to provide Ukraine with more air defence systems, including Patriots. Zelensky asserted that "Ukraine is ready for all honest and effective steps toward peace – lasting peace – and real security. It is Russia that is not ready. It is Russia that must be forced. And this is what is happening" (Zelensky 2025; Metzel 2025). Thus, President Trump is left with two options: one is to show indifference toward the conflict and abandon diplomacy while allowing Ukraine to lose ground. The other option is to reinforce diplomacy with a commitment to support Ukraine through military resupplies and impose

additional costs on Putin if he chooses to continue the conflict. Considering the situation on the ground, it appears that Trump opted for the second option, which is likely to increase the cost of conflict for Russia and eventually pressure it into agreeing to a ceasefire and a diplomatic settlement.

Conclusion and recommendations

More than three and a half years into the conflict, scholars are still fundamentally limited in evidence to suggest the dynamics of the conflict or to propose a clear path toward resolution. This is especially true when addressing the critical question at the heart of contemporary security debates: How can the Ukraine conflict be prevented from escalating to the nuclear level? Despite extensive analysis, no definitive solution has emerged. As Jervis (2021: 131-132) suggested “we are left uncertain of the answers to many key questions the nuclear era has raised”. It is difficult to explicate which particular action of the adversary might trigger nuclear escalation, and when and whether the red lines will ever be crossed. Who should be held responsible? What might happen if the nuclear threshold is crossed?

In all of this, EU member states are divided on whether they should fast-track Ukraine’s accession to the bloc, despite the growing defence cooperation with Ukraine. Moreover, the cost of supporting Ukraine has mounted, thereby creating new challenges for the member states. On the other hand, NATO has been reluctant to grant membership to states involved in active territorial disputes due to concerns of engaging the alliance in a conflict. Consequently, while NATO members had and would continue their efforts and support for Ukraine to advance progress towards its integration, making Ukraine a part of the NATO alliance seems disputed. Additionally, to say that Russia would leave its control over the five annexed Ukrainian oblasts is delusional. Neither are the prospects of Russian troops withdrawing to pre-conflict borders likely.

The lack of definitive solutions intensifies the risk of miscalculation and unintended escalation, making it imperative for regional actors to weigh their options carefully.

This uncertainty underscores the complexity of strategic decision-making in the current landscape. The lack of definitive solutions intensifies the risk of miscalculation and unintended escalation, making it imperative for regional actors to weigh their options carefully. In such a situation, Federick et al. (2025: 40) noted that the European community have four potential choices:

“abandon the prospects of Ukrainian integration, maintain the current approach of engagement without formal integration into collective political and security apparatuses, accelerate Ukraine’s integration by building a path to membership of NATO and EU, and push for rapid EU or NATO enlargement.” (Federick et al 2025: 40).

Nonetheless, each these options carries strategic risks, especially in terms of how Putin’s administration may perceive or respond to them.

Therefore, given the high stakes and chances of miscalculation, particularly with a nuclear dimension of the conflict, it is crucial to engage in robust crisis management mechanisms backed by multilateral diplomacy to prevent nuclear escalation in the Russia-Ukraine conflict. It is important to build direct military-to-military and political communication hotlines between

Ukraine, NATO, and Russia, which would help them reduce the risk of misinterpretation and the probabilities of escalation. It is also important to engage international actors, specifically the UN who can play a key role in facilitating dialogue and building confidence – measures between both sides. These CBMS, focusing specifically on nuclear risks such as notifications of military exercises involving nuclear-capable forces and transparency regarding the deployment of tactical nuclear weapons, can significantly help in evading nuclear provocations. More importance needs to be attributed to the Non-Proliferation Treaty (NPT) review process and forums like the P5 nuclear dialogue. It is very crucial that the US, through the NATO alliance, clearly communicates a no-tolerance policy on any use of nuclear weapons by Russia.

Given the high stakes and chances of miscalculation, particularly with a nuclear dimension of the conflict, it is crucial to engage in robust crisis management mechanisms backed by multilateral diplomacy to prevent nuclear escalation in the Russia-Ukraine conflict.

Beyond traditional deterrence, a dedicated Nuclear Risk Reduction Taskforce could also be created to facilitate confidential back-channel communications between NATO and Russia, allowing real-time crisis management outside of media and political pressure. Likewise, halting the deployment of dual-use systems near contested borders – backed by third-party verification – could help further de-escalate tensions.

To conclude, the Russia-Ukraine conflict has significantly increased global anxiety regarding the potential use of nuclear weapons. Considerable update of nuclear doctrine and lowering the threshold for tactical nuclear use, combined with on-ground tensions, has created a tinderbox situation that requires a careful and calculated policy response. This paper stressed the dual necessity of both deterrence and diplomacy. While, maintaining credible nuclear deterrence is key to preventing Russia from taking any step that involves the use of nuclear weapons, diplomacy, on the other hand, help reduce misunderstanding and build a pathway towards preventing escalation. In the meantime, conventional arms support for Ukraine should continue to create a web of stability and prevent Ukraine from losing ground. Overall, the international community must act urgently and seek ways to preserve peace. Indisputably, preventing the Ukraine conflict from going nuclear hinges on the capacity of the NATO alliance to understand Russia’s nuclear doctrine and strategic signalling to avoid any chance of miscalculation while managing escalation risks proactively and fostering dialogue that reduces the flames of conflict. A balance between diplomacy and deterrence, strength and restraint will remain the cornerstone of survival in the nuclear age.

Endnotes

- 1 The primary focus of this article will be on intentional use of nuclear weapons; the risks associated with accidental nuclear explosions and nuclear testing is outside the article’s scope.
- 2 It must be noted that the US also follows a similar policy, as Belgium, Germany, Italy, the Netherlands, and Turkey all host a limited number of US nuclear bombs.
- 3 This article was written in July 2025 and revised in early September 2025. As such, subsequent developments may not be reflected.

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Sustainable nuclear non-proliferation. Case-study: Iran

By Tom Sauer

Sustainable nuclear non-proliferation is only possible in a world without nuclear weapons. As long as there are nuclear weapons, the odds are that nuclear proliferation will happen, despite the existence of a comprehensive nuclear non-proliferation regime. The next proliferator may be Iran. The Joint Comprehensive Plan of Action (JCPOA)(2015) – better known as the Iran deal – was a very good effort to constrain Iran's nuclear program. In exchange for sanctions relief, Iran promised to restrict the size of its civilian nuclear program. President Trump withdrew from the Agreement in 2018. As a result, Iran is now very close to acquiring nuclear weapons. The bombings of Iranian nuclear facilities by Israel and the US in 2025 have only caused a delay. Knowledge cannot be bombed. It remains to be seen whether President Trump will succeed in signing an agreement with Iran in his second term.

Keywords: nuclear weapons; non-proliferation; Iran

Introduction

Since the origins of the nuclear era, the goal has been to limit the spread of nuclear weapons to more and more states and non-state actors. One of the consequences of the Cuban missile crisis in October 1962 was the start of multilateral negotiations for the Nuclear Non-proliferation Treaty (NPT), which was concluded in 1968 and entered into force in 1970. For a long time, the NPT has been characterised as the cornerstone of the nuclear non-proliferation regime. An international regime is a collection of formal (and informal) procedures, rules, norms, treaties, and organisations to mitigate one specific problem, e.g. contain the further spread of nuclear weapons.

There is a consensus in the literature that the NPT certainly made a positive difference (Horowitz 2015; Abe 2020). On the other hand, four more states have acquired nuclear weapons since the NPT (Israel, India, Pakistan and North Korea), and since the indefinite extension of the NPT in 1995 it is going downhill with respect to nuclear arms control, non-proliferation and disarmament. As early as 2006, I wrote an article titled “The crisis of the nuclear non-proliferation regime” (Sauer 2006). Nowadays, most observers agree that the NPT is facing stormy weather (Tannenwald 2024). The absence of a final consensus document at most five-yearly review conferences, including the last two, is testimony of this. Some observers – albeit a minority – have predicted (and even prescribed) the end of the NPT (Pretorius / Sauer 2021).

Because there is a natural trend towards more proliferation and because of the current fate of the NPT, it seems more likely than not that the spread of nuclear weapons will not be stopped. One of the candidates to become the next nuclear-armed state is Iran. On top of this bleak overview with respect to non-proliferation, international politics at large is currently going through particularly turbulent times. It is tempting to blame individual political leaders not only in authoritarian states like Russia (Putin) and China (Xi), but also in democracies like the US (Trump). The problem, however, goes deeper: the ongoing turbulence has to

do with the changing balance of power in the world. Apart from a rising China and a relatively declining US, there is the Global South with upcoming regional powers such as India, Brazil, Turkey and others.

Advocates of multipolarity like Karl Deutsch point to the inherent uncertainties that go together with more power poles, which should make leaders more prudent. Unfortunately, the current generation of world leaders do not seem to fit this pattern.

As such, the current world order resembles multipolarity. Advocates of multipolarity like Karl Deutsch point to the inherent uncertainties that go together with more power poles, which should make leaders more prudent (Deutsch / Singer 1964). Unfortunately, the current generation of world leaders do not seem to fit this pattern. President Putin risked waging war with Ukraine by annexing the Crimea, making trouble in the Eastern part of Ukraine, and invading Ukraine in February 2022. While the US had previously attacked other countries (Somalia, Serbia, Afghanistan, Iraq, Libya, Syria, Iran, and others) for similar reasons (including regime change), it never did so vis-à-vis neighbours, and it never had the intention to annex (parts of) a country. That said, in the meantime President Trump has threatened to do the same as Putin by annexing Canada, Greenland and the Panama Canal. Whether this is bluff and therefore part of his typical bargaining behaviour remains to be seen. However, the tariffs he is imposing on enemies and friends in the meantime are real, if also meant for bargaining. His domestic policy is unworthy of a democracy, and his foreign policy is unpredictable, to say the least.

These uncertain times directly affect the nuclear non-proliferation regime as well. One of the major consequences of Trump's erratic behaviour is increasing uncertainty in the capitals of US allies, both in Europe and Asia (Hirsh 2025). The result is a growing chorus of allies talking about the need for an alternative to the existing US extended nuclear deterrent. In particular states like Poland, South Korea, and to a lesser extent Germany and Japan are talking about acquiring nuclear weapons themselves or at least threatening to do so to put pressure on the US to maintain the existing nuclear umbrella. Additionally, a renewed debate about a ‘Eurobomb’ was triggered after the infamous Oval Office incident between President Trump and President Zelensky in March 2025 (Perot 2025).

Sustainable non-proliferation

The best way to prevent nuclear proliferation in the longer term is to eliminate all nuclear weapons. This was a legally binding obligation under the NPT and the main objective of the Treaty on the Prohibition of Nuclear Weapons (TPNW)(Sauer 1998; Meyer / Sauer 2018). It will be more difficult to produce nuclear weapons in a world without nuclear weapons than in a world with them. There will also be less incentives to produce these weapons

and more means for verification as nobody (in theory) would have something to hide. Very concretely, in a world without existing nuclear weapons, Iran in all likelihood would not have been so close to the bomb as it is today.

