# 1nc – round four

## off

### t – nfu

#### A ‘no first use’ policy forecloses the first use of nuclear weapons against ANY adversary.

Gareth Evans 21, Distinguished Honorary Professor at the Australian National University, former Foreign Minister of Australia and President Emeritus of the International Crisis Group, initiated the Canberra Commission on the Elimination of Nuclear Weapons (1996), co-chaired the Australia-Japan International Commission on Nuclear Non-Proliferation and Disarmament (2009), and is Chair of the Seoul-based Asia-Pacific Leadership Network for Nuclear Non-Proliferation and Disarmament, “Revisiting the case for no first use of nuclear weapons,” Gareth Evans, 5/5/21, https://www.gevans.org/opeds/oped229.html

No first use is back on the global nuclear weapons campaign agenda, supported internationally by organizations like Global Zero and Parliamentarians for Nuclear Non-Proliferation and Disarmament, and with the issue given new life in the United States by the election of an evidently sympathetic President Biden and the reintroduction into the Congress by Senator Elisabeth Warren and Representative Adam Smith of their ‘No First Use Act’. Although the case for no first use has been well made before by Scott Sagan, Morton Halperin and others, including Ramesh Thakur and John Holdren in this journal, it is timely, accordingly, to revisit the arguments that make it so compelling a policy choice.

A nuclear-armed state is said to have a no-first-use policy when it makes an explicit declaration that it will not use nuclear weapons either preventively or preemptively against any adversary (nuclear-armed or not) and keeps them available only for use or threat of use by way of retaliation following a nuclear strike against itself or its allies, A less robust, but still meaningful, formulation of essentially the same idea is a declaration that “the sole purpose of the possession of nuclear weapons is to deter the use of such weapons against one’s own state and that of one’s allies.” This was the formula President Obama was prepared to embrace in 2010 until, unhappily, he was dissuaded by some of his NATO and Asia Pacific allies—and it is the position that President Biden still seems to support.

#### Policies must apply to a general class---they cannot apply to subsets of a class.

James A. McIntyre 15, Judge, Court of Appeal of California, Fourth Appellate District, Division One, “Bryant v. San Diego Gas & Elec. Co.,” 2015 Cal. App. Unpub. LEXIS 7486, Lexis

Webster's defines "policy" as "a definite course or method of action selected (as by a government, institution, group, or individual) from among alternatives and in the light of given conditions to guide and usu[ally] determine present and future decisions." (Webster's, supra, at p. 1754; see also Lockheed Aircraft Corp. v. Superior Court (1946) 28 Cal.2d 481, 485-486, 171 P.2d 21 [utilizing dictionary definition of "policy" to interpret section 1101].) OED Online defines a "policy" as "[a] principle or course of action adopted or proposed as desirable, advantageous, or expedient; esp[ecially] one formally advocated by a government, political party, etc. Also as a mass noun: method of acting on matters of principle, settled practice." (OED Online, supra, <http://www.oed.com.dartmouth.idm.oclc.org/view/Entry/146842> [as of Oct. 19, 2015], at def. 4.)

In our view, a plain reading of the definitions of rule and policy suggests that they must be intended to apply generally [\*11] to a group or class, rather than to one of many members of a group or class. For example, a "rule" is adopted by an organization to "govern[] its conduct and that of its members" (OED Online, supra, <http://www.oed.com.dartmouth.idm.oclc.org/view/Entry/168717> [as of October 19, 2015], at def. 5) and is an "accepted procedure . . . having the force of a regulation." (Webster's, supra, at p. 1986.) The definition of "policy" also suggests it has widespread application as it is "a definite course or method of action" adopted by a group or institution "to guide . . . present and future decisions." (Webster's, supra, at p. 1754.) These dictionary definitions comport with the commonly understood meaning of rules and policies in the context of an employer and employee relationship.

Violation---the plan retains the right to first use of nuclear weapons for some contingencies---this is SOME first use, not NO first use.

Prefer it:

1. LIMITS---allowing subsets allows forswearing nuclear use in any individual contingency---from targeting policy changes to carving out CBWs or existential conventional threats, to any subset of countries

#### 2. GROUND---subset NFU policies could leave most nuclear use on the table---this eliminates core neg objections and sidesteps canonical ‘NFU bad’ arguments.

Alex Wellerstein 16, Historian of science and nuclear weapons and a professor at the Stevens Institute of Technology, creator of the NUKEMAP, Comments on Wellerstein’s "The President and the Bomb: Redux." Restricted Data: The Nuclear Secrecy Blog, 12/4/2016, http://blog.nuclearsecrecy.com/2016/12/23/the-president-and-the-bomb-redux/

People have pushed for full NFU policies for decades; they didn’t get traction under Obama, the president who was perhaps most amenable for the idea. Whereas there actually is a proposal for increasing consultation prior to first use on the books in Congress. I would say it is worth trying something new, something that you could actually presumably get bipartisan Congressional support for — because as I’ve noted elsewhere, this is about Congress reasserting its relevancy (to some degree) in nuclear use decisions, not about changing fundamental strategic positions, which a NFU policy would be. Getting bogged down in the same old, same old NFU debates will not, I don’t think, get us anywhere new. Whereas a discussion about presidential authority might, because this president raises those issues quite broadly with his temperament. A real NFU policy has plenty of strategic objections to it. Something that removes unilateral presidential authority under most conditions, however, does not run into those issues to quite the same degree. I think NFU is a political dead-end in the United States (at least in the short term), whether or not it is a good idea (which, again, is debatable).

### k – nuclearism

#### The 1AC constitutes the world according to hegemonic anti-nuclearism. The dogma of policy relevance reflects the interests of the powerful and denies the hierarchies that produced the nuclear complex.

Nick Ritchie Senior Lecturer Politics @ York ’22 “A contestation of nuclear ontologies : Resisting nuclearism and reimagining the politics of nuclear disarmament” *International Relations* https://doi.org/10.1177/00471178221122959 p. 7-8

Hegemonic anti-nuclearism

The core idea of anti-nuclearism is that nuclearism is a political choice rather than a structural condition of world politics and that different nuclear worlds without nuclear weapons are both possible and necessary for collective safety. Hegemonic anti-nuclearism is hegemonic for two reasons: first, it is the dominant discourse of anti-nuclearism circulating within the nuclear oligarchy, notably in the West. Here, it circulates within a ‘non-proliferation complex’ of funders, thinktanks, academic institutes, government agencies and IGOs that has dominated discourse on nuclear disarmament and non-proliferation.39 Second, it tends to contest the necessity and legitimacy of nuclear weapons on the same ontological terrain as hegemonic nuclearism, that is, within a broadly similar set of analytical and normative understandings about nuclear weapons in relation to the state, war, order and power, rather than contesting them. First, the discourse tends to be ambivalent about the illegitimacy of nuclear weapons and accepting of the continued practice of nuclear deterrence, except over the long term when it is seen as too risky. Second, it frames the most effective way of facilitating denuclearisation as working closely with nuclear-armed states within the possibilities of their shifting relationships and through insider engagement focused on policy relevance.40 Third, it constructs a world in which an incremental approach is the only plausible and therefore realistic path- way to denuclearisation, and that this will take a long time to achieve pending resolution of other major issues of world peace.41 Fifth, non-proliferation is privileged and the weapons of ‘rogue states’ are constructed as the primary source of nuclear danger, rather than the arsenals of the nuclear oligarchy. Finally, the discourse reproduces a conception of security-through-strategic weapons based on the premise that denuclearisation must involve the substitution of nuclear weapons with other ‘strategic’ weapons, such as missile defences, conventional global strike system or cyber weapons.42 The distance between hegemonic nuclearism and hegemonic anti-nuclearism can therefore be quite narrow, even whilst an eventual need for nuclear disarmament is championed.43 Critiques of nuclearism in terms of imperialism, patriarchy, global capitalism, racism and militarism tend to be absent.

#### The nuclear order is an ethical, ecological, and strategic abomination. Fiat performs an act role-playing that rationalizes nuclear strategy is self-defeating and contradictory.

Anthony Burke Prf. Environmental Politics and International Relations @ University of New South Wales ‘9 “Nuclear Reason: At the Limits of Strategy” *International Relations* 23(4) p. 508-513

Working between nuclear history and recent developments, and between philosophical critique and strategic debate, this article seeks to ask some hard questions about the viability of nuclear strategy as a system of reason. While this is certainly not the first piece of writing to do so,16 it is worth revisiting the issue now because of the widely stated fears that the non-proliferation regime is in imminent danger of collapse in ways that will radically undermine stable deterrence, at the same time as there remains a strong belief in the utility and legitimacy of nuclear weapons amongst many academic and government strategists.17 The article’s normative inspiration derives from Kant’s moral philosophy and the critique of pragmatism and instrumental reason in critical theory,18 and its analytical methodology, is an adaptation of Foucault’s dynamic history of ‘problematizations’: the critical examination of processes through which problems are constructed and defined; knowledge developed, fought over and applied; institutions, practices and subjectivities established; and fields of reality thus enabled and transformed. It is also informed by his advice ‘not to take as a whole the rationalisation of society or of culture, but to analyse this process in several fields’.19 It is a method that throws light on how human constructions constitute and affect the real; however, in contrast to Foucault, the article will emphasise how this often occurs in ways that their architects never intended, and in ways that resist and complicate the processes of rationalisation that gave birth to them.

The ‘problematization’ here placed under particular scrutiny is that which, following the creation of nuclear weapons at Los Alamos and their use in Japan, began to ponder whether and how the new weapons could be assimilated into national policy frameworks and modern (that is, Clausewitzian) ideas of strategy. This is the story of Brodie’s The Absolute Weapon. However the article shifts register away from the rich and often considered academic debate about nuclear strategy to consider, both during the Cold War and more recently, how the rationalisations of theorists and policymakers coalesced to generate nuclear policies that, whatever their differences of scale and context, exhibit a powerful continuity: a conviction in the rationality of nuclear weapons as instruments of state. Ever more sophisticated strategic analysis sought to develop doctrines for the manufacture, deployment, threat and use of nuclear weapons for US and European security, only to find fatal problems continually emerging that could not be solved by the next RAND study or analytical permutation.

While there is a difference of moral scale between Cold War strategies which threatened to destroy hundreds of millions and newer strategies which envision much more limited nuclear use (that may at worst kill tens of thousands), it is probably better to avoid moral hair splitting and acknowledge that what have long underpinned the rationalistic anxiety about the viability of nuclear strategy are powerful moral intuitions about the illegitimacy of using such weapons in anger. My concern, however, is that moral revulsion has little impact when policymakers feel confronted by perceived strategic necessities and failures of trust, which today are manifested in arguments about uncertainty and hedging.20 Whatever the weight of such concerns, it is time to accept that most strategies we can imagine contain unbearable risks of failure. The only exceptions are those strategies that will be needed for a world that has both few (or no) nuclear weapons and the never-eradicable capability to build them. These will look most unlike the strategies of the past, and will replace Clausewitzian concerns with prosecuting national policy through force with collective security of a profound kind.

My use of the framing idea ‘nuclear reason’ is not a claim about an overarching ‘nuclear enlightenment’, of the kind made by William Walker in an important 2007 International Affairs article, where he warns of the non-proliferation system breaking down because of powerful actors stepping outside its norms. Here he argued that national nuclear deterrence strategies and the international legal non-proliferation regime came after 1960 to form a coherent ‘grand enlightenment project’: a ‘nuclear ordering strategy ... rooted in a belief that security and stability lay – and transcendence might eventually lie – in regulative action ... through the institutions of deterrence, arms control and the non-proliferation regime’.21 Notwithstanding the great significance of his essay, Walker’s broader claim is problematic. It conflates state and cosmopolitan forms of reason into an imagined harmony, and thus neglects the power play and unhappy compromise inherent in the NPT regime – tensions that have only worsened as it has aged. To the extent that policymakers may have felt such an accommodation between national security and international law to have been ideal, I argue that it is not sustainable and support Walker’s conclusion that ‘given the many dangers of nuclear catastrophe arising from the behaviour of states and non-state actors in a globalizing environment, the pursuit of nuclear disarmament has a security logic that is stronger than ever’.22 Another point of difference is that, where Walker saw US policy during the Cold War as an attempt to balance deterrence with non-proliferation based on ‘reason, containment and mutual obligation’,23 this article highlights US and Soviet nuclear strategic options that sought to make nuclear weapons usable or otherwise undermined strategic stability. It explores how the inner logics of nuclear reason during this period – especially the repetitive concern that threats and deployment options were not credible or survivable enough to ensure deterrence, thus pushing deterrence perilously close to pre-emption – drove the arms race and created unacceptable risks of nuclear war.

Like post-Renaissance military strategy, nuclear strategy is certainly a modern phenomenon – an extreme (if not the only) culmination of a modern desire to use science, technology and political science to control and make use of human and natural material for instrumental ends.24 As such it bears the marks of the darker, more mechanistic qualities of the Enlightenment (what Horkheimer and Adorno25 called ‘rationality in domination’) and challenges its more hopeful, critical qualities, which sought to place reason under critique and enhance human dignity. However, this article’s ambition is more limited than Walker’s – not to see nuclear politics and policy as a grand teleological project, but to locate its perseverance in a powerful, self-enclosed form of strategic reason that encompasses both conventional and mass destruction weapons, and runs along lines of logic that are self-defeating and dangerous. Laid out in this form, the analysis is meant as a contribution to Marianne Hanson’s call for ‘an informed critical security studies project that explicitly tackles the question of nuclear weapons at a global level’.26 The practical and ethical test, in this perspective, is whether the system will enable a profound and enduring security for all human beings. While we can appreciate that governments have important responsibilities to their own citizens, merely national policy or security imperatives, especially those that place others at grave risk, are inadequate.

Nuclear use and disarmament today

Concerns about nuclear weapons and proliferation over the past decade have been driven by the actual or suspected nuclear weapons development programmes of North Korea, Iran and Libya, and the activities of rogue scientists such as Pakistan’s A. Q. Khan. Only in Iran’s case, however, have overt nuclear threats been an integral part of attempts to solve the problem. Through 2007 and 2008 the United States and European allies were seeking to pressure Iran through the UN Security Council in an attempt to dissuade it from pursuing plutonium enrichment.27 While the US had backed away from public threats of military action, the option remained a live one if these diplomatic efforts failed. As Bush stated at an 18 April 2006 press conference: ‘All options are on the table. We want to solve this issue diplomatically, and we are working hard to do so.’28 Disturbingly, the use of smaller-yield (‘bunker-buster’) nuclear weapons was an integral part of a large plan of US airstrikes developed by the Pentagon in early 2006.29 Here there was continuity with previous US nuclear policy, which, according to Desmond Ball and Robert Toth, had ‘since the first SIOP (SIOP-62) went into effect on April 15, 1961 ... involved a continuing effort to make strategic nuclear weapons “usable”.’30 The Iran plans were consistent with the Bush administration’s 2001 Nuclear Posture Review (NPR), which was shaped by an imperative to make nuclear weapons both useful and relevant to the political and security objectives of the US amid new asymmetric challenges from terrorists and ‘rogue states’ that undermined the credibility of traditional deterrence doctrines. This view was asserted in the face of a range of normative and pragmatic arguments about the contemporary danger and obsolescence of nuclear weapons from NGOs, non-nuclear weapons states, and former defence officials and high-ranking military officers, many of whom had past command responsibility for nuclear policy.

The Canberra Commission on the Elimination of Nuclear Weapons included key former officials including UK Chief of the Defence Staff Field Marshal Lord Carver, head of US Strategic Command General Lee Butler, Prime Minister of France Michel Rocard, and US Secretary of Defense Robert S. McNamara.31 Former commander of the US Air Force Space Command General Charles Horner was on the steering committee of the Stimson Center’s project on eliminating weapons of mass destruction, and revealed that none other than Edward Teller – a Cold War hawk and ‘father’ of the hydrogen-fusion bomb – agreed it was possible to reduce arsenals to zero if safeguards against ‘breakout’ were in place.32 The former USAF Minuteman control launch officer Bruce Blair conducted studies in the 1980s that established that intrinsic problems with command and control in nuclear war made deterrence highly risky, and he is an advocate of de-alerting strategies.33 McNamara has emphasised how seminars with former Cuban and Soviet leaderships showed that the world was far closer to nuclear holocaust in 1962 than previously believed, and has debunked nuclear strategies he himself designed.34 In 1996 Lee Butler spoke of the ‘powerful, deeply rooted beliefs’ that ‘superior technology brought strategic advantage, that greater numbers meant stronger security’; however, ‘they served us extremely ill ... these enduring beliefs, and the fears that underlie them, perpetuate Cold War policies and practices that make no strategic sense.’35

Such demands arising from practical experience of nuclear command are reflected in recent reaffirmations of global anti-nuclear norms, with their basis in Article VI of the NPT, a treaty sometimes cited as being second only in importance to the UN Charter itself.36 The Article VI obligations were affirmed by the Inter- national Court of Justice in 1996, and by states’ parties to the NPT throughout the life of the treaty. These included the 1995 and 2000 NPT review conferences agreeing on a programme of action for the ‘full realisation and implementation of Article VI’, and calling for the conclusion of a comprehensive test ban treaty (CTBT) and a fissile material cut-off treaty (FMCT).37 The 2000 review conference set out a comprehensive 13-point plan that included ‘steps by all the nuclear weapon states leading to nuclear disarmament in a way that promotes international stability, and based on the principle of undiminished security for all’.38 Importantly, the plan strongly suggests that disarmament is best served by cooperative reductions that preserve strategic stability.39

Strategic and nuclear reason

Whereas William Walker sees the nuclear strategic and non-proliferation regimes as mutually reinforcing elements of a coherent Enlightenment project, it may be more accurate to see accident and conflict, an unstable accommodation between two warring forms of reason and two visions of Enlightenment. The first is represented by Kant’s argument in The Metaphysics of Morals that war is anathema to reason:

morally practical reason pronounces in us its irresistible veto: there is to be no war, neither war between you and me in the state of nature nor war between us as states ... war is not the way in which everyone should seek his rights.40

Such views are underpinned by key tenets of Kant’s moral philosophy such as the categorical imperative – the injunction to act only if your principles can be justified universally – and his view that human beings must be treated as ends in them- selves. This argument underpins the normative logic of disarmament as present in the United Nations Charter and Article VI of the NPT.