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In the short and medium term, the spread of nuclear weapons to more and more states and non-state actors can be contained by trying to reduce the demand and the supply of materials necessary to build nuclear weapons. On the demand side, (perceived) insecurity because of political conflicts amongst states (including changes in the regional or global balance of power) is the main underlying reason why states are driven towards the acquisition of the necessary ingredients of weapons, including nuclear arms. The best way to prevent interstate conflicts from becoming violent is to establish a regional and global collective security system. Security means shared security. For instance, as long as Russia feels insecure (because of NATO expansion, etc), the chances are that the relationship between Russia and the West will remain problematic. In contrast, in a collective security order, member states try to reassure each other that they prefer to cooperate instead of making trouble. They will also make rules to prevent conflicts becoming violent. In such an order, there is less chance of miscommunication, misperceptions, and miscalculations than in a classic balance of power constellation. Examples of collective security organisations are the UN and the Organization for Cooperation and Security in Europe (OSCE). The Concert Européen, which unified the major regional powers in Europe after the Napoleonic wars in 1815, is another positive example of a collective security order (Sauer 2017; Sauer 2025).

With respect to the supply side of the necessary ingredients of nuclear weapons, the objective should be to keep and ideally strengthen the existing non-proliferation regime. The latter contains different elements: the NPT, the IAEA, export control regimes, arms control agreements including nuclear weapon free zones agreements, negative and positive security guarantees, and more. If that does not work, coercive diplomacy could be used to convince the proliferator to halt its programme.

The NPT

The NPT consists of three pillars: non-proliferation (including safeguards); support for civilian nuclear programs (including nuclear energy); and nuclear disarmament. The NPT is a discriminatory treaty in the sense that it makes a distinction between two categories of states: nuclear weapon states and non-nuclear weapon states. The former are defined as those which had exploded a nuclear device before 1967; namely, the US, Russia, the UK, France, and China. All other states had to promise that they would never acquire nuclear weapons. The deal was that in exchange, the non-nuclear weapon states would get support for setting up civilian nuclear programs, and the promise to start multilateral negotiations to eliminate nuclear weapons (albeit without a deadline). Unfortunately, nowadays the NPT is on the cusp of collapse, and it will be extremely hard to rescue it. The reasons for this are two-fold. Firstly, there is increasing polarisation between the nuclear weapon states and the non-allied non-nuclear weapon states. The latter accuse the former of not fulfilling their legally binding

obligations to eliminate their nuclear arsenals, while they themselves keep fulfilling their own obligation not to acquire nuclear weapons. Rising states like Brazil, Argentina, Mexico, Nigeria, South Africa, Egypt, Turkey, Indonesia and others are tired of hammering on the same nail since 1970. That is also the reason why many Global South countries support the TPNW, an initiative of a group of states that include Brazil, South Africa, Mexico, Austria, Switzerland, Ireland and Norway.

The second reason why the NPT is in danger is the further trend towards proliferation, which is especially acute in the Middle East. Iran has acquired more than enough fissile material for building at least nine bombs, and the chances are that the 400 kilograms of highly enriched uranium needed for these bombs have remained intact after the bombings by Israel and the US in June 2025. Iran only needs to take the political decision to manufacture, test and deploy them. If so, Saudi Arabia would in all likelihood follow suit, as announced in 2023 (and before) by high-ranking Saudi officials (Borger 2023). There are also rumours that Turkey is interested in acquiring nuclear weapons. Egypt had already a nuclear weapons program in the past, and could re-start it.

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If Iran withdraws from the NPT, it would be the second country to do so after North Korea. If other states in the region or if some of the US allies (like South Korea or Poland) follow Iran, that would mean the *de facto* end of the NPT. Even without further proliferation, the odds are that the outcome of the next NPT review conferences will be the same as the two previous conferences: no final document.

The main reason why non-nuclear weapon states have not withdrawn from the treaty is the support they are entitled to in establishing civilian nuclear energy programmes.

IAEA

The IAEA, or the International Atomic Energy Agency, is the UN watchdog for nuclear proliferation. It was established in the 1950s, long before the NPT. Within the realm of the NPT, the IAEA received the task of verifying the declarations made by the non-nuclear weapon states with respect to the presence of fissile material in their respective countries. One should note the additional discrimination here between nuclear and non-nuclear states, as the nuclear weapon states under the NPT do not fall under this obligation. Issues of compliance are a further difficulty, and more in particular the risk of politicisation. The UN Security Council is in charge of handling these issues after notification by the IAEA. Furthermore, there are inherent limitations of the Agency. If a state refuses (certain) IAEA inspectors (as has occurred in North Korea and Iran), the Agency cannot do very much. Lastly, the creation of stronger verification instruments such as the IAEA Additional Protocol (1997) is regarded by some states (like Brazil) as an additional discriminatory burden for the non-nuclear weapon states. The Additional Protocol is therefore not universally accepted.

Export control regimes

Export-control regimes are informal regimes of groups of states that decide which products are not allowed to be exported for non-proliferation reasons. In the nuclear realm, there is the Zangger Committee and the Nuclear Suppliers Group. Similar

arrangements exist for missiles (Missile Technology Control Regime), chemical weapons (Australia Group), and conventional weapons (Wassenaar Agreement).

Arms control

The main objective of arms control treaties is to control the quantity and/or quality of weapons. Most of the time, they are less ambitious than disarmament treaties, which aim to eliminate a specific category of weapons. Past nuclear arms control agreements have, to a certain extent, delegitimised nuclear weapons, and can therefore be regarded as reinforcing the disarmament pillar within the NPT.

Most arms control agreements initiated during or after the Cold War, however, do not exist anymore. The bilateral strategic arms control agreements (SALT, START, SORT) expired, and the remaining one – New START – is supposed to end at the beginning of 2026 and is in tatters because of the war in Ukraine, having been extended by President Biden and President Putin in 2021. It is very unlikely that a follow-up treaty will be negotiated before the beginning of 2026, and certainly not a lengthy one that includes extensive verification mechanisms. A major issue of debate is whether China, France and the UK will also have to be involved in the next round of negotiations.

No treaties exist with respect to sub-strategic (or tactical) nuclear weapons. While the Partial Test Ban Treaty that prohibits testing in the atmosphere is still in place, the Comprehensive Test Ban Treaty (1996) never entered into force because eight states (including the US and China) still refuse to ratify it. Russia ‘de-ratified’ it in 2023. The most successful arms control agreements are arguably the nuclear weapon free zone treaties (like those in Latin-America and Africa), some of which date back to the 1960s. All in all, the result of arms control is very meagre. Unless the war in Ukraine comes to a halt soon, the prospect for arms control looks very dire. A similar assessment can be made with respect to global nuclear disarmament. While the numbers are still very high (12,000), until recently the numbers at least slightly declined. Since 2023, however, the numbers have started going up again, mainly due to the rising numbers in China.

Negative security guarantees

Negative security guarantees are assurances by the nuclear weapon states not to attack non-nuclear weapon states with nuclear weapons. There is, however, no progress with respect to making these negative security guarantees legally binding, an old request by the non-allied non-nuclear weapon states.

While the nuclear non-proliferation regime has certainly made a positive difference, a state that is eager to acquire nuclear weapons can do so. If North Korea is able to produce nuclear weapons, many other countries (including Iran) could do so as well.

The only sustainable solution is to make an equal playing field. There are only two options: a world where all states that are eager to have nuclear weapons are allowed to do so; or a world without nuclear weapons. Most will agree that the second option is the best. However, as long as no serious steps are taken in that direction, the trend will be towards more proliferation.

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To explain why some states (in contrast to others) are able to acquire nuclear weapons requires a detailed analysis of the domestic political scene of the potential proliferator (Tabatabai 2020) as well as that of the hegemon and its allies that aim to prevent it.

Coercive diplomacy

Once a state has embarked on a nuclear program, other states can try to halt it. This can take the form of non-coercive or coercive diplomacy (including economic sanctions), grey zone war, or preventive war.

States can try to convince proliferators to halt their nuclear programs by using diplomacy in the form of carrots and sticks. In case of threatening the use of sticks, such as economic sanctions, we speak of coercive diplomacy (George 1997; Sauer 2007). If economic sanctions do not work, one could enter the realm of grey zone war including cyberattacks, assassinations of nuclear scientists, and small-scale attacks against nuclear facilities. Lastly, states could launch a large-scale preventive war to prevent another state to acquire nuclear weapons.

Case-study: Iran

Iran’s military nuclear program dates back from the Shah in the 1970s. After the Islamic Revolution in 1979, the program was put on the backburner until Iraq attacked Iran with chemical weapons. It got a further boost under the moderate President Khatami at the end of the 1990s. The National Council of Resistance of Iran (NCRI), one of the opposition groups, revealed its existence in 2002. Since then, the program has been the subject of international controversy. Recently, Israel carried out what it had threatened to do for a long time, namely bombing Iran’s main nuclear facilities (Natanz and Isfahan). The US joined the fight by bombing the Fordow site with bunker busters.

Coercive diplomacy succeeded in concluding the Joint Comprehensive Plan of Action (JCPOA)

Interestingly, it was the EU – or rather, France, the UK and Germany – that took the initiative to start negotiations with Iran in 2003 (Sauer 2007). The two agreements with the EU were not a success. In 2006, the Iranian file moved from the IAEA to the UN Security Council, resulting in economic sanctions. But it was only after the imposition of harsh unilateral economic sanctions by the US followed by the EU in the period 2010-2012 that coercive diplomacy seemed to have impact. Presidential candidate Rohani was elected in 2013 on the basis of starting negotiations with the international community to get rid of the economic sanctions. That is also what happened. An Interim Agreement was signed between Iran and the EU-3+3 (France, Germany, the UK plus the US, Russia and China) or the P-5 + 1 (the UN Security Council permanent members plus Germany) in 2013. Two years later in 2015, the Obama administration took the lead with the support of Oman in a mediating role, and the Joint Comprehensive Plan of Action (JCPOA) – better known as the Iranian nuclear deal – was signed.

The JCPOA limited the civilian nuclear program of Iran substantially (in terms of percentage of enrichment, number of centrifuges), while at the same time suspending the economic sanctions, albeit with a snap-back clause in case Iran violated the agreement. The limitations were set to come to a halt after ten or fifteen-years’ time, depending on the measure (= sunset clauses). The result was that the break-out time, the time that Iran needed to make a nuclear weapon in secret, would be extended to a year. Overall, this was heralded as a very good agreement.

Critics like Trump (in the opposition at that time) did not like the 'sunset clauses' and the fact that the scope was limited to the nuclear program, while issues like the Iranian missile program as well as its regional policy of supporting proxies like Hezbollah and Hamas were not covered by the deal.