The second form of reason – which (diversely) informs the full array of nuclear options, from deterrence to use – is represented by Carl von Clausewitz’s view that war (and the threat of war) is an extension of policy by other means, and a natural and legitimate way for states to resolve conflict or pursue national policy objectives. This was updated for the nuclear age by limited war theorists such as Robert Osgood, who lauded the ‘systematic effort’ in the US ‘to manage peacetime military power as a rational instrument of policy short of war and to bring war itself – even nuclear war – under politically directed control and restraint’.41 Central to this Clausewitzian paradigm is an influential system of instrumental, utilitarian reason that sees violence – even nuclear violence – as means for the achievement of national political ends. In an ironic twist, an important precursor to the limited warriors, Basil Liddell Hart, acknowledged the force of Kant’s dictum but rejected its implications. Instead he sought to overcome it, to interpret it perversely as a challenge to make war and reason coincide:

although war is contrary to reason, since it is a means of deciding issues by force when discussion fails to produce an agreed solution, the conduct of war must be controlled by reason if its object is to be fulfilled.42

This drive to rationalise war is the fundamental feature of strategic thought and policy: ‘the relationship of military means and political ends’.43 This classically Clausewitzian definition gestures towards the contemporary understanding of strategy as a system that, in Osgood’s words, ‘now embraces not only the waging of war but all the uses of force as an instrument of policy short of war’.44 It is in this mode that generations of policymakers, scientists and analysts have sought to assimilate nuclear means to political ends in a rational way; however, the question that has continually haunted them, and been pondered by thoughtful scholars such as Hans Morgenthau and Lawrence Freedman, is whether there can actually be a nuclear strategy.45

The dilemma was identified early on by Bernard Brodie, who famously suggested in The Absolute Weapon that ‘thus far the chief purpose of the military establishment has been to win wars. From now on its chief purpose must be to avert them.’46 This was an early argument for deterrence, but whether it was ‘strategic’ was open to question. Brodie thought it was, and later refined this view in the formulation that with nuclear weapons there was ‘utility in non-use’: ‘Objects at rest can do enormous work – if those objects are such things as nuclear weapons.’47

This article argues that nuclear weapons push the very limits of strategy as an apparently purposive and rational system of linking means and ends, even to the point of seeing it break down utterly. This is an admittedly strong claim, which needs some explanation. Clausewitzian theory is thoroughly modern and rationalistic in its assumption that well-planned and executed uses of ‘force’ will achieve a clear transmutation of military means into political ends by conquering the enemy’s will. This, in a subset of the theory, must be achieved at an acceptable cost beyond which the object must be given up.48 Certainly with nuclear weapons one can point to effects (what Brodie calls ‘work’), but the production of effects neither vindicates the theory nor links nuclear strategy to a security we might find acceptable. The effects may not be limited to those desired or predicted, but have dangerous and unpredictable results that go well beyond the immediate space of application and concern: further insecurity or proliferation, illness and mortality from testing and production, the poisoning of ecosystems, and unacceptable dangers of use and therefore mass killing. Neither the means applied, nor the ends desired through the threat or use of those means, can be considered reasonable and legitimate, especially when they are paired in an operational system. As will be explored further below, the interpenetration of nuclear and conventional strategy and conflict even places non-nuclear strategy under pressure.

Nuclear weapons thus embody a corrosive irony: they both confound reason and are one of its darker products. As a technology, they are a product of the most advanced and creative science, and represent one of humankind’s most Promethean moments, when an equation was written (E = Mc2) that revealed the secrets of matter and energy and captured the atomic reactions that fuelled the stars. In turn, research put this knowledge to use in the making of a bomb, itself an enormously complex and difficult technical achievement. In this way the bomb was one result of a positivistic scientific project that sought, in the form of abstract knowledge, to discover and distil the most fundamental truths of the universe. However, an applied military—strategic project then sought to put this knowledge to use in a practical way, as if the two were intrinsically connected, as one step follows another; as if there were not also a troubled universe of decisions between equation, conception, production and use. Victor Weisskopf commented that ‘physics, our beloved science, was pushed into the most cruel part of reality and we had to live it through’.49 There were exceptions: Joseph Rotblat quit the project upon confirmation that Germany’s bomb project had stalled, and Neils Bohr raised his concerns about the weapon’s destabilising international impact with Churchill and Roosevelt, only to be told by Churchill that the weapon ‘involves no difference in the principles of war’.50

#### The alternative is planet politics. Planet politics is incompatible with the logic of national security and nuclear possession.

Stefanie Fishel Political and Int’l Theory in Dept of Gender and Race Studies @ Alabama et al. ‘18 (Additional authors: Anthony Burke Politics @ New South Wales, Audra Mitchell Canada Research Chair in Global Political Ecology @ Wilfrid Laurier, Simon Dalby CIGI Chair in the Political Economy of Climate Change at the Balsillie School of International Affairs, Daniel Levine Poli Sci @ Alabama) “Planet Politics: A Manifesto from the End of IR” *Millennium* 44 (3) p p. 500-505

This manifesto is not about politics as usual. We seek political imagination that can rise from the ashes of our canonical texts. It is about meditating on our failures and finding the will needed for our continued survival. Global ecological collapse brings new urgency to the claim that ‘we are all in this together’ – humans, animals, ecologies, biosphere. To survive, we must ask questions that are intimately connected to capitalism, modernity, and oppression. We must ensure that our diplomacy, our politics, and our institutions are open to those who will bear the brunt of ecological change.

Planet politics must emerge as an alternative thought and process: a politics to nurture worlds for all humans and species co-living in the biosphere. The local, national, and global no longer define our only spaces of action. The planet has long been that space which bears the scars of human will: in transforming the world into our world, we damaged and transformed it to suit our purposes. It now demands a new kind of responsibility, binding environmental justice and social justice inextricably together.

We need not focus on who is responsible, but we do need to learn to adapt to the world we have created. We can dwell in this time of failure and still long for the surety of a future, a future that allows us all to survive and honours our deep entanglement with the planet. This is why we have chosen the polemic and political format of the manifesto. It aids us in searching through the old, getting rid of what no longer serves, and mixes up the political and personal to combine and confuse our political commitments. We don’t need more reports or policy debates. We need new practices, new ideas, stories, and myths.1 We must face the true terror of this moment. Carbon dioxide concentrations in the atmosphere now exceed those experienced for over a million years, and global greenhouse emissions trends show the planet hurtling towards a world, in this century, that is three to five degrees warmer than the preindustrial era.2 This is a world of melted ice caps and permafrost, flooded cities, oceans so acidic they cannot support life, and the loss of the Amazon’s rainforests. Ocean acidification, pollution, and overfishing may also cause the collapse of all major marine fisheries by mid-century.3 At least 617 species of vertebrates have become extinct in the wild since 1500, exceeding the ‘background rate’ of extinction by over 100, and half the Earth’s wild animals have disappeared in the last four decades.4 All this is looming as much of the world suffers under a burden of extreme poverty and inequality, and communities from the Niger Delta to Bangladesh are condemned to live in ‘sacrifice zones’ devastated by oil drilling, mining, fracking, pollution, nuclear testing, and inundation.5 The 2015 Paris Agreement gave us hope that international society may yet reverse these trends and prevent dangerous climate change, but provided no firm and enforceable plans to do so. It was a window that magically appeared high on the wall of our prison cell, but the door remains locked.6

We agree with Timothy Morton, that the global ecological crisis ‘has torn a giant hole in the fabric of our understanding; that it is a vast ‘tear in the real’.7 Now our paradigms fail the real. International Relations, as both a system of knowledge and institutional practice, is undone by the reality of the planet. We must be in tension with status-quo struggles within our disciplines, and transgress academic boundaries to create conversations with activist networks and movements engaged in struggle against oppressive regimes and systems. If the biosphere is collapsing, and if International Relations has always presented itself as that discourse which takes the global as its point of departure, how is it that we – IR’s scholars, diplomats and leaders – have not engaged with the planetary real? We contend that International Relations has failed because the planet does not match and cannot be clearly seen by its institutional and disciplinary frameworks. Institutionally and legally, it is organised around a managed anarchy of nation-states, not the collective human interaction with the biosphere. Intellectually, the IR discipline is organised sociologically around established paradigms and research programmes likewise focused on states and the forms of international organisation they will tolerate; it is not organised to value or create the conceptual and analytical changes that are needed. The problems lie in the way we think and are trained; in the subjects and approaches our discipline values and rewards. Yet at the edges of IR – in NGOs, in critical geography, posthuman IR, global governance and ecological politics – a new consciousness is visible.8 That work cannot languish in dissidence, as so many earlier interventions have done.9

In our debates about the efficacy of the state, or the effects of globalisation, we have missed what we were making: an era now termed the Anthropocene. This term represents an unprecedented change in the continued livability of planet Earth caused by the rapacious use of natural resources with no thought for current and future generations of humans, and of the millions of other species affected by changing climatic conditions and ecosystem damage. It is the power of human labour that freed carbon, and this element, once taken out of its molecular flows has created a metabolic rift, as McKenzie Wark writes, where the waste products of carbon’s extraction cannot be returned to a cycle that can renew itself. It is global in scope and new agendas must be designed to mitigate this rift.10

The Anthropocene represents a new kind of power – ‘social nature’ – that is now turning on us. This power challenges our categories and methodologies. It demands we find accomplices in our discipline and beyond it. It demands a new global political project: to end human-caused extinctions, prevent dangerous climate change, save the oceans, support vulnerable multi-species populations, and restore social justice.

Action from this perspective is both more modest and yet more vital. Communicative, anthropocentric, and rights-based ethics can only guide and inform the discussion so far in understanding the challenges and opportunities in the Anthropocene.