The implementation on the JCPOA, however, was more difficult than foreseen. Western and especially European firms that were interested in resuming trade and investment with Iran were hampered by remaining unilateral US sanctions.

The JCPOA became more or less irrelevant

In May 2018, President Trump unilaterally withdrew from the Agreement. As a matter of good will, Iran continued to abide to the agreement for one year. In the meantime, the EU was unable and/or unwilling to rescue the JCPOA. European firms were threatened with secondary sanctions by the US (being cut-off the US market) if they traded with Iran. In June 2019, Iran gradually started violating the Agreement. President Trump had promised to make a better deal with Iran, but that never came to fruition. At the end of Trump's first presidency, Iran stood much closer to the bomb than in the period before the JCPOA.

After the first Trump administration, one could have expected that the JCPOA would have been rejuvenated. But both President Rohani and President Biden played hard-ball, which led to no concrete progress. When the more conservative Raisi government came to power in the summer of 2021, the JCPOA became more or less irrelevant (Mousavian 2023; Sauer 2024). Iran continued working on its nuclear program.

In the meantime, President Trump has been re-elected and had re-started negotiations with Iran in the Spring of 2025. However, after the fourth round of negotiations, Israel started a large-scale bombing campaign against the Iranian nuclear facilities. President Trump joined the attacks by bombing the Fordow site with bunker busters. It is unclear to what extent the Iranian program has been destroyed. Most observers seem to believe that the program was not 'obliterated' but only delayed by months or a maximum of one or two years (in contrast to what President Trump has stated)(Davenport 2025). In all likelihood, Iran had hidden its highly-enriched uranium in a secret location, has since recuperated some or many of its gas centrifuges, and can always rebuild gas centrifuges and enrich uranium again. Knowledge cannot be bombed.

The future: two scenarios

The most likely state to become the tenth nuclear-armed state is Iran. That said, writing in August 2025, the outcome remains uncertain. There is still a window of opportunity to prevent Iran from going nuclear. The main reason why this window is closing has to do with the JCPOA. Some of the sunset clauses will come to a halt in October 2025, ten years after the entry into force of the JCPOA. Thereafter Iran will have more freedom to build the bomb. Until then, the parties to the agreement have the possibility to invoke the so-called snapback mechanisms that will reimpose the previously installed UN sanctions. The EU parties – France, the UK and Germany – have already threatened to do so. In turn, Iran has threatened to leave the NPT if such sanctions were implemented. After the bombings by Israel and the US in June 2025, the Iranian parliament proposed to suspend the co-operation with the IAEA, and more voices in Teheran demand the government to leave the NPT. If that were to happen, Iran would have its hand untied to build nuclear weapons, at least

after a three-month waiting period. There remain basically two scenarios.

Scenario one: Iran acquires nuclear weapons

From a Realist point of view, the odds are that Iran will build nuclear weapons for reasons of security and power. Iran is situated in a geopolitically unstable environment. It was attacked by Iraq in 1980 (including by chemical weapons). During that war hundreds of thousands of Iranians died. The theocratic regime is an arch rival of both Israel and the US (and vice versa) that both possess nuclear weapons and preventively bombed Iran in 2025. Sunni Saudi Arabia is another regional enemy (although the relations have improved over the last few years). Within this context, it is understandable that Iran is looking for means to survive. The Iranian leaders notice that similar regimes without nuclear weapons – more in particular Afghanistan, Iraq and Libya – have been attacked by the US. Similar regimes with nuclear weapons – North Korea and Pakistan – have been spared. The message that thrives in Teheran is as follows: a nuclear-armed state will not be attacked (or the idea that nuclear deterrence is effective). At the same time, the nuclear club remains relatively small. Possessing nuclear weapons seems to yield prestige, status, and therefore power to the nuclear-armed states, both vis-à-vis neighbouring states without nuclear weapons as well as vis-à-vis its own people. In addition, there are powerful advocates of a nuclear weapon within the regime. Many of the Guards and other conservatives in Iran are in favour of building the bomb, even more so after the Israeli and US bombings. They identify themselves with the Islamic revolution and at the same time they have material self-interests related to the economic sanctions via the so-called black market. They argue that the country has already invested a lot of money, personnel, and opportunity costs (due to the sanctions) in the nuclear program, and make the point that to abandon it now would be hard to explain to the Iranian people.

The current geostrategic circumstances are not in favour of Iran, which yield additional arguments for the advocates of the bomb.

The current geostrategic circumstances are not in favour of Iran, which yield additional arguments for the advocates of the bomb. Since the attack of Hamas against Israel on 7 October 2023, many of the Iranian proxies have been harshly attacked and partly decimated by Israel: Hamas and Hezbollah. Indirectly, also, the Assad regime in Syria came to a halt. Even the relationship with neighbouring Iraq is weakening. Even before bombing the nuclear facilities in Iran in June 2025, Israel had attacked both the Iranian nuclear programme (by cyberwarfare – Stuxnet – and kinetic attacks against nuclear facilities and nuclear scientists) as well as its air defence system. Iran is therefore more isolated and insecure than ever. That applies even more after the large-scale bombings of its nuclear facilities whereby high-level Iranian military and nuclear scientists have been killed as well. All this provides additional arguments for the domestic advocates of the bomb.

Furthermore, the international community is less united vis-à-vis Iran's nuclear program than in the period before the conclusion of the JCPOA. Iran has become an ally of Russia in the war in Ukraine, providing drones and missiles; and China jumped into the Iranian (oil and gas) market as a result of the Western sanctions against Iran. It is therefore still unclear to what extent China and especially Russia will play a similar constructive role

in preventing a nuclear Iran in comparison with the period of the JCPOA. That said, neither Russia nor China actively helped Iran when it was being bombed by Israel and the US.

Last but not least, the nuclear programme has advanced so far that Iran is currently believed to have enough fissile material for at least nine atomic bombs. It can easily and quickly step up the enrichment level from 60 to 90%, the level needed for having bomb-graded material. The time that is needed to weaponise is uncertain. Some believe it could be limited to a couple of months.

Scenario two: nuclear diplomacy succeeds

It seems that the theocratic regime since the mid-1980s, which is building upon the ambition and infrastructure already set up by the Shah, at least wants to have everything ready to build the bomb if needed. That said, the Iranian program can hardly be described as a sprint to the bomb (Narang 2016/2017). The main reason for this delay is not technical, but political: the Iranian elite is split on the issue. Moderates may have (more) moral and religious qualms (including Ayatollah Khamenei's Fatwa against the bomb) (Golkar 2025) and want to use the nuclear program for bargaining reasons, e.g. to get rid of the economic sanctions. They see short-term opportunities to open up the Iranian economy, and as a result bring welfare to the people. In doing so, they hope to stabilise the theocratic regime, which remains the ultimate goal of the regime, including the goal of the moderates.

The Iranian program can hardly be described as a sprint to the bomb. The main reason for this delay is not technical, but political: the Iranian elite is split on the issue.

There is currently a moderate president in charge in Iran, President Pezeshkian, while in the US President Trump has started his second term. Donald Trump pleaded for negotiations with Iran during his second presidential campaign. The latter corresponds to his image of being a president that prefers to stop instead of starting wars. Trump sees himself as a dealmaker. One recalls his two meetings with the North Korean leader Kim Jong Un in his first term, even though the latter did not lead to a peace agreement. Being characterised as narcissistic, he undoubtedly will be proud if he is awarded the Nobel Peace Prize. All this may explain his tendency to resolve the Iranian nuclear crisis by negotiations. On the other hand, he is also known for being impatient, as is demonstrated by the limited (in time) but heavy US bombings on Fordow in June 2025. Earlier on, President Trump signed a presidential memorandum on 4 February 2025 to put maximum pressure on Iran (in contrast to President Biden). That said, while signing it, he stated again that he wanted to make a deal (Parsi 2025). He sent another letter in the beginning of March 2025 in which he proposed to start up negotiations and finish them in 60 days. Iran and the US have sat together in Oman. Afterwards, both parties stated that the talks had been constructive (Hernandez 2025). Then, the bombings took place. Many observers believe that it will be the death knell of the negotiations (Allison 2025). Remarkably, the Trump administration was interested in starting up negotiating again in the summer of 2025. Sceptics argue that such negotiations will provide time for Iran to restore its nuclear program after the bombings. Optimists believe that there is still a window of opportunity for a limited deal, comparable to the interim deal of 2013 (Nephew / Tabatabai 2025; Einhorn 2025; Nasr 2025). Possible elements of such a deal are: restrictions of the nuclear program (including low levels of enrichment,

a maximum number of centrifuges, no reprocessing, and a prohibition on weaponisation) and renewed IAEA inspections, in exchange of suspending the economic sanctions. One last caveat is that the possibility to install snapback sanctions against Iran ends in October 2025 as part of the JCPOA. The E3 – France, Germany, and the UK – initiated the process to snap back UN sanctions at the end of August 2025 because there was no progress with respect to the negotiations between the US and Iran. The procedure is that there is a 30-day window before snapback is finalised. The hope is that an interim agreement with Iran can be reached before the end of September 2025 (Geranmayeh 2025). However, in case this strategy fails, and the UN and EU sanctions are reimposed, the odds are that Iran will leave the NPT, which increases the chances that it will build the bomb.

Conclusion

Sustainable nuclear non-proliferation equals nuclear weapons elimination. In the meantime, a vibrant non-proliferation regime and a less turbulent world could limit the number of proliferators. Unfortunately, the nuclear non-proliferation regime is in tatters, and the world is turbulent.

Iran is on the cusp of finalising its decades-old nuclear programme and acquiring nuclear weapons. The bombings by Israel and the US are not a game-changer. Knowledge cannot be bombed. Iran will always be able to restart its nuclear program, depending on the external environment as well as domestic politics, both in Iran and beyond. Even in case the regime implodes, and Iran becomes a full-fledged democracy (which is unlikely in the short term), there is no guarantee that it will not produce atomic weapons. Democratically elected governments in South Korea and Poland, to name only those two, are currently playing with the idea of building the bomb as well.

The only sustainable solution, as explained in the first part of the article, is to start delegitimising nuclear weapons around the world with the objective to eliminate them by means of an international legally binding treaty signed by all states, both nuclear-armed and non-nuclear-armed. The latter is also an obligation under the NPT. The TPNW could be used or a Nuclear Weapons Convention could be negotiated. Only in that case will the odds be that Iran will not build the bomb.