Security comes from being more connected, not less. Gone are the days of billiard ball states and national security based on keeping the Other out or deterred. The Other is always already inside, so bound up with us in a common process that it no longer makes sense to speak of inside and outside. We cannot survive without accepting the cosmopolitan and enmeshed nature of this world. We are an array of bodies connected and interconnected in complex ways that have little to do with nationality. States will wither in the coming heat, freeze in the prolonged winters, and be lost under the rising oceans. We will not survive without the biggest and most complex system we know: the biosphere. This may finally be the death of Man,11 but what will come next if this face is lost in the rising tides? Trying to write from within IR, we find ourselves prisoners in our own vocation. We are speechless, or even worse, cannot find words to represent the world and those within it. We do not hope that politics will suddenly change – but it must change. There is no magic bullet, no sudden realisation, and no single policy that will ‘fix’ the damage done. The naysayers will stand in the ruins and tell us we are dreaming; that a new world is not of our making. Grudging admissions that climate change has been both long understood and actively denied do little; they cannot turn back the clock. Rather, we must embrace a multi-species, multi-disciplinary action plan. And we must do it now. We cannot unravel time and restore lost species to life, but we can fight for this planet we call a home.

What other choice do we have?

And so, knowing that even a ruined planet is worth fighting for, we declare our intentions for facing our discipline with delicate hope and a desire to face the planetary real with an unflinching gaze.

Manifesto of Planet Politics The Double Crisis

1. Can we match the planet with our politics? After the bombings of Hiroshima and Nagasaki in August 1945, thoughtful writers wondered if the devastation presaged a new international reality that might challenge its institutions, its notions of security, and indeed its very politics. Neils Bohr and other Manhattan Project scientists thought that nuclear weapons overturned the fundamental principles of war and would radically destabilise international politics; Bernard Brodie prayed that nuclear war would be unlikely enough ‘to give society the opportunity it desperately needs to adjust its politics to its physics’.12 What resulted was a short-lived effort to think about nuclear world government and the banning of the weapons. Once the major power diplomacy in the UN Atomic Energy Commission failed in 1948, the fundamental irruptive power of the weaponry was left to the vicissitudes of militarism, power-politics, and interstate bargaining. Yet even as statesmen, strategists and air forces sought to make the weapons merely another tool of war, there was understanding of their paradigm-shattering peril: US atomic scientists warned that the H-bomb ‘enters the range of very great natural catastrophes [and] becomes a weapon which in practical effect is almost one of genocide… its very existence and the knowledge of its construction [is] a danger to humanity as a whole’; while at Geneva in 1955 Eisenhower and Marshall Zhukov speculated that a nuclear war, given the prevailing East-West winds, would create ‘fallout [that] might destroy entire nations and possibly the whole northern hemisphere’.13

In short, some had glimpsed the gulf between the real and the sensible in the image of our potential extinction. By the 1980s, Earth system science had shown us how total that extinction could be, with ‘nuclear winter’ studies that showed even a limited nuclear war would starve most of the human survivors and, in the words of Carl Sagan, ‘represent a severe assault on our civilisation and our species’.14 Such a fate would overcome the planet in the hours and months after war; now Earth system science, with its powerful computer models, its massive datasets, and its complex understanding of ecological systems, shows a future of extinctions that will be slower – playing out over decades and centuries – but is more probable. This future issues not from an exceptional event like war or terrorism, and not from a clash of states, but from the routine and extraordinary rhythms of human life, consumption, and industrialisation: from the encounter between humanity and ecology.

As the world is hurtling towards a disastrous ‘four degree world’ affected by irreversible climate change,15 we must ask a new question: Can we match the planet with our politics? We are concerned that International Relations, as both a field of knowledge and a global system of institutions, is failing the planet. A state-centric world obsessed with bargaining, power and interests, which talks arrogantly of an atmosphere divided into ‘carbon space’ divided by national borders, and in which the state is the handmaiden of a capitalism which sees nature as mere material in wait of profit, is failing the reality of the planet.

Clive Hamilton has argued that ‘the advent of the Anthropocene shatters the selfcontained world of social analysis that is the terrain of modern social science’ and asks: ‘If on the Anthropocene’s hybrid Earth it is no longer tenable to characterise humans as the rational animal, God’s chosen creatures or just another species, what kind of being are we?’16

We ask: What kind of politics should match this new being?

At its most basic, this means that our fundamental image of the world must be revolutionised. Our existence is neither international nor global, but planetary. Our anthropocentric, state-centric, and capital-centric image of international relations and world politics is fundamentally wrong; it perpetuates the wrong reality, the wrong commitments and purposes, the wrong ‘world-picture’.17 In its obsession with power, it fails to understand the true power of a ‘social nature’ that is transforming the living reality of the planet. ‘The end of International Relations – surely not…’ we can hear the sceptics say, as they point to the hundreds of capitals and ministries, the weapons and militaries, the rituals of diplomacy and trade, and the United Nations’ modernist headquarters in Manhattan, dreaming skyward of a safer world order. Yet this is not the real the planet now presses upon us – of industrialised and profit-driven human societies utterly and ever more dangerously enmeshed with the biosphere, the world of things, rivers, forests and animals, whose rhythms and survival are utterly marked by our processes and are ever more in doubt. This is not a world of power politics, or of liberal benevolence. International relations is a real that is increasingly unreal; a world that is not of this Earth.

2. Hurricanes are more real than markets, or how is it that the Dow Jones gets more headlines

than climate change? We contrast one discipline – IR – with another: Earth system science. This system of research and knowledge, out of which the very concept of the Anthropocene18 emerged, aims to reflect the true scale and systemic complexity of the planet in a way that International Relations does not. Its analytical breadth and methodologies underpins much of climate science, and now issues a profound warning to global institutions – if they are in any mind to hear. We offer this example not to claim that ‘hard’ natural science should trump ‘soft’ social science in its understanding of the world and its complexity, but rather that we need interdisciplinary dialogue, multiple ‘toolboxes’, and additional accomplices to be able to analyse and respond to the rapidly evolving planetary real.

Earth system science’s ‘planetary boundaries’ model identifies nine major global ecosystem processes (climate change, ocean acidification, stratospheric ozone depletion, biogeochemical flows, freshwater, land system change, atmospheric aerosol loading, and biosphere integrity/biodiversity) and thresholds ‘within which humanity can exist safely’ for each one. A study in 2009 stated that three of these thresholds (climate change, ocean acidification, and ozone) had been crossed, while a 2015 study stated that the threshold for biosphere integrity had already been crossed.19 This model proposes 350 parts per million (ppm) of CO2 in the atmosphere as the threshold of safety for climate change (about 1-1.5°C of average global warming), yet recorded measurements have now exceeded 400 ppm and international institutions (including the EU and the UN Framework Convention on Climate Change) insist in assuming that 2°C of warming is a safe target. The fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) states that the Earth has endured its warmest 30 years since 1400; observed global warming is already between 0.65 and 1.06°C; and, the oceans have seen a 26% increase in acidification ‘since the beginning of the industrial era’.20 Another major Earth system study predicts that ocean acidification, overfishing, and other stressors could lead to massive biodiversity losses and the collapse of all major fisheries by 2048.21 It is easy to imagine the devastating effect on ocean ecologies and human food security such an extinction event will have, within just three decades.

### da – shift

#### The US has proven the concept behind conventional hypersonics development, but hasn’t committed funding to a full deployment because the capability lacks a viable strategic niche.

Prakash Nanda 22, Author and veteran journalist, commenting on politics, foreign policy on strategic affairs for nearly three decades, former National Fellow of the Indian Council for Historical Research and recipient of the Seoul Peace Prize Scholarship, Distinguished Fellow at the Institute of Peace and Conflict Studies, “Hypersonic Hype? This Is Why US ‘Trails’ Russia, China & Even North Korea In Hypersonic Missile Development,” The Eurasian Times, 11/6/22, https://www.eurasiantimes.com/why-is-the-us-still-unable-to-develop-hypersonic-weapons/

Why is it that despite being far behind Russia, China, and probably even North Korea in hypersonic weapons, the United States is reluctant to establish any programs of record for such weapons?

This question is significant when the Pentagon’s FY2023 budget request for hypersonic research is $4.7 billion—up from $3.8 billion in the FY2022 request, and the Missile Defense Agency (MDA) has additionally requested $225.5 million for hypersonic defense.

In other words, while the US is openly researching hypersonic weapons, it is not sure whether this research will result in deployable weapons or programs.

It is common knowledge that the United States has actively pursued the development of hypersonic weapons as a part of its conventional prompt global strike program since the early 2000s.

The EurAsian Times reported how on October 26, the US military carried out a successful test launch of a rocket for the development of hypersonic weapons.

And the next day, on October 27, the US Congressional Research Service released its updated report on “Hypersonic Weapons: Background and Issues for Congress” to Congress for consideration.

Countries Testing Hypersonic Weapons

The US reluctance to have an officially declared hypersonic program is all the more surprising when it is not a question of simply Russia, China, or North Korea, who have deployable hypersonic missiles.

Many other countries are also developing hypersonic weapons technology. These countries include Australia, India, France, Germany, South Korea, and Japan. And interestingly, the US has collaborated with some of them.

Since 2007, the United States has teamed up with Australia on the Hypersonic International Flight Research Experimentation (HIFiRE) program to develop hypersonic technologies.

In addition to the Woomera Test Range facilities—one of the largest weapons test facilities in the world—Australia reportedly operates seven hypersonic wind tunnels and is capable of testing speeds of up to Mach 30.

Analysts say France has decided to weaponize the hypersonic technology under the “V-max (Experimental Maneuvering Vehicle) program,” which could provide Paris with a strategic nuclear weapon. France operates five hypersonic wind tunnels and can test speeds up to Mach 21.