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Framing the Bomb: media representations, public perceptions and the future of nuclear weapons in the United Kingdom

By Rhys Crilley

What is the public perception of nuclear weapons in the UK? And what is the role of the media in shaping this perception? This article examines these questions in the context of the ‘Third Nuclear Age’: a new era of multipolarity, increasing tensions, emerging technologies, and the collapse of longstanding arms control agreements. I begin by placing representations of, and attitudes towards, nuclear deterrence and disarmament within today’s broader political communication landscape. I then examine several illustrative examples of how nuclear weapons are represented in the UK, before examining recent British public opinion about nuclear weapons. I argue that the public understanding of nuclear weapons in the UK is not static or singular but shaped by dynamic, contested narratives that circulate through policy discourse, traditional and digital media, and popular culture. Drawing on framing theory, discourse analysis, and recent public opinion data, I examine how media representations as well as public perceptions and emotions shape what nuclear futures are imagined as possible for the UK in the Third Nuclear Age.

Keywords: nuclear weapons; Third Nuclear Age; nuclear disarmament

Introduction

We live in a time of global disruption. The motto of ‘move fast and break things’ – once the preserve of Silicon Valley ‘tech bros’ – now seems to be the defining principle of US foreign policy. Tariffs, trade wars, and dramatic changes in the American approach to key contemporary international issues – such as Russia’s war in Ukraine or Israel’s use of force against Iran – shock the global system and render confusion amongst states, the public, and experts alike. No area of international politics is safe from this shock and uncertainty, and nowhere is this radical disruption having more significant impact than in the field of nuclear politics.¹

Following the Trump administration’s actions in early 2025, including their temporary pivot away from supporting Ukraine and chastisement of NATO and EU member states for relying too much on the US for their own defence, policy discourse, media debate and public perception of nuclear weapons is in a state of flux. This instability has also been cultivated by a surrounding lack of clarity about whether longstanding allies can rely on American nuclear weapons to provide them with a ‘nuclear umbrella’ and an idea of ‘extended deterrence’ to support them (Fayet et al. 2025: 123; Egeland 2025: 45–48).

In recent months, for example, there has been a distinct shift in potential nuclear policy ideas posed in public. Robert E. Kelly (2025), an expert on South Korea who once went viral when his children gate-crashed an interview with the BBC, has penned an article with his colleague Min-Hyung Kim that South Korea

“should go nuclear” and develop their own nuclear weapons. James Cameron (2025), an expert on Cold War history based at the University of Oslo, has argued that Europe needs its own nuclear deterrent and that “an Anglo-French ‘Eurodeterrent’ is the best [nuclear policy] option for Europe.” James Rogers and Marc De Vore (2025), political analysts at the Council on Geostrategy, have called for the UK to develop their own tactical nuclear weapons, arguing that “nothing deters (or reassures) like nuclear forces, especially when they provide flexibility in terms of response” and that other policy options “to boost deterrence” such as cyber-attacks “lack the aura of extreme violence”. All of these proposals would mark significant shifts in contemporary nuclear politics; some of these proposals would stretch, and even breach, international law and longstanding treaty obligations. There is also little evidence that these policies would contribute clearly to enhancing global security. Yet despite this, these arguments have been made by respected figures in the field of nuclear policy and security studies, and have gained traction in several media outlets, thereby illustrating that in the new era of nuclear policy, pretty much all options are on the table. Indeed, whilst South Korea has not yet gone nuclear, on 10 July 2025 the UK and France signed the Northwood Declaration and agreed to coordinate their nuclear planning in the face of extreme threats to Europe. As of June 2025, the UK’s announced purchase of F-35A fighter jets will give the UK tactical nuclear weapons capabilities (though those weapons will have to be loaned from the US). Nuclear policies are shifting across the planet, and ideas that were on the fringes only a few months ago are now being implemented as national policy. This new era of nuclear policy is often referred to as the ‘Third Nuclear Age’ (Futter / Zala 2021: 251; Crilley 2023: 1). The First Nuclear Age was defined by bipolar superpower competition between the USA and USSR during the Cold War. The Second Nuclear Age was characterised by a reduction in nuclear stockpiles but accompanied with fears of nuclear proliferation and terrorism in the post-Cold War era. The Third Nuclear Age, however, now presents unique challenges (Crilley 2023; Futter et al 2025). Beginning with the collapse of the Intermediate Nuclear Forces (INF) Treaty in 2019, the Third Nuclear Age is characterised by the collapse of nuclear arms control agreements, the rise of multipolarity, the emergence of disruptive new technologies, and increasing global tensions, as well as adversarial relations between, and open conflicts involving, nuclear weapon states.

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In this new era, every nuclear weapon state – including the United Kingdom – is either modernising or increasing their nuclear arsenals. Amidst this context of global disruption, the collapse of arms control, and the stalling of movement towards disarmament (alongside the increasing risks of nuclear use), it is important to understand how nuclear policies are both claimed to be legitimate and perceived to be ‘legitimate’ or not by others.² This is because changes to nuclear policy – whether they are moves towards building more nuclear weapons or moves towards disarmament and abolition – can only occur when state leaders and policymakers perceive those changes to be worthwhile and can convince an audience (of fellow elites and/or the public) that those changes are legitimate (Reus-Smit 2007: 159-160). So, what do the British public think about nuclear weapons in our current moment? Do they perceive them to be legitimate or not? And what role does the media play in shaping these views? Moreover, how are narratives about nuclear weapons in the UK changing amidst the context of the Third Nuclear Age? And what does this all mean for the future of nuclear disarmament?

These questions guide the subsequent analysis that draws upon content and discourse analysis of government and media sources as well as overviews of academic literature and public opinion data. This article is structured as follows: the next section elaborates on the concept of the Third Nuclear Age and explains how and why political communication matters in the field of nuclear politics today. I then examine media representations and public perceptions of nuclear weapons in the UK, before placing this in a global context. Finally, I outline what my analysis suggests for the future of nuclear disarmament and global security.

The Third Nuclear Age and the politics of communication

The Third Nuclear Age is one of profound material changes – new delivery systems and weapons technologies, more nuclear weapons, and increasing conflicts between and involving nuclear weapon states – but also profound shifts in the ways nuclear weapons are represented, discussed, and understood. Today, as in the past, political communication is not peripheral to nuclear politics; rather, it is central to its construction, legitimation, and contestation (see Cohn 1987: 690; Taylor 1987: 303).

The collapse of the INF Treaty in August 2019 is a good starting point for understanding the dawn of the Third Nuclear Age (Crilley 2023: 1). On the one hand, it signals a material shift in nuclear politics – the development and deployment of previously prohibited missile systems. On the other, it signals a communicative change – a breakdown in communication and cooperation between the two largest nuclear powers, as well as new communications from these states explaining how new nuclear weapon delivery systems are supposedly essential for them to ensure their own security. Other events since 2019 illustrate the increasingly unstable communicative landscape of nuclear politics. These include, but are not limited to, Russian nuclear threats accompanying its full-scale invasion of Ukraine in 2022, the hostility of the Trump administration to longstanding allies, calls for nuclear proliferation in countries like South Korea, Japan, Turkey, and in some EU countries such as Poland, alongside the return of open conflict between a nuclear armed India and Pakistan after the Pahalgam attacks, as well as Israel’s recent strikes on Iranian nuclear facilities. In Britain too, we have seen the creep of previously abnormal nuclear ideas becoming normalised in policy and press spaces, where calls for British ‘tactical nukes’ are no longer long dead relics from the Cold War archive but are reanimated

like Frankenstein’s monster: as zombie policy options that are now deemed essential for security. The Third Nuclear Age then, is not one of mere technological developments and new geopolitical contexts, but of fundamental debates around meaning and the reality of the world – what security is, who it is for, and how it can best be achieved (Ritchie 2024: 507). Subsequently, how nuclear weapons are represented, framed, and made sense of matters as those representations shape what is considered possible and deemed to be legitimate nuclear policy (Meyer 1995: 190; Pantoliano 2023: 1191).

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Following Derrida’s provocation that the atomic age is “*fabulously textual*” and reliant on “structures of information and communication” (1984: 23, emphasis in original), in the Third Nuclear Age these structures are now even more fragmented. They communicate more information at a faster pace and are more emotionally charged than ever before (Crilley 2024: 142). Digital diplomacy, meme warfare, disinformation, and the erosion of trust in mainstream journalism all contribute to a new media ecology and information environment in which nuclear threats can be, and are, made, joked about, minimised, or mythologised in real time (Crilley 2025: 475). In this chaotic communication environment, framing theory can be a helpful tool to make sense of how the legitimacy of nuclear policies are claimed and constructed. As Robert Entman (1993: 52) argues, framing involves selecting certain aspects of the world and making them more salient in communications in order to achieve specific outcomes. Framing involves stating that: 1) something is a problem; 2) something or someone is a cause of that problem; 3) morally evaluating the problem; 4) proposing a solution and then making a call to action.

Framing theory therefore provides a straightforward way of analysing how the legitimacy of nuclear weapons, arms control, and disarmament is communicated and contested. For example, when British media report on Britain’s Trident nuclear weapons programme, referring to it not as a weapon of mass destruction but as “vital to our national security,” they are doing more than describing government policy – they are representing nuclear weapons as legitimate and endorsing ideas such as nuclear deterrence. And when supporters of nuclear disarmament are portrayed as naïve, unpatriotic, and unrealistic – as was often the case with prominent politicians who supported nuclear abolition such as Nicola Sturgeon or Jeremy Corbyn – this too can be understood through framing; namely, as a situation in which dissent is dismissed and disciplined, and alternative nuclear imaginaries are marginalised, as a future without nuclear weapons is generally portrayed as inconceivable (see Pelopidas 2021: 485). Both of these framings are underpinned by divergent logics of nuclear weapons as 1) a guarantor of national security and 2) as a threat to human and planetary security. They also rely upon different representations of a problem, causes of that problem, moral evaluations, and different proposed solutions and calls to action.

The dynamic between government policy, media representations, and public perceptions of nuclear weapons is neither linear nor neutral, but it is clear that government framings do influence media framings which then influence public perceptions. In the UK, the dominant framing of nuclear weapons has long emphasised

necessity, strength, deterrence, and exceptionalism. Britain may no longer have a global empire, but it still has Trident – or so the narrative goes. And in this narrative, ‘our’ [that is British] nuclear weapons are not weapons of mass destruction that pose a risk of global annihilation; instead they are guarantors of ‘our’ security, and a highly valuable symbol of prestige that supports the British economy, shapes British national identity, and grants Britain influence, whilst also deterring adversaries and thereby having operational military value to the UK (Ritchie 2013: 155-159).