Germany has already tested an experimental hypersonic glide vehicle (SHEFEX II). It continues to research and test hypersonic vehicles as part of the European Union’s ATLLAS II project, which seeks to design a Mach 5-6 vehicle. Germany operates three hypersonic wind tunnels and can test speeds up to Mach 11.

South Korea is said to be developing a ground-launched Mach 6+ hypersonic cruise missile, Hycore, “in response to growing concern about North Korea military modernization.” It plans to build sea[1]and air-launched variants eventually.

Japan is reportedly developing the Hypersonic Cruise Missile (HCM) and the Hyper Velocity Gliding Projectile (HVGP) for area suppression and neutralizing aircraft carriers.

HVGP is expected to enter service in 2026, with a more advanced version available by 2030, while HCM is expected to enter service in 2030. It is said that the Japan Aerospace Exploration Agency operates three hypersonic wind tunnels, with two additional facilities at Mitsubishi Heavy Industries and the University of Tokyo.

Besides, Japan and the United States have agreed to conduct “a joint analysis focused on future cooperation in counter-hypersonic technology.”

Though India test-fired its first indigenous Hypersonic Technology Demonstrator Vehicle (HSTDV), developed by the Defense Research and Development Organisation (DRDO), in 2020, knowledgeable sources say that this is related to the making of the BrahMos-II, which is supposed to succeed the Indian Navy’s BrahMos anti-ship missile.

Besides, India reportedly operates approximately 12 hypersonic wind tunnels and can test speeds up to Mach 13.

In any case, BrahMos is also supersonic, flying at three times the speed of sound, known as Mach 3. But BrahMos II, like Russian Zircon, will be about twice as fast, flying above Mach 6. Though expected to have a range of 600 kilometers, BrahMos II can develop the range to 1000 kilometers and the speed of Mach 8, it is said.

As is well-known, the BrahMos series is being developed by BrahMos Aerospace Private Limited, collaborating with India’s DRDO and Russia’s NPO Mashinostroyenia (NPOM).

Significantly, Zircon has been designed by none other than the NPOM. It is noteworthy that though it is supposed to carry conventional warheads, Zircon can be fitted with nuclear warheads if necessary. Whether BrahMos II will be allowed to carry nuclear warheads remains unclear.

Hypersonic Vs. Supersonic

Notably, hypersonic speed is considered anything faster than Mach 5, or five times the speed of sound, equivalent to just over 100 kilometers (60 miles) per minute or about a mile every second.

And besides its high speed, its flight can be very maneuverable, making it extremely difficult to shoot down.

Though, like ICBMs, hypersonic glide weapons are launched by rockets high into the atmosphere, unlike the former, whose warhead is primarily powered by gravity once it begins its descent to its target, hypersonics dive back to Earth sooner before flattening out their flight path and then uses internal navigation devices to make course corrections and keep it on target while traveling even up to 12 times the speed of sound.

An ICBM follows a parabolic trajectory, which means that it goes up and then comes down in a high arc, but a hypersonic one orbits the Earth at a lower height and is maneuverable. The ability to change track, target, and speed mid-trajectory, makes them tougher to track and defend against.

The valuable aspect of the hypersonic missile is its plasma cloud. During the flight, the missile is entirely covered by a plasma cloud that absorbs any rays of radio frequencies and makes the missile invisible to radars.

This allows the missile to remain undetected on its way to the target. Therefore, a hypersonic missile can defeat advanced missile-defense systems of adversaries.

There are two primary categories of hypersonic weapons. One is a hypersonic glide vehicle (HGV) launched from a rocket before gliding to a target. The other is hypersonic cruise missiles powered by high-speed, air-breathing engines, or “scramjets,” after acquiring their target.

Like ICBMs, hypersonic missiles can carry both conventional and nuclear warheads. However, unlike Russia, China, and North Korea, the US says its missiles that have been or are being tested can carry only conventional warheads. Americans believe that conventional warheads do have greater accuracy than nuclear ones.

US Hypersonic Program

Pentagon is currently developing hypersonic weapons under the US Navy’s Conventional Prompt Strike program, which is intended to provide the US military with the ability to strike hardened or time-sensitive targets with conventional warheads, as well as through several Air Force, Army, and DARPA (Defense Advanced Research Projects Agency) programs.

According to the Congressional Research Service report, the programs are:

US Navy—Offensive Anti-Surface Warfare Increment 2 (OASuW Inc 2), also known as Hypersonic Air-Launched OASuW (HALO);

US Army—Long-Range Hypersonic Weapon (LRHW);

US Air Force—AGM-183 Air-Launched Rapid Response Weapon (ARRW, pronounced “arrow”);

US Air Force—Hypersonic Attack Cruise Missile (HACM);

DARPA—Tactical Boost Glide (TBG);

DARPA—Operational Fires (OpFires); and

DARPA—Hypersonic Air-breathing Weapon Concept (MOHAWC, pronounced “mohawk”).

As regards the Hypersonic Missile Defenses, though investments have been made in counter-hypersonic weapons capabilities, former Under Secretary of Defense for Research and Engineering Michael Griffin has stated that the United States will not have a defensive capability against hypersonic weapons until the mid-2020s, at the earliest.

There is indeed a debate in the US strategic circles about the need for defense against hypersonic missiles.

Some analysts have suggested that space-based sensor layers—integrated with tracking and fire-control systems to direct high-performance interceptors or directed energy weapons – could theoretically present viable options for defending against hypersonic weapons.

But, some other analysts have questioned the affordability, technological feasibility, and utility of wide-area hypersonic weapons defense.

According to physicist and nuclear expert James Acton, “point-defense systems, and particularly [Terminal High-Altitude Area Defense (THAAD)], could very plausibly be adapted to deal with hypersonic missiles.

The disadvantage of those systems is that they can only defend small areas. To defend the continental United States, you would need an unaffordable number of THAAD batteries.”

In addition, some American analysts argue that hypersonic weapons lack defined mission requirements, contribute little to US military capability, and are unnecessary for deterrence.

Some analysts also caution that hypersonic cruise missiles may not be used against countries possessing ICBMs in their heartlands. For instance, if Russia uses a missile like Zircon against the United States, the latter can retaliate massively with ICBMs.

All this perhaps explains why the US has not developed, as of now, a deployable hypersonic system.

At present, the Department of Defense (DOD) has not established any programs of record for hypersonic weapons, suggesting that it may not have approved either mission requirements for the systems or long-term funding plans,” says the Congressional Research Service report, quoting Principal Director for Hypersonics (Office of the Under Secretary of Defense for Research and Engineering) Mike White that “DOD has not yet made a decision to acquire hypersonic weapons and is instead developing prototypes to assist in the evaluation of potential weapon system concepts and mission sets.”

The report, therefore, asks Congress to consider questions about the rationale for hypersonic weapons, their expected costs, and their implications for strategic stability and arms control.

The “questions” are:

What mission(s) will hypersonic weapons be used for? Are hypersonic weapons the most cost-effective means of executing these potential missions? How will they be incorporated into joint operational doctrine and concepts?

Given the lack of defined mission requirements for hypersonic weapons, how should Congress evaluate funding requests for hypersonic weapons programs or balance funding requests for hypersonic weapons programs, enabling technologies, and supporting test infrastructure? Is accelerating research on hypersonic weapons, enabling technologies, or hypersonic missile defense options both necessary and technologically feasible?

How, if at all, will the fielding of hypersonic weapons affect strategic stability?

Is there a need for risk-mitigation measures, such as expanding New START, negotiating new multilateral arms control agreements, or undertaking transparency and confidence-building activities?

The last question is crucial as it involves the issue of “Arms Control.”

Hypersonic weapons programs, after all, are essentially strategic weapons. Should the US be a part of the arms race instead of taking measures to mitigate risks by negotiating for a new START with Russia, which, at the moment, does not cover weapons that fly on a ballistic trajectory for less than 50% of their flight, as do hypersonic glide vehicles and hypersonic cruise missiles?

After all, Article V of the START treaty states that “when a party believes that a new kind of strategic offensive arm is emerging, that Party shall have the right to raise the question of such a strategic offensive arm for consideration in the Bilateral Consultative Commission (BCC).”

Therefore, many American strategic analysts have even proposed negotiating a new international arms control agreement that would institute a moratorium or ban on hypersonic weapon testing, with a “highly verifiable” and “highly effective” means of preventing a potential arms race and preserving strategic stability, even though relations between Washington and Moscow are at the lowest ebb following the war in Ukraine.

#### Nuclear reductions create a capability gap---it’d be filled by recommitting to conventional hypersonics, which triggers nuclear miscalculation.

Ruby Russell et al. 21, Foreign Affairs Specialist with the U.S. Department of Energy’s National Nuclear Security Administration (DOE/NNSA) Office of Nuclear Verification (ONV), “No First Nukes: Replacing the U.S. Nuclear First Strike Mission with Non-Nuclear Hypersonic Weapons,” Center for Strategic and International Studies (CSIS), 2021, pp. 135–150, JSTOR, https://www.jstor.org/stable/resrep29483.14

INTRODUCTION

The 2020 U.S. presidential primary debates generated renewed public interest in a long deliberated question within the nuclear weapons landscape: should the United States declare a no-first-use (NFU) nuclear policy? The question over whether the United States should explicitly commit never to use nuclear weapons first in any conflict—including in response to a chemical, biological, cyber, or conventional attack—has been debated by more than one U.S. administration and was considered most seriously under President Barack Obama. While ultimately electing to stay with the traditional posture of “ambiguity” rather than adopt an NFU policy, through the 2010 Nuclear Posture Review (NPR) President Obama committed the United States to “work to establish conditions under which such a policy could safely be adopted”. But what are those conditions exactly and how might they be established?

Parallel to renewed debates on NFU is the advancement and pursuit by the United States of non- nuclear hypersonic weapons (HSWs). These highly maneuverable systems are unique in their ability to traverse unpredictable flight paths at speeds far greater than Mach 5, or five times the speed of sound. With no existing anti-missile system capable of intercepting projectiles maneuvering at such speeds, these weapons have the potential to provide the United States with the ability to hold hostage strategic targets thousands of miles away and to execute a devastating conventional attack within minutes.’ Could the advent of highly maneuverable HSWs help bring about the very conditions outlined in the 2010 NPR, wherein non-nuclear strategic systems play a meaningful role in strategic deterrence? Can the unique qualities of modern non-nuclear HSWs adequately replicate the strategic goals envisioned for U.S. nuclear weapons in a first-strike scenario, allowing the United States to finally declare a nuclear policy of NFU?

This study examines the role of nuclear first-strike options in the U.S. deterrence strategy and explores whether non-nuclear HSWs, supplemented with additional measures to bolster extended deterrence, are sufficient to carry out the United States’ current first-use mission. Additionally, this study assesses the potential normative benefits of adopting an NFU policy, including raising U.S. moral credibility within the nuclear nonproliferation and disarmament arena and increasing U.S. bargaining power to negotiate verifiable arms control treaties with Russia and China.

FIRST-USE AND DETERRENCE

In order to assess the merits of an NFU policy, it is critical to understand the strategic purpose behind maintaining a first-use nuclear option in the first place. What role does retaining the right to use nuclear weapons first play in the U.S. deterrence strategy and how does it manifest itself? Can first-use be characterized as a physical capability or is it merely an intent? An examination of these questions will help establish a basis upon which to explore whether the nuclear first-use option can be replicated with a non-nuclear alternative. However, before proceeding, it is important to note that while twenty-first century concepts of deterrence have expanded to include considerations of non-military force such as cyber weapons, this work will focus on nuclear deterrence as “the belief that nuclear weapons are so devastating that nuclear strikes must be avoided at almost any cost”\* With this definition in mind, how does first-use fit into nuclear deterrence?

Notably, the phrase “first-use” is rarely used to characterize current U.S. nuclear policy. Instead, the United States often refers to maintaining a policy of “ambiguity” in regard to the circumstances under which it would actually employ nuclear weapons, including in a first-strike scenario.

Given that U.S. declaratory policy on the matter is literally defined by ambiguity, nailing down the underlying strategic purpose and the actual manifestation of first-use proves challenging. That said, an examination of official U.S. policy documents including NPRs as well as the works of government experts leads to at least three primary purposes of a “first-use” nuclear option.

1. A FACET OF BROADER NUCLEAR DETERRENCE

In an elusive effort to outline the circumstances under which nuclear weapons might be employed, the 2018 NPR states that the United States “would only consider the employment of nuclear weapons in extreme circumstances to defend the vital interests of the United States, its allies, and partners. Extreme circumstances could include significant non-nuclear strategic attacks.” In an only slightly more specific statement, the 2010 NPR states “there remains a narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional or CBW attack against the United States or its allies and partners.” In either case, there is no explicit reference to first- use but rather a description of the role of nuclear weapons in deterring non-nuclear threats. Such language could be characterized as retention of a first-use option—if an adversary attacks the United States with conventional weapons or non-nuclear weapons of mass destruction (WMDs), it should expect a possible nuclear response (i.e., first-use).

The approach laid out in the 2010 and 2018 NPRs appear to focus on the need to retain the intent or option to use nuclear weapons in response to certain non-nuclear threats in order to bolster deterrence. Under this Logic, “[s]trategic planners for nuclear weapons powers see the credible threat of the first-use of nuclear weapons as a powerful deterrent against a range of significant nonnuclear threats.” This line of thinking parallels opponents of NFU, who argue that in the absence of retaining a first-use option, “would-be aggressors ...do not have to fear U.S. nuclear retaliation as long as they attack us or our allies with advanced conventional, chemical, and/or biological weapons.” Again, the underlying assumption is that U.S. nuclear weapons are critical to deterring nuclear and non-nuclear aggression.’°

But is the intent to use nuclear weapons first really irrevocably intertwined with successful deterrence? Can U.S. nuclear deterrence still function if the intent is not to use nuclear weapons first but rather a non-nuclear alternative such as an HSW capable of destroying an adversary’s strategic assets?" Could the threat to employ non-nuclear HSWs in response to a non-nuclear attack prove more credible than the nuclear alternative? In her work, Therese Delpech points to the widespread assumption that “nuclear deterrence is not credible unless the actual use of nuclear weapons is contemplated:”” This assumption, she argues, generates “little perceived difference between a doctrine of deterrence and a doctrine of actual use. This leads to the belief that nuclear deterrence is inseparable from a doctrine of use, when in fact the purpose of deterrence is to prevent use”!

If the role of nuclear weapons was circumscribed to deterring adversary nuclear use, where any contemplation of use is limited to response to nuclear attack (or what the 2010 NPR refers to as “sole purpose”), how would U.S. deterrence be impacted and how might it adapt?"\* Is there room for a non-nuclear supplement? From Delpech’s perspective, ‘the relationship between nuclear and conventional weapons is evolving rapidly, and new forms of deterrence are appearing, including those involving the offense-defense balance.’ Similar thinking is prevalent throughout the 2010 NPR, which states, “[a]s the role of nuclear weapons is reduced in U.S. national security strategy... non-nuclear elements will take on a greater share of the deterrence burden.”

Although superseded by the 2018 NPR, the 2010 NPR is not an outlier in suggesting that conventional weapons could play a meaningful role in strategic deterrence. In 2005, then commander of the U.S. Strategic Command (STRATCOM) General James Cartwright testified before the Senate Armed Services Committee that “by replacing some nuclear weapons with conventional weapons in the U.S. strategic war plan the United States might be able to further reduce its reliance on, and, therefore, its number of deployed strategic nuclear weapons.” A 2009 congressional commission report led by William Perry and James R. Schlesinger acknowledges that nuclear posture is “not the only element of the U.S. strategic military posture, which also includes ... non-nuclear means of strategic strike’”"\* This thinking applies to extended deterrence as well. In 2016, then secretary of defense Ash Carter stated the United States was “refreshing NATO's nuclear playbook to better integrate conventional and nuclear deterrence.?

The above statements make clear that turning to non-nuclear means as a facet of U.S. strategic deterrence is not out of the realm of possibility and continues to be seriously contemplated at the highest levels of government. Thus, even in the absence of the intent to use nuclear weapons first, successful deterrence may be possible through the deployment of and threat to use alternative non- nuclear capabilities. However, the question of whether the right conventional weapons exist to fill the role intended for nuclear weapons in a first strike, in this case deterring an adversary’s non-nuclear attack, has always underlined the debate. This essay will consider whether non-nuclear HSWs are in fact the “right” weapon.

2. DISARMING FIRST STRIKE

A second strategic goal historically envisioned for a nuclear first strike was preemptive disarming or debilitation of an enemy's strategic forces. While this is not a stated goal of U.S. nuclear policy today, an examination of a 1962 declassified briefing by the Chairman of the Joint Chiefs of Staff (JCS) to President John F. Kennedy on the Single Integrated Operational Plan (SIOP) suggests that during the Cold War, a disarming first strike against the Soviet Union was among the top priorities of U.S. strategic war planners.

During this briefing, the JCS chairman explained that the SIOP “provid[ed] for the optimum employment of the US atomic delivery forces in the initial attack of strategic targets in the Sino-Soviet Bloc’””° The 1962 SIOP was “designed for execution as a whole” and could be executed either “in retaliation to a Soviet nuclear strike of the US” or, notably, “as a preemptive measure.” Furthermore, the 1962 SIOP aimed to meet two objectives under either scenario: “a. To destroy or neutralize Sino-Soviet Bloc strategic nuclear delivery capability primary military and government controls of major importance;” and “b. To attack the major urban-industrial centers of the Sino-Soviet Bloc’”” These objectives provide a small insight into the goals imagined for U.S. nuclear first strike during the Cold War.

In another work examining the impact of HSWs on deterrence, Lieutenant Colonel Nathan Terry discusses the first-strike option in the context of “deterrence by denial? or “removing ‘strategic options’ from the adversary’” Under this strategy, according to Terry, a first strike “successfully destroys or disables the adversary’s entire ICBM force?” Considering the potential objectives outlined above for a first strike, the question remains: could non-nuclear HSWs perform the role of a nuclear first strike, “destroy[ing] or neutraliz[ing]” an adversary’s strategic delivery capabilities to the same extent nuclear weapons could? The answer is likely not. However, if a critical number of sites could be held hostage, would that be enough? Could a first strike carried out by non-nuclear HSWs cause enough damage to an adversary’s strategic sites to deter or prevent retaliation, especially if backed by the threat of a second-strike nuclear deterrent? This question will be further explored in the section on HSWs.

3. EXTENDED DETERRENCE

Perhaps the most important issue to consider in examining the role of the nuclear first-strike option in U.S. deterrence strategy is extended deterrence. According to the 2009 Congressional Commission on the Strategic Posture of the United States, “U.S. nuclear posture must be designed to address a very broad set of U.S. objectives, including not just deterrence of enemies in time of crisis and war but also assurance of our allies and dissuasion of potential adversaries”” By providing a reliable extended deterrent, the United States not only aims to dissuade adversaries from attacking allies or U.S. forces in allied territory but also to dissuade allies from developing their own domestic nuclear weapons programs, thereby stemming further nuclear proliferation.