This framing and these underpinning values may be hegemonic across the British nuclear weapons debate, but they do not go unchallenged. Counter-narratives exist, and they matter as they contest the legitimacy of nuclear weapons and deterrence and offer alternative conceptions of what security is and can be (Alexis-Martin 2019: 4; Considine 2019: 1090; McDowell 2023: 185-204). Mass movements, activist advocacy, cultural representations, and online communities have all challenged the legitimacy of nuclear weapons in the UK and beyond in myriad ways (Hill 2018; Hogg 2016: 174). Alongside mass protest in the early 1980s, TV films and series like *Threads* and *The Day After* pushed the public and policymakers to recognise the catastrophic consequences of potential nuclear use, and to push for disarmament. More recently, reanimated fears of nuclear accidents and radioactive disaster have returned for a new generation who may have seen the Oscar winning *Oppenheimer* movie, the *Chernobyl* or *Fallout* TV shows, or have read Annie Jacobsen’s best-selling book *Nuclear War: A Scenario* (2024). In different ways, these cultural texts perform a crucial communicative function: they render the invisible visible, the abstract tangible, and transform nuclear policy from something which is often posed as highly technical and bureaucratic into something that is horrifyingly real and relevant to the public. Popular culture can essentially do what official policy papers do not. It can make many people interested in, and worried about, nuclear weapons (for recent interventions that eloquently and convincingly demonstrate how popular culture matters in nuclear politics see Pantoliano 2025; Faux 2024; Faux / Pullen 2025; Taha 2022; Hogue / Maurer 2022).

Popular culture can essentially do what official policy papers do not. It can make many people interested in, and worried about, nuclear weapons.

Emotions are central across all these sites of political communication in the Third Nuclear Age, including policy, the press, and pop culture. Following Sara Ahmed’s (2004) theory of “affective economies”, we must consider not just how nuclear weapons are framed in language and other forms of representation, but how they circulate affectively – how they are bound up with invocations of certain emotions and how they become objects of fear, fascination, pride, safety, terror, and apathy. In Britain, public opinion on nuclear weapons is not static, but fluctuates in response to geopolitical events, government statements, media and cultural narratives, and moral appeals made by supporters of disarmament and abolition. In drawing attention to the role that emotions play in nuclear politics by constraining and enabling certain policies, one opens up their analysis beyond a mere question of ‘does the British public support Trident?’ Rather, we ask what Trident means to people, which emotions that meaning provokes, and what political possibilities those representations and feelings make possible.

As such, political communication in the Third Nuclear Age is not simply about message transmission, it is about cultural production, media content, public perceptions, and emotions in a digital age where anyone can comment, share, remix, regurgitate, or challenge what media they view online. It is about who gets to define the terms of debate on nuclear policy, who speaks out the loudest, who is heard and who is silenced, what gets amplified and what gets ignored. As the claiming and granting of legitimacy is crucial to any serious policy shift – whether towards disarmament or further armament – the narratives we craft, consume, and share about nuclear weapons shape which futures are imaginable, and which remain foreclosed (Pelopidas 2021). Therefore, to understand contemporary nuclear politics in the UK and beyond we should look at the realm of high technology, elite posturing and inaction, and geopolitical contests, but we must also move beyond the realm of warheads and letters of last resort. We must also examine the metaphors that normalise nuclear weapons, the news headlines that frame them, the TV scripts that allude to them, and the TikTok videos that challenge them. It is through these communicative acts that the bomb is not just represented but made real to the majority of people.

We must consider not just how nuclear weapons are framed in language, but how they circulate affectively – as objects of fear, fascination, pride, safety, terror, and apathy.

The media and the Bomb in Britain

In the UK, nuclear weapons materially exist in submarines under the sea setting out from the Faslane naval base in Scotland, but they also exist socially as representations in culture, media and public imaginaries. British news media have long played a central role in shaping public perceptions about the bomb (Hogg 2016: 2), and in the Third Nuclear Age that role has become more complex, fragmented, and ideologically fraught. However, if we return to Entman’s understanding of framing we can see that the dominant media frame of nuclear weapons in the UK has remained largely consistent since the dawn of the atomic age. This largely follows the UK government’s own framing of nuclear weapons: that 1) the problem of global instability and a ‘dangerous security environment’ (either of the Cold War era or our current global malaise) is; 2) caused by adversaries that threaten the UK, some of whom possess or want to possess nuclear weapons, therefore; 3) the UK needs to possess nuclear weapons in order to ‘deter’ adversaries from attacking the UK; and 4) the moral evaluation is that the UK is a responsible nuclear weapon state that possesses nuclear weapons for deterrence purposes.

This frame played out in the British press during the Cold War. Here, traditional media, particularly tabloid and broadsheet newspapers and the BBC, tended to represent nuclear weapons through the lens of national security and deterrence theory, claiming it was “essential for the maintenance of great-power status” (Bingham 2013: 609). Critical coverage of nuclear weapons was censored, such as the BBC’s censoring of the 1966 *The War Game* documentary that depicted the aftermath of a nuclear war in Britain. Those who supported disarmament, when they were even acknowledged, were framed as radical or unrealistic. The Campaign for Nuclear Disarmament (CND), with its iconic peace symbol and mass marches and mobilisations, was often covered with an air of suspicion, its supporters depicted as either naïve idealists or, worse, as stooges for Soviet influence – see, for example, the letters published in the British press and authored by the Rt Hon

Sir Julian Lewis MP in the 1980s, 1990s and 2000s (Lewis 2025). Fast-forward to the present day and the tropes remain eerily familiar. Coverage of the UK's nuclear arsenal is still underpinned by notions of national prestige, deterrent necessity, and alliance solidarity: aspects that have all been brought to the fore in the early days of the second Trump administration. The likes of *The Guardian* may occasionally platform dissenting voices, but across the British press – particularly in outlets like *The Times*, *The Telegraph*, *The Sun* or *The Daily Mail* – the bomb is routinely framed as common sense, necessary, and ‘A Good Thing’. According to this framing, the bomb will “ensure vital protection for the UK and NATO allies” and stand as a badge of global relevance in a world where Brexit and a changing economic order has undermined Britain's former imperial status as a world leading power. This discursive representation is significant. As I have argued elsewhere, nuclear weapons policies “are made intelligible and possible through broader cultural repertoires of meaning” (Crilly 2023: 3). In Britain, one significant idea is that nuclear weapons are key to helping the country maintain its status as world leader even though it is no longer one of the world's largest economies or military powers. The bomb soothes a sense of post-imperial anxiety. Trident is not just a weapon that deters aggression, but it is a status symbol in a changed and changing global order – it is a prosthetic for a lost empire and a roar for a lion long dead. To question Britain's continued deployment and development of nuclear weapons, therefore, is to question Britain's status, prestige, and place in the world (see Ritchie 2013).

Yet, as the global media ecology has evolved from one of traditional, print and broadcast ‘one-to-many media’, to one of participatory ‘many-to-many social media’, so too have the mediums and ways in which representations and public perceptions of nuclear weapons changed. In the fragmented digital ecology of the Third Nuclear Age, nuclear discourse is no longer simply dominated by an orthodox framing that runs from the government through the *BBC* and *The Times*, but it is shaped via alternative media outlets, podcasts with millions of listeners, Facebook posts, Instagram stories, TikTok shorts, Reddit debates, and long-form YouTube videos. This shift has both disrupted and reinforced hegemonic discourses of nuclear weapons. On the one hand, digital platforms have enabled civil society, effected communities, disarmament supporters, academics, and younger activists to challenge the logic of deterrence in novel, creative ways – through personable viral videos, infographics, satire, and memes. On the other, the algorithmic structures of virality on platforms owned by Silicon Valley's biggest tech bros like Elon Musk and Mark Zuckerberg often amplify nationalist rhetoric and military spectacle. They (overly) simplify ‘Us’ versus ‘Them’ narratives that bolster support for nuclear weapons, where a good guy with a big bomb is supposedly the only way to stop a bad guy with a big bomb.

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The UK's 2016 Trident renewal vote is a case in point here. The parliamentary debate and vote represented a significant moment in nuclear politics – but media coverage focused less on the substantive issues of deterrence theory, legality under international law, or potential financial, humanitarian, and environmental costs, and much more on political theatre. Traditional British media outlets framed the vote as a loyalty test: are you serious

about national security, or are you a naïve pacifist? Around the time of the vote *The Sun* ran front pages with a photoshopped Jeremy Corbyn as a nuclear missile with the headline “off his war head”, and others that accused him of being “the most dangerous chicken in Britain”, as well as telling Brits “don't chuck Britain in the Cor-Bin” because of his “nuclear surrender” (Hawkes 2016). The BBC's coverage, though more measured, echoed the same binary – treating disarmament as a fringe position rather than a possible policy alternative, not to mention the position that the UK is actually legally obliged to pursue under Article VI of the Non-Proliferation Treaty.

This representation matters because media representations shape not just what people know about nuclear weapons, but also the possible responses to them. Problematically, media representations of nuclear weapons often contribute to what experts refer to as “nuclear eternity” – the idea that it is impossible to imagine a future without nuclear weapons (Pelopidas 2021: 484). In Britain, our imaginations of nuclear futures have been disciplined into acquiesce to deterrence theory and the maintenance and, more recently, the expansion of nuclear arsenals. Rarely do we hear about the humanitarian impact of actual and potential nuclear use or the lived realities of those affected by British nuclear testing (such as veterans or indigenous populations in Australia and the Pacific where Britain detonated 45 nuclear weapons), not to mention the ecological consequences of maintaining a nuclear-armed and nuclear-fuelled submarine fleet that produces nuclear waste. These are the realities that are missing, marginal, and marginalised by dominant discussions of nuclear weapons and deterrence theory in the UK. They are overshadowed by coverage that frames nuclear weapons as abstract, elite-level concerns that ensure ‘national security’.

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However, cracks in the status quo are visible. In Scotland, for example, elite views, public opinion, and media frames around Trident are markedly different (Ritchie 2017). Scottish newspapers such as *The National* often give voice to anti-nuclear sentiment. These were the only major UK newspaper to publish daily reports from the 2025 meeting of states parties to the Treaty on the Prohibition of Nuclear Weapons. They amplify SNP and Scottish activists' critiques of Westminster's nuclear commitment and highlight that the presence of nuclear submarines on the Clyde makes Scotland a potential site for nuclear accidents or attacks in the event of war. Here, the bomb is less a symbol of national pride and prestige – it is a dangerous existential risk foisted upon communities with little to no say in nuclear decision-making. Indeed, polling has shown that there is much less support for the renewal and modernisation of Trident amongst the Scottish public, although this has changed following Russia's full-scale invasion of Ukraine in 2022 (YouGov 2025). Moreover, alternative media such as *No-vara* and *Tortoise Media* are increasing their reach across the UK, covering nuclear weapon issues from a perspective that questions whether they do provide the security they are supposed to. In

these more critical representations, nuclear weapons are no longer the major protector of the British population but the provocation that threatens it, as ‘our’ deterrent becomes an inherent danger. What emerges from our current media ecology in the UK then, is not a monolithic discourse but a tension between continuity and rupture. Dominant media in the UK continue to frame nuclear weapons in line with government policy – as a necessary and noble endeavour. However social media, alternative media outlets, and regional media (especially in Scotland) complicate the picture. The British media, in short, are both mouthpieces of nuclear orthodoxy and platforms for nuclear protestation. They are battlegrounds of nuclear meaning that help construct the conditions of possibility for nuclear politics (Crilley 2023: 43). In the Third Nuclear Age, understanding how the media frame the bomb, arms control, and disarmament is essential to understanding what the future of UK and global nuclear policy could be. Moreover, we must understand what the public actually think and feel about the representations that they are exposed to and engage with.