Both the 2010 and 2018 NPRs are explicit in their assessment of the important role U.S. nuclear weapons have played in extended deterrence. According to the 2010 NPR,“U.S. nuclear weapons have played an essential role in extending deterrence to U.S. allies and partners against nuclear attacks or nuclear-backed coercion by states in their region that possess or are seeking nuclear Taking it a step further, the 2018 NPR argues “conventional forces alone do not adequately assure many allies and partners. Rather, these states place enormous value on U.S. extended nuclear deterrence’?”

While neither document disputes the right of the United States to respond in kind to a nuclear attack on an ally, the 2010 NPR flirts with the question of whether responding to a non-nuclear attack on an ally truly requires a nuclear response. As the 2010 NPR hints at, under the right conditions in the post-Cold War era, there may be room for restructuring the concept of extended deterrence. Under this restructuring, nuclear weapons would play the “sole purpose” of deterring a nuclear weapons attack and be bolstered by conventional forces which may be employed in response to a non- nuclear attack on allies. An extended deterrent structured in this manner could in theory create the conditions under which the United States might declare an NFU policy.

To better understand the current U.S. position on the link between NFU and extended deterrence and whether there is room for this position to evolve, it is helpful to look at the genesis of U.S. extended nuclear deterrence during the Cold War. As both advocates and opponents of NFU will attest, the early years of the Cold War were defined by stark disparities between the West's recovering post- WWII forces and the Soviet Union's superior conventional capabilities. Following the 1948 Berlin Crisis specifically, it became “clear that the Soviet Union was aggressive and the United States would be unable to stop it through conventional means alone’”\* The United States therefore “adopted a policy of using nuclear weapons to deter or respond to a Soviet invasion of Europe? which included a promise “to respond to any Soviet attack with immediate and massive nuclear retaliation”? In advancing this policy, the United States aimed to assure allies in Europe while also discouraging them from pursuing nuclear weapons themselves.\*°

Such thinking led to the establishment of first-use as “a cornerstone of the defensive posture of the North Atlantic Treaty Organization (NATO).”\* This posture persists today, manifest in NATO's “flexible response” policy, which “allows the alliance to be the first to introduce nuclear weapons into a conflict, including in reply to an attack with conventional weapons: In addition to its European allies, the United States also extends deterrence to allies in East Asia and the Middle East, including South Korea and Japan, to “deter major nonnuclear threats against them.”

While the threat of U.S. nuclear first-use as a component of the extended deterrence commitment to NATO allies during the Cold War may have been prudent, it is less clear whether such thinking remains applicable in the twenty-first century. As the 2010 NPR consents, in a post-Cold War world, the “advent of U.S. conventional military preeminence” has fostered in a new strategic environment in which the role of U.S. nuclear weapons in “deterring non-nuclear attacks ...has declined significantly”\*\* Experts advising Congress have reached similar conclusions, acknowledging that “the challenge of deterring Soviet and Warsaw Pact conventional attack obviously disappeared’\*>

Such statements are of course a decade old and fail to account for an evolved strategic environment in which China has continued to qualitatively and quantitatively improve its conventional and nuclear forces and Russia has carried out serious conventional offensives, including the invasion of Georgia in 2008 and the illegal annexation of Crimea in 2014. Even so, continued U.S. military dominance in the post-Cold War environment cannot be discounted. Furthermore, while not NATO members themselves, the invasions of Georgia and Ukraine occurred despite continued deployment of NATO nuclear forces in neighboring countries, potentially calling into question the effectiveness of these nuclear forces in deterring conventional attack in the region.

Beyond European allies, many view the threat of first-use via extended deterrence as essential to assuring allies such as Japan and South Korea, as well as for minimizing incentives to pursue nuclear programs of their own.\* But the credibility of this first-use threat in response to a non-nuclear attack on an ally remains questionable. As Bernard Brodie, the father of deterrence, asked, “[w]e may be quite sure we will hit back if hit directly ourselves, but will we do so if any of our chief allies is attacked or threatened to attack?”

Diving deeper into this question of credibility, Steve Fetter and Jon Wolfsthal examine scenarios in which allies such as Japan might expect the United States to use nuclear weapons in their defense, including in response to conventional attacks by North Korea. The authors conclude that there is no plausible scenario in which nuclear weapons would be expected or needed to be used to meaningfully retaliate against a non-nuclear attack by North Korea. They go on to argue, “if the United States and Japan do not believe that it would make sense to use nuclear weapons first, the threat to do so cannot be a credible deterrent to nonnuclear aggression by North Korea?” Furthermore, “making incredible threats weakens the credibility of other commitments. Abandoning incredible threats should make the remaining nuclear use scenarios, and therefore deterrence, more credible”?

In bolstering their argument for the success of extended deterrence, opponents of NFU often point to nuclear threats the United States reportedly made during the Gulf War in response to concerns Saddam Hussein might employ chemical weapons. At the time, “Iraq seemed to understand that the threats of retaliation included nuclear weapons. This had an effect on its behavior during Operation Desert Storm, even if the U.S. message was more a bluff than the expression of precisely planned war operations:”° In the early 1990s, it is possible that threats of nuclear first-use may have been the United States’ best option. Looking ahead two decades to the 2010 NPR, however, in this post-Cold War world the United States “continues[s] to strengthen conventional capabilities and reduce the role of nuclear weapons in deterring non-nuclear attacks” As confidence in non-nuclear deterrent alternatives builds and reliable non-nuclear first-strike options diversify, it will be increasingly difficult to justify nuclear fist use in the extended deterrent context.

It should be made clear here that eliminating the nuclear first-strike option from NATO doctrine and U.S. extended deterrence more broadly does not eliminate the nuclear second-strike option nor alter NATO's identity as a nuclear alliance but rather reserves nuclear retaliation for response to a nuclear attack alone. Even still, if the United States forgoes the option of employing nuclear weapons in response to non-nuclear attack, deterrence must be bolstered in some other way. Here, the question must be asked: is there a credible non-nuclear supplement to nuclear deterrence? Specifically, are non-nuclear HSWs capable of replicating the contemporary strategic goals envisioned for U.S. nuclear weapons ina first strike, and therefore of becoming a viable replacement?

HYPERSONIC WEAPONS (HSWS): A SOLUTION TO THE NFU PROBLEM?

Often defined as vehicles or weapons systems capable of travelling faster than Mach 5, hypersonic systems have existed in the U.S. arsenal for decades, including in the form of intercontinental ballistic missile systems (ICBMs).? However, advancements in technology have allowed for the onset of highly-maneuverable HSWs, which “combine the maneuverability and accuracy of cruise missiles with the long range and speed of ICBMs’? While many are still in the developmental stages, modern hypersonic systems are being designed to travel up to 25,000 kilometers per hour, or between one and five miles per second.” Critically, these advanced systems can also be “maneuvered in ways that confound existing methods of defense and detection”\*°

While an ICBM traditionally travels along a predictable parabolic arch, modern HSWs are designed to “fly at unusual altitudes - between a few tens of kilometers and 100 kilometers?’ According to a study by R. Jeffrey Smith, this lower altitude flight path makes it “roughly 10 to 20 times harder to detect an incoming ballistic missile? such that from the adversary’s perspective, the HSW’s potential landing zone might appear to be “about as big as Rhode Island.’\*” Notably, according to Smith, these weapons fly below altitudes easily detectable by U.S. ballistic missile interceptors, including the Aegis and THAAD systems.\*®

In addition to their unique combination of speed and maneuverability, HSWs may be developed to deliver either nuclear or conventional payloads. While Russia has already introduced the nuclear Avangard hypersonic glide vehicle into its arsenal and China is also reportedly pursuing nuclear- capable hypersonic systems, the United States has notably chosen to focus development efforts on non-nuclear HSWs.\*? Current systems under U.S. development include hypersonic boost-glide vehicles and hypersonic cruise missiles. While the former relies on a conventional missile to “boost” the weapon into a low-altitude hypersonic trajectory, the latter is powered by air-breathing “scram jet” engines which use “shock waves created by [their] speed to compress incoming air in a short funnel and ignite it while passing by’\*°

The logic for pursuing the non-nuclear path becomes clearer upon considering the sheer kinetic impact delivered by a system travelling at hypersonic speeds. According to Smith, conventional HSWs “function like nearly invisible power drills that smash holes in their targets, to catastrophic effect?5\* In his work on hypersonic boost-glide weapons, James Acton compares the top U.S. penetrator weapon, the GBU-57, or Massive Ordinance Penetrator, to a hypothetical boost-glide penetrator weapon. Based on the metrics of the U.S. Hypersonic Technology Vehicle-2, first tested in 2010, Acton estimates a hypersonic boost-glide penetrator could “penetrate more deeply than the Massive Ordnance Penetrator by a factor of 1.5 + 0.4”? Finally, Air Force Chief Scientist Geoffrey Zacharias states that HSWs “have great kinetic energy to get through hardened targets.’ In fact, in light of their “sheer speed and force” HSWs can be engineered to rely on kinetic energy alone, absent of conventional payloads all together.\*\*

Given their capacity to undermine defense systems and kinetic potential, could HSWs play a meaningful role in the U.S. strategic deterrent? As Smith asks, could conventional HSWs “undertake a task long imagined for nuclear arms: a first strike against another nation’s government or arsenals, interrupting key chains of communication and disabling some of its retaliatory forces, all without the radioactive fallout and special condemnation that might accompany the detonation of nuclear warheads”?>> The following sections will examine this question through the Lenses of the three possible roles envisioned for a nuclear first strike.