British public opinion on nuclear weapons

If nuclear politics in the Third Nuclear Age concerns representations, perceptions and contestations around legitimacy, then public opinion becomes an important site of analysis. Indeed, a range of studies have examined the significance of public opinion in nuclear politics in recent years (see Sagan / Valentino 2017; Dill et al. 2022; Rosendorf et al. 2023). Yet the findings of these studies challenge, contest, and contradict each other. While some find that most people would be willing to use nuclear weapons against certain adversaries (Dill et al. 2022), others find that majorities of people believe it is never acceptable to use nuclear weapons (Pelopidas / Egeland 2020). Despite seemingly more and more surveys about nuclear policy and elite versus public preferences being published every year, we still lack a definitive understanding of what people across the planet think about nuclear weapons. This is because there is no single definitive public opinion about nuclear weapons that spans time and space. A recent study has found that the public themselves hold contradictory views about nuclear weapons that pivot between and entangle preferences towards both deterrence and disarmament (Sukin et al. 2025). As Benoît Pelopidas and Kjølv Egeland (2023: 189) remind us, “different survey techniques, such as polls, vignette-based experiments, and extensive questionnaires, tap into disparate layers of opinion – each of which is ‘real’ in their own way and of analytical value depending on the research question being asked”.

Indeed, despite the existential stakes of nuclear weapons issues, British public opinion on nuclear weapons remains unclear, fragmented, and under-theorised. Historically, the British public’s support for the renewal of Trident hovered around 35% but it has since risen to around 45% following Russia’s full-scale invasion of Ukraine in 2022 (YouGov 2025). One study recently found that 65% of the British public believe that Britain’s nuclear weapons make them feel safe (McKeon 2023), but other studies conducted in the same year have found that only 40% of the British public support the UK possessing nuclear weapons, and have noted markable differences in support in terms of gender and age. Women and young people, for example, are far more likely to oppose the possession of nuclear weapons (Street et al. 2023). Moreover, a recent study of European public opinion on nuclear weapons has found that approximately 50% of British respondents replied that nuclear weapons do not make them feel safe (Pelopidas 2025).

The complexity and inconsistency of British public opinion on nuclear weapons can be partly explained by the insights from one recent examination of global public opinion on nuclear weapons. Lauren Sukin, J. Luis Rodriguez, and Stephen Herzog found that of those surveyed in the UK, 36% support increasing the size of the UK’s nuclear arsenal (Sukin et al. 2025: 30) and 72% would wish to support the US in using nuclear weapons in response to a nuclear attack on an ally (Sukin et al. 2025: 37). However, when asked if they support the Treaty on the Prohibition of Nuclear Weapons, 71% of UK respondents said that they did so (Sukin et al. 2025: 29) and 74% said that the use of nuclear weapons can never be morally justified (Sukin et al. 2025: 35). As the authors of this study suggest, members of the public in the UK (and across the globe) have views that entangle both support for nuclear deterrence and support for nuclear disarmament whereby across public opinion there is “a malleability and contingency that negates binary, categorical approaches to nuclear politics” (Sukin et al. 2025: 38). The British public simultaneously supports divergent approaches to nuclear weapons whereby deterrence and disarmament are both understood to be appropriate policy. Public opinion in the UK then, is more complex than a simple binary between those who support nuclear disarmament and those who support deterrence.

The British public simultaneously supports divergent approaches to nuclear weapons whereby deterrence and disarmament are both understood to be appropriate policy. Public opinion in the UK then, is more complex than a simple binary between those who support nuclear disarmament and those who support deterrence.

Understanding this complexity requires an insight into public opinion polls, but it also requires going beyond the numbers to explore the affective, cultural, and discursive forces that shape how the bomb is made sense of, understood, and thought of by people across the planet and in the UK. Public opinion is not a static reservoir of views but a dynamic, discursively mediated process. As Daniel and Musgrave (2017) remind us, the public does not form opinions in a vacuum – they do so within complex milieus of meaning shaped by elite messaging, media frames, pop culture, cultural norms, affective registers, and moments of crisis and rupture. In the Third Nuclear Age, public perceptions of nuclear weapons are in flux and rapidly changing as novel, unpredictable developments and disruption become the defining features of our times.

The challenge for people who wish to reduce the risk of nuclear catastrophe and avoid the extinction of the planet is to reframe the debate, not just with insights into facts and figures, but with compelling narratives that connect to people in an emotionally driven, ethical way. These narratives must communicate that arms control and disarmament can serve as a strategy to ease tension, reduce risks, and improve security. This is particularly pressing now, when elite debates around the future of national nuclear policies are returning to Cold War ideas like increasing nuclear arsenals, proliferating nuclear weapons to more states, and reintroducing tactical nuclear weapons to the UK’s arsenal. Without a countervailing discourse grounded in humanitarian, ecological, and democratic values, these zombie ideas risk becoming normalised and enacted by an elite that time and time again proves itself to be out of touch with what the average citizen actually needs to live a safe, secure, stable, and happy life in the UK and elsewhere.

The Third Nuclear Age is not just a series of interlinked security crises, it is fundamentally a crisis of imagination.

Ultimately, the legitimacy of nuclear weapons in Britain rests on contested terrain. While many people continue to accept them as part of the national security architecture, this acceptance is neither unanimous nor immutable. Public opinion can, and does, shift. If we are to imagine a different nuclear future, we must take seriously the communicative and affective landscapes in which public attitudes are formed. Nuclear legitimacy is continuously constructed, but also contested, through communication and culture. Surveys suggest that public perceptions differ depending on nationality, age, gender, race, class, education, and so on. What is seen as common sense to the old, white, male security establishment in Paris, is provocative and ridiculous to the young women of Mexico City, and what is justified in the halls of Westminster in London is rejected by those on the streets in Glasgow. These divergent perceptions and the aforementioned tensions in public opinion challenge the idea of nuclear deterrence as a universal logic that holds true and is widely accepted across the planet. This has implications for both public engagement and disarmament. If nuclear weapons are not simply tools of strategy, deterrence, and war, but central facets of national identity, then changing nuclear policy requires more than treaty agreements, technical fixes and elite negotiations (though of course, these are incredibly important). It requires shifting narratives and feelings about big ideas like security and how to achieve it, and it requires engaging with diverse audiences in ways tailored for them. In this light, the Third Nuclear Age is not just a series of interlinked security crises, it is fundamentally a crisis of imagination. To navigate out of our current crises we must begin by imagining our world and nuclear weapons differently.

Imagining, communicating, and making nuclear disarmament

At the 2025 NATO summit in June 2025 the UK committed to increase defence spending to 5% of GDP by 2035 (a dramatic rise given that in 2024 the UK spent 2.3% of GDP on defence). This commitment followed the 2025 Strategic Defence Review which places “at the heart of our investment [...] our total commitment to operate, sustain, and renew our nuclear deterrent” (Ministry of Defence 2025: 5). It is therefore clear that the United Kingdom remains suspended in what Benoît Pelopidas (2021) calls a state of “nuclear eternity”. This is understood as a condition in which the presence of nuclear weapons is naturalised, their permanence assumed, and their abolition rendered almost unthinkable. This imaginary, crafted through decades of elite discourse, media framing, and cultural representations, disciplines what can be imagined as possible in nuclear policy. In such a world, disarmament is marginalised.

Nuclear eternity is a condition in which the presence of nuclear weapons is naturalised, their permanence assumed, and their abolition rendered almost unthinkable.

Recent UK government decisions demonstrate that supporters of disarmament are currently facing an uphill battle. Starmer’s government is no longer simply renewing the UK’s nuclear weapons programme but broadening it. In June 2025, for example, the UK announced that they will now purchase 12 F-35A fighter jets which can carry nuclear weapons in the form of the American B61 gravity bomb. When these planes eventually become

operational, the UK will be able to launch nuclear weapons from the air or the first time since the late 1990s – though those nuclear weapons will have to be loaned from the US and require launch authorisation from leaders in both London and Washington, DC. The previously unlikely idea of British ‘tactical’ nukes and new nuclear delivery systems are now becoming a reality.

Yet the communicative and cultural landscape of the Third Nuclear Age suggests that what seems like the new normal – a nuclear eternity of ever-increasing nuclear armament – may not be total nor immutable, nor set in stone. As I have argued, representations of nuclear weapons in Britain are shaped and reshaped through a complex ecology of state messaging, external events, media framings, popular culture, public moods, and emotional registers. While traditional media outlets continue to echo state narratives of necessity and deterrence, alternative and digital platforms, especially those rooted in humanitarian and youth-led perspectives, challenge these assumptions, offering glimpses of a world beyond the bomb.

In this context, it is perhaps notable that the Strategic Defence Review still recommends that the UK should work to “renew the arms control, disarmament, and non-proliferation regime” even as Russia and China are “unwilling partners” (Ministry of Defence 2025: 102). What is even more telling about the nuclear dimension of the Strategic Defence Review is that it recommends that for the UK government to “sustain long-term support for the UK’s nuclear deterrent,” it should develop better mechanisms for parliamentary scrutiny in order “to provide confidence that taxpayer money is being spent wisely”. At the same time, the Strategic Defence Review supports the delivery of a “‘National Endeavour’ public communications campaign that conveys the fundamental importance and necessity of the deterrent” (Ministry of Defence 2025: 102-103). Therefore, the UK government themselves recognise that media representations and public perceptions of nuclear weapons matter, and they are well aware of how significant the battle for hearts and minds is in nuclear politics.

Therefore, amidst the coming campaign to shore up support for the UK’s nuclear weapons programme, proponents of disarmament need to remind the government, the media, and the public that arms control and disarmament can help us in our current crises. It is paramount that we imagine disarmament and a non-nuclear future, and outline how, why, and what it should involve in the context of the Third Nuclear Age. Doing so requires disrupting dominant narratives, reasserting the human and ecological consequences of nuclear weapons possession, and expanding the boundaries of the Overton window (what is and can be considered as realistic).

The Third Nuclear Age will not last forever, and it does not need to end with nuclear war or the perpetual increasing of defence spending and nuclear arsenals. It can, and should, end with disarmament. Communicating disarmament and building support for it requires actions and stories that speak to justice, security, care, and planetary survival. Making disarmament real demands more than treaties and verification mechanisms. It demands a transformation of the communicative, cultural, and emotional infrastructures that sustain nuclear legitimacy. If the Third Nuclear Age is a crisis of imagination as well as geopolitics, then the way forward lies not just in ‘better’ policies, but in better imaginaries that centre disarmament and abolition as an urgent, rational and ethical imperative that refuse the fatalism and foreclosure of nuclear eternity.

Endnotes

1 This article was written in May 2025, submitted in early June 2025, and revisions were made in mid July 2025. Thus, it may not reflect subsequent developments.

2 Herein I refer to legitimacy rather than legality because legality refers to what complies with the law and legal frameworks, whereas legitimacy refers to a broader socio-political conception of what is understood to be 'right', correct, and fair or just. Following the work of Rodney Barker (in particular, his 2009 book *Legitimizing Identities*) and other prominent theorists of legitimation, I am interested in understanding how political actors make claims that they and the actions they pursue – such as possessing nuclear weapons – are legitimate.

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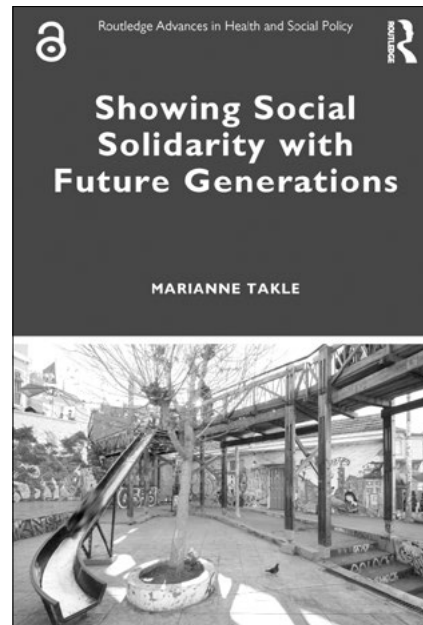
Marianne Takle: Showing social solidarity with future generations

Reviewed by Theresa Eisenmann

“One hand washes the other” and “You scratch my back and I’ll scratch yours” — these familiar proverbs capture the essence of reciprocity, the basis of human cooperation. But what happens when the ‘other hand’ belongs to future generations, unable to give back in any direct sense? In *Showing social solidarity with future generations*, Marianne Takle challenges us to rethink these age-old notions of reciprocity. Her compelling work examines commitments to consider the concerns of future generations in political decisions, analysing specifically how these commitments are realised in practice. The target audience is primarily scholars, but it also offers insights for policymakers, as it discusses actionable steps to enhance the implementation of institutional bindings for future generations. Marianne Takle, Ph.D., is a research professor in the Department of Health and Welfare Studies at NOVA, Oslo Metropolitan University. Her research initially centred on European integration, migration policies, and cultural studies, but recently has shifted towards intergenerational relations. This book, issued by the renowned publisher Routledge but available for free via an open access licence, builds on her recent work on this topic.

Structured in two parts, it opens with an introduction that establishes the topic’s relevance, defines key concepts, and provides a brief summary. Part 1, *Solidarity in theory*, examines the main theoretical concept of intergenerational solidarity, while part 2, *Solidarity in practice*, offers empirical analyses. The research design involves comparing Germany and Norway across four different policy areas relevant to future generations (the UN’s 2030 Agenda, political institutions, constitutional protection clauses, and budget rules). The overall aim of the book is to develop a concept of solidarity with future generations that can be applied in practice.

In chapter 2, Takle defines solidarity as follows: “Solidarity is based on equality between members of a community. Solidarity should, therefore, be distinguished from charity or care because these are based on hierarchical and vertical relationships between individuals [...]. Furthermore, solidarity is based on the idea that equal individuals should support one another to achieve something collectively and that no one should be left behind or disadvantaged.” (22). For Takle, ‘solidarity’ is based on two dimensions: a) reciprocity and mutual obligations among equal individuals with shared values, goals, or interests; b) people’s willingness to enter collective binding constraints through institutions. She distinguishes between micro-level and macro-level solidarity, and she



asserts that “[a]t the macro level, where people do not meet face to face, solidarity requires a willingness to institutionalise collective action” (21). She adopts Habermas’ discourse-theoretical perspective, viewing solidarity as a forward-looking initiative, described as “a response to something missing and a call for action to rectify this situation” (23). So, what is the difference between solidarity and justice? For Takle, solidarity entails more substantial obligations than justice (23), although this is not much elaborated. Instead, Takle considers various traditions of thought to understand the social norms and practices that motivate people to act in solidarity. An important distinction is made between national solidarity and a new global concept of solidarity “across space and time” (27). Here, she contrasts two normative perspectives: nation state politics and

cosmopolitanism. The latter has “a weak collective orientation” (29). She concludes the chapter with a concise summary of its key points, a feature repeated at the end of each chapter throughout the book. These summaries clarify the main arguments, making it easy to follow.

Chapter 3 explores nuanced perspectives on the concept of time. Takle discusses interpretations of temporality, narratives, framing, and how nationalism or cosmopolitanism intersect with these concepts. While this chapter offers valuable insights, some details may feel tangential to the book’s core arguments. For example, the numerous distinctions in generational studies seem hardly relevant to the empirical sections. Although these concepts of temporality are essential for understanding the origins of the arguments, here they may detract slightly from the book’s main focus.

Yet, this is somewhat offset by the following chapter 4, which delves into the essential concept of *solidarity with future generations*. To do this, Takle addresses two pivotal questions: Firstly, how can the idea of reciprocity within a political community include people who are not yet born and cannot give back? Secondly, how can we understand self-imposed institutional constraints when there is no equality between current and future people (46)? In other words, she explores how “You scratch my back and I’ll scratch yours” can be applied across different generations. Takle claims that ‘solidarity’ is a more suitable concept than intergenerational ‘justice’ for assessing current generations’ responsibilities for future generations. She thoroughly examines various perspectives including the non-identity problem, communitarian perspectives, as well as Rawls’ concept of justice as impartiality. She concludes that while these studies are useful for understanding

the complexities concerning future generations, they offer mainly abstract principles and have limited function as analytical tools. Following this, she develops her two-dimensional concept of solidarity with future generations. The first dimension, reciprocity, is reframed as 'indirect reciprocity', which means giving something to a person, but it is not the same person who gives something in return. This poses a number of challenges: in situations of indirect reciprocity between generations, it can be difficult to decide whether someone wins or loses from the exchange, and the exchange rate might be influenced by external factors. She concludes that indirect reciprocity needs to take uncertainty into account. This leads to her second dimension of solidarity, namely 'willingness', where she argues that establishing and maintaining political institutions can stabilise systems based on uncertainty. Willingness implies the establishment of self-imposed institutional bindings to ensure that governments endorse and sustain measures to safeguard future-oriented goals. To clarify this point, she discusses the concept of political commitment devices, noting that the four types of self-imposed institutional constraints analysed in the book serve as such devices.

In part 2 of the monograph, Takle uses this concept of solidarity as a lens for conducting empirical analysis. She poses the following questions about the requirements for showing social solidarity with future generations: "(i) What do the commitments to future generations involve? (ii) How binding are the commitments for future generations when implemented in institutional practice? (iii) What other societal concerns are in tension with the institutional bindings for the sake of future generations?" (57).

Chapter 5 examines the UN 2030 Agenda and its Sustainable Development Goals (SDGs), signed by all 193 UN member states. Takle finds that the practical impact of the Agenda is limited, despite the dedication to future generations in its preamble: none of the 17 SDGs mention future generations, and the agenda lacks enforceable authority over nation states' policies. Although the common frame and the monitoring of the progress establish moral obligations, the commitments remain weak, revealing the challenge of implementing global institutional bindings in practice. Chapter 6 shifts the focus to existing national political institutions for future generations. Takle identifies two types: one to ensure the implementation of the SDGs, and the other to ensure future generations are politically represented.

In chapter 7, Takle examines national constitutional protection clauses for future generations and how they are tested by climate lawsuits. Takle analyses Germany's Article 20a of the Basic Law and Article 112 of the Norwegian Constitution alongside relevant climate lawsuits. She concludes that while these clauses contribute to reframing the state's responsibility toward future generations, their institutional bindings are weak.

Chapter 8 addresses regulations of economic debt and savings, which are some of the strongest institutional constraints justified by a concern for future generations. Her analysis of Germany's 'debt brake' and Norway's Petroleum Fund fiscal guideline shows that substantial institutional bindings are possible, but they are often vulnerable to adjustments in crises. In addition, these commitments create a dilemma between necessary investments for the future and adhering to debt limits, raising the question about which resources are transferred to future generations.

Finally, Takle concludes that financial constraints are generally more binding than political and legal bindings. The book ends on the note that "[i]nstitutional bindings must be strengthened to show social solidarity with future generations" (158). According

to Takle, her new interpretation of solidarity has proven to be an useful analytical tool.

Takle's book is a valuable read brimming with information and detailed insights. Her dual focus on both theory and practice enriches the discourse, bridging academic approaches and practical applications. She acknowledges that there are a few authors who have developed normative concepts and principles, but these concepts were difficult to apply to empirical studies. This is the research gap Takle intends to close.

In offering an interdisciplinary study, Takle employs theories from philosophy, political science, law studies, and welfare economics in a different way to how they would be used in any mono-disciplinary work in these disciplines. Takle skilfully incorporates established theoretical approaches from various authors. This not only enhances the credibility of her approach but also provides the reader with many opportunities to explore the existing literature on related topics, allowing the reader to explore the multifaceted complexities surrounding 'solidarity'.

Through her critiques of existing content (e.g. theories of intergenerational justice) that she contrasts with her own conceptualisation, she employs arguments to advance her line of reasoning. However, that does not mean that her concept is entirely immune to critique. While the concept of solidarity has its merits, there may be a dark side to it that Takle eschews to mention. She herself writes: "solidarity is often associated with classes, religious groups, social movements, and local communities, where individuals meet and work together for a common cause (...)" (21). This might not always be positive: solidarity might be expressed at the expense of others, putting them in a relatively worse position. For example, solidarity among football fans of a specific club might lead to rivalry with other clubs. Or, at the most basic level, we might think of solidarity within the family. Even if your brother has done a misdeed, you might be inclined to *not* turn him in, because of solidarity. This problem does not arise with the concept of intergenerational justice. Thus, it remains an open question whether 'solidarity' is more suitable than 'justice'.

The book clearly achieves its aim to analyse when and how commitments to future generations are followed up in practice. The findings offer important lessons, although the unique political and social landscapes in Norway and Germany may limit the applicability of these insights beyond the specific cases examined. Furthermore, Takle herself states that the intent of her book is not to predict the future. This can be somewhat disappointing, as her empirical findings present a rather pessimistic outlook. Even in countries like Germany and Norway, which theoretically have many institutional bindings already, these bindings are ultimately weak. This raises pressing concerns for the reader, who is left to question whether the various approaches to implementing solidarity with future generations can realistically effect meaningful change, or if the presentist voters, and politicians following suit, prevent this from happening.

Overall, *Showing Social Solidarity with Future Generations* very successfully illuminates many important issues concerning solidarity with future generations, making it a significant contribution to the discourse while inviting further reflection and research on its findings and implications.