1. A FACET OF BROADER NUCLEAR DETERRENCE

As noted earlier, one goal envisioned for retaining a nuclear first-strike option might include bolstering U.S. deterrence against both nuclear and non-nuclear attacks. If would-be aggressors believe the United States does not maintain the intent to use nuclear weapons in response to non- nuclear attacks, they may not be deterred from carrying out a non-nuclear strike. But what if that intent to use was no longer based in a nuclear deterrent but rather in a non-nuclear, precision-guided HSW capable of undermining defense systems and smashing through hardened strategic targets?

The idea of integrating conventional systems into the broader U.S. deterrent strategy is not a new one and has been considered seriously by multiple U.S. administrations over the last two decades. These considerations present themselves most clearly within promotion of Conventional Prompt Global Strike (PGS), a system designed “to maintain and enhance its long-range strike capability so that it can strike anywhere in the world with forces that are based in or near the United States” Within the context of this program, General James Cartwright testified to Congress in 2005 about the potential for the United States to develop a “New Triad Concept? which “joined long-range nuclear-armed missiles with precision-strike conventional weapons in a category called offensive strike weapons?” During the testimony, General Cartwright and others suggested that “if missiles could deliver their payloads more precisely to their targets, then, for some categories of targets, they may not need the explosive yield of a nuclear weapon to destroy the target”\*\* However, Cartwright emphasized at the time that “the substitution of conventional warheads for nuclear warheads in the U.S. war plan would require significant improvements in the accuracy of U.S. long-range ballistic missiles?>?

Nearly two decades later, it seems possible that the advent of highly maneuverable, precision-guided HSWs could finally carry out the mission envisioned by General Cartwright, wherein non-nuclear systems play a meaningful role within the broader U.S. strategic deterrent. Consider here a U.S. nuclear deterrent “tipped” by a conventional first-use system capable of travelling at hypersonic velocities while also maneuvering in flight, allowing for the “[bypassing of] modern layered missile defenses” and ability to strike targets with greater precision. Does this capability sufficiently fulfill the role designed for nuclear-armed ICBMs ina first strike? Would intent or threat to use such a capability effectively deter an adversary from launching a WMD or conventional strike on the United States?

In terms of delivering the ability to wreak havoc on first-strike point targets (e.g.,a silo, command center, or bunker), especially in a scenario in which the United States is responding to a non-nuclear attack, it seems possible that non-nuclear HSWs could fill this role. However, the question remains as to whether conventional HSWs could deliver the same “psychological effects associated with nuclear weapons, a key facet of nuclear deterrence.®° While there would be no threat of nuclear fallout, a key psychological effect of nuclear weapons, it could be argued that the intent to use a conventional system in response to a non-nuclear attack, paired with the second-strike nuclear option (fallout and all), would be viewed by adversaries as more credible than the first-use of a nuclear weapon. Keeping in mind this non-nuclear first strike would be backed by the threat of a nuclear second strike, the enemy might be sufficiently deterred from launching a non-nuclear attack on the United States. If the enemy were to consider nuclear escalation, all the psychological effects of nuclear weapons would be back in play as part of a nuclear second strike. In this case, it seems possible the United States could retain a robust strategic deterrent while also declaring a nuclear NFU policy.

2. DISARMING FIRST STRIKE

While it seems possible conventional HSWs could be capable of fulfilling the role the nuclear first-strike option plays in bolstering the broader U.S. deterrent, it is less clear whether these systems could truly carry out a disarming first strike on a strategic adversary such as Russia. This is largely due to the fact that nuclear weapons can undoubtedly deliver more explosive power than any conventional system. It is therefore important to briefly consider the true kinetic impact of HSWs relative to nuclear weapons.

There are varying estimates on the potential kinetic impact a HSW can deliver alone, absent of explosives. According to Smith, for example, the “missiles’ kinetic energy at the time of impact, at speeds of at least 1,150 miles per hour [between Mach 1-2], makes them powerful enough to penetrate any building material or armored plating with the force of three to four tons of TNT.” A RAND study estimates that a 500 kg mass travelling at Mach 8 can deliver the equivalent of around 3.5 metric tons of TNT. Notably, of the two hypersonic systems currently under U.S. development, one is being designed to “fly at speeds between Mach 15 and Mach 20, or more than 11,400 miles per hour? presumably allowing for a higher kinetic impact, all without a conventional explosive payload.

Even still, four tons of TNT (or even 400 tons) is nothing close to the equivalent of what even the earliest nuclear weapons could deliver. Little Boy for example, the novel gun-type device dropped on Hiroshima in 1945, carried the equivalent of 15,000 tons of TNT.“ But is that really the type of punch the United States would seek to deliver in a nuclear first strike in the post-Cold War era?

In discussing the need for survivable and flexible nuclear forces, the 2018 NPR states that the U.S. nuclear triad is designed to provide “multiple options to deter effectively and respond as necessary to different threats and circumstances”® In this context, three attributes are listed which appear particularly relevant to a first-strike scenario:

1. Accurate Delivery: “The precision needed to hold adversary assets at risk while minimizing unintended effects”;

2. Penetrating: “The capacity to counter active and passive defenses, including hardened and buried facilities, to pose credible deterrent threats and achieve military objectives with high confidence”; and

3. Diverse and Graduated Options: The ability to provide “the spectrum of yield options, weapon types, and delivery options necessary to support the most effective tailoring of strategies across a range of adversaries and contingencies’®\*

It seems possible that non-nuclear HSWs could sufficiently satisfy all three of these criteria. For example, the accuracy of hypersonic systems combined with their speed arguably places them within the “Accurate Delivery” category, especially considering the minimal collateral damage (“unintended effects”) delivered by a hypersonic system relative to a nuclear one. Furthermore, in addition to being designed to penetrate buried defenses, a key defining factor of HSWs is their potential to evade existing missile defense systems, both elements of “Penetrating” Finally, conventional HSWs would help diversify the option set for “effective tailoring of strategies? providing war planners and the president with a zero-yield choice.

On the impact front, despite not being able to deliver the same amount of energy as a nuclear system, non-nuclear HSWs still may be able to take out a significant number of strategic sites in a first-strike scenario. For example, a study by industry analysts estimated that “between 10% and 30% of existing targets” in the U.S. war plan could be attacked with conventional weapons?” This estimate was made in 2005 in reference to PGS, prior to the advent of highly maneuverable HSWs, which, given their advanced features, might be capable of destroying an even higher percentage of targets. Even still, back in 2005 the PGS program aimed to provide the United States a “leading edge capability that degraded an opponent's defenses? including “ballistic missiles or caches of [WMD]? thereby allowing the United States to “destroy these weapons before an adversary could use them?” According to Acton, the “United States has stated explicitly that [conventional] PGS weapons could be acquired to target nuclear-armed ballistic missiles in North Korea and, perhaps in the future, lran”®? Such conventional missions appear comparable to those envisioned for a nuclear first strike.

While not fully disarming, it seems clear that the United States would be able to pack a punch with non-nuclear hypersonic systems in a first-strike scenario, all without resorting to nuclear war.”? And notably, U.S. war planners have contemplated such a strategy in the past with arguably less advanced conventional systems. In the end, a damaging non-nuclear option might present a more optimal strategic scenario, not only equipping the United States with the ability to take out enemy strategic sites while keeping a conflict below the nuclear threshold but also preserving valuable nuclear assets if the conflict should escalate. Again, in this context it may be possible to forego the nuclear first-strike option for an NFU policy tipped by non-nuclear HSWs.

3. EXTENDED DETERRENCE

As discussed earlier, advocates for a U.S. NFU policy often face the greatest opposition in two areas: (1) the policy's potential to undermine extended deterrence assurances; and, as a result, (2) the ensuing domino effect of nuclear weapons development among allies. In addition, allies’ historical discomfort with U.S. deliberations over adopting an NFU policy cannot be ignored. In fact, allies such as South Korea, Japan, the United Kingdom, and France reportedly conveyed their concerns to President Obama when his administration was considering adopting an NFU policy in 2016.”

However, the question of credibility remains: would the United States actually employ nuclear weapons in response to a non-nuclear attack on allies? As many point out, while such a threat might be credible for deterring attack on the homeland, in the overseas context “it runs the risk of appearing as a hollow bluff to allies and adversaries alike”” The integration of non-nuclear strategic forces into the U.S. extended deterrent could help close this credibility gap. Specifically, it seems possible that the use of non-nuclear HSWs, capable of evading defense systems and penetrating strategic targets all at hypersonic speeds, could serve as a more credible, and therefore meaningful, extended deterrent.

In order to understand how conventional HSWs might function as a valuable extended deterrent for U.S. allies, it is important to consider how such weapons might be deployed. In fact, many point to HSWs as providing an excellent “standoff capability” where the sheer speed of these weapons provides “the ability to hold distant, time-critical, highly defended, fleeting targets at In discussing the Alternate Re-Entry System, an HSW under the Army's development capable of being launched from bombers, Navy vessels, and the Army's land launchers, Sydney Freedberg compares the versatile weapons system to a “sort of new non-nuclear triad” In fact, according to Pentagon R&D officials, the United States has “land-sea- and air-based prototyping that will be done” for HSWs.’4

What does this mean for allies? These incredibly fast, accurate, and destructive systems could be deployed nearly anywhere in the world, from land, sea, or air. The United States could assure allies that this versatile non-nuclear system flying as fast as five miles per second would be capable of destroying enemy strategic targets within minutes, or even seconds, depending on how closely they were deployed to targets. Additionally, according