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Greg Bognar and Axel Gosseries (eds.): Ageing without ageism? Conceptual puzzles and policy proposals

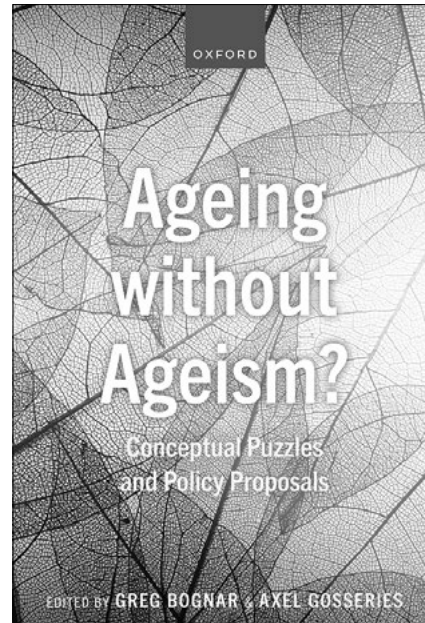
Reviewed by Grace Clover

In recent years, academic and public debates from parliamentary discussions to social media have increasingly analysed society through the lens of markers of identity such as race, gender, and disability. ‘Age’, however, remains comparatively neglected, a gap the editors of this anthology seek to address in this volume. Furthermore, they are enticed by the unprecedented demographic ageing of many populations worldwide, which will challenge health and social-care systems, pensions, labour markets, and social and political institutions.

This anthology continues the work of Axel Gosseries, research professor at the Catholic University of Louvain, on intergenerational and climate justice and institutional design, and Greg Bognar, professor of practical philosophy at Stockholm University, on public health ethics and moral relativism. Building on earlier contributions by Norman Daniels, Dennis McKerlie, and Juliana Bidadanure on age-group justice, it combines philosophical reflection with empirical analysis and policy proposals, offering a multidisciplinary discussion of intergenerational ethics and institutional design.

In addition to the two editors, 19 authors from disciplines ranging from philosophy to law and future studies have contributed to this volume. The first eight chapters discuss the philosophical assumptions underlying theories of age-group justice. A few key questions emerge: Does age discrimination differ from other forms of discrimination? Is paternalism defensible? Is complete lives egalitarianism sufficient? Should we compensate those who die young for their short longevity? The remaining ten chapters offer policy proposals informed by the questions posed in part one. Three chapters focus on voting rights and political engagement, four on health and welfare systems, and three on age-sensitive taxation. In the following, most of the chapters are quickly summarised (these summaries are grouped by topic, rather than by their order in the volume).

In chapter 1, 2, and 6 the authors pose two key conceptual questions: Does age-based discrimination differ from other kinds of discrimination? And is ‘age’ special? In chapter 1, Katharina Berndt Rasmussen finds there is a *prima facie* reason against group discrimination such as age discrimination, but the ‘specialness’ of age gives good reasons to suggest that age-based treatment is acceptable or even advisable in some contexts. In chapter 2, Kasper Lipper-Rasmussen considers whether the ‘mere-difference view’ of the disadvantages of which come with disability can be applied to ageing. In chapter 6, Axel Gosseries returns to these



questions, considering whether ‘entire life egalitarianism’ can account for the normative specialness of age. He introduces us to the kind of questions that egalitarians must ask (Equality among whom? Equality of what? Equality at a snapshot or across an entire life?).

Chapters 3 and 12 both consider the ethics of paternalism. In chapter 3, Viki Pedersen defends age-differentiated paternalism, exploring both ‘competency’ and ‘the good promoted’ justifications. She concludes that “justification of paternalism generally weakens as the people interfered with advance in age”, as older people have a shorter life expectancy and a greater understanding of their own preferences (50). Chapter 12 returns to the topic of paternalism, as Francesca Minerva argues against the paternalistic arguments used to prevent older women from accessing

assistive reproductive technologies.

Chapters 4, 5, 7 and 11 all engage with the ethical considerations underpinning the allocation of (scarce) welfare resources. In chapter 4, Matthew Adler considers how three policy-assessment frameworks value risk reduction in light of age, using the COVID-19 vaccination roll-out as an example. In chapter 5, Paul Bou-Habib focuses on welfare states spending disproportionately on the young and the very old. While this is necessary in some cases, he notes that some egalitarians (and utilitarians) struggle to justify very high-cost, low-value care, such as for patients with Alzheimer’s disease. Bou-Habib uses Gosseries’ principle of ‘time specific sufficiency’ and Bidadanure’s account of relational egalitarianism as a starting point for justifying a focus on hardship in a specific segment of one’s life (as opposed to focusing exclusively on the complete lives view). He offers three considerations to complete the justification.

In chapter 7, Simon Birnbaum and Kenneth Nelson seek to prove their hypothesis that social welfare programmes tend to achieve their “redistributive objectives far more effectively when they are embedded in a wider, universalist system of belief” (94). Beginning with Daniels’ ‘prudential lifespan approach’ and applying it to empirical data from 17 countries, the authors demonstrate that welfare states which provide equal levels of income replacement for the risks associated with different life stages are associated with higher levels of public trust in spending, lower levels of poverty across all age groups, and improved welfare. They conclude that, paradoxically, the more we target income replacement to the risks associated with one specific age group, the less we improve the living conditions for that group overall.

Finally, in chapter 11, Greg Bognar uses the example of resource rationing during the COVID-19 pandemic to explore using age as a criterium in a 'triage' process. While traditionally triage procedures only consider the chance of the patient's short-term survival when allocating medical resources, Bognar argues for using the patient's remaining life expectancy as a key criterium. This leads us to the question whether we should also consider the 'quality' of life preserved – but this is beyond the scope of Bognar's study. Chapters 8, 9 and 10 all focus on voting and political engagement. In chapter 8, Anca Gheaus compares different interpretations of childhood and their implications for youth enfranchisement proposals. Gheaus notes that most arguments for or against enfranchising adolescents and (older) children focus on the assumption that children have insufficient agential powers, competency, or political awareness to vote. She proposes instead an account which finds a unique value in childhood which is enriching to one's overall wellbeing. Accordingly, we may have reason to 'protect' younger people from the responsibility of voting, even if they do possess the relevant capacities.

In chapter 9, Alexandru Volacu considers proposals for voting 'ceilings', the controversial counterpart to minimum age thresholds. To explore their tenability, Volacu employs an analogical argument which compares driving rights for older people with voting rights. He focuses on the question whether older people exercise their voting rights in "a manner which would lead to more harmful outcomes for others" (132), as is assumed with driving. On balance, however, he rejects the analogy, as the skills required for voting and driving are very different. Moreover, there is a high moral cost to denying voting rights to senior citizens, as it would deny a key means of ensuring their own welfare and autonomy.

Concluding the section on voting and political power, in chapter 10 Tyler John considers the issue of 'short-termism' in political systems, which leads to the neglect of long-term issues such as disaster preparation, climate change, and preventative healthcare. John argues against a commonly held belief that young people are more likely to vote for long-term policies than old people, an argument often given as a reason to lower the voting age or weight voting towards young people. Instead, he proposes a forward-looking, retrospectively rewarded, citizen's assembly as a means of harnessing young people's political energy to the benefit of future generations.

Chapter 13 focuses on education. In this chapter, Andrée-Anne Cormier and Harry Brighouse argue for the abolishment of compulsory schooling past the age of 16. This would be accompanied by the introduction of an 'education resource account (ERA)' for those who leave school at 16 or 17 without graduating, giving them a right to ear-marked funding to complete schooling or work training later in life.

In chapter 14, Vincent Vandenberg considers arguments for using age-differentiated retirement policies to equalise health outcomes at the time of retirement across socio-demographic groups and European countries. He finds that this would require extreme differentiation, seeing low-educated women in Hungary retiring at 40 and well-educated men in the Netherlands retiring at almost 83. This system would also still allow a large amount of over and under compensation, and as such, is rejected by the author.

Chapter 15 moves from health systems to housing. Building upon the idea that people have a morally significant interest in personal autonomy, the age-friendly urban planning initiative seeks to enable elderly people to age well 'in place' by making their built and social environment more accessible. However, Kim Angell

suggests that the needs of the young may well outstrip those of the elderly in cases of scarcity. Young people today struggle disproportionately compared with previous cohorts to buy property. Angell argues that we should instead pursue planning initiatives which create favourable conditions for all generations (e.g. intergenerational housing models which offer young people discounted rent to provide companionship and care for the elderly).

Chapters 16, 17 and 18 all consider age-differentiated tax proposals. In chapter 16, Daniel Halliday elaborates further on the idea that young people today have poorer prospects on the housing market compared with older cohorts at the same age, while at the same time funding services disproportionately consumed by the elderly. He proposes an age-based delayed housing wealth tax which would shift the tax burden onto (wealthy) homeowners past a specific age threshold, whilst giving them a tax incentive to downsize and free up housing for young people.

In chapter 17, Vincent Valente discusses proposals for cumulative income taxation and age-differentiated taxation, weighing up which policy would benefit both the young and the elderly at the expense of the middle-aged. Valente is particularly concerned about maximising the benefits for those who are resource-poor and those who are longevity poor (e.g. those who die young); two groups whose interests are often in tension with one another.

Concluding the section on tax, in chapter 18 Pierre Pestieau and Gregory Ponthier defend an age-differentiated tax on bequests, with tax rates increasing with the age of the deceased. The authors hope to posthumously compensate those who die prematurely by allowing their 'accidental savings' (that is, unused savings for later life such as pensions) to be passed onto their offspring.

Overall, the volume is extremely successful in fulfilling the editors' aim to "bridge the distance between academia and public life by putting into dialogue fresh philosophical analyses and new specific policy proposals" (1). Although the editors conclude that a "unified view of the normative relevance of age" is likely not possible, one finishes the anthology convinced of the relevance of using age and age-differentiated policy for a range of purposes, from eliminating socio-economic and welfare inequalities to promoting long-termism. The anthology is of its time, as the authors have clearly learnt from recent challenges, including the COVID-19 pandemic.

Viewed critically, one should note that the focus on demographic ageing does necessarily limit the anthology's global scope to those countries with ageing populations. While an anthology cannot cover every geographic location, the volume neglects to comment upon countries with very young populations which nonetheless demonstrate ageist and gerontocratic tendencies.

Some readers may also be unconvinced by the frequent focus on compensating those who die prematurely for their short longevity. One might argue that dying young is a misfortune, and sometimes the result of one's chosen lifestyle, but not an injustice unless its due to a social structure or policy which unnecessarily exposed them to risk.

These criticisms aside, the anthology is extremely illuminating and accessible, building upon and improving familiar philosophical questions to offer concrete, novel and innovative policy proposals. As the editors suggest, it encourages the reader and the policy maker alike to reflect upon what kind of society is desirable, not just what is feasible.

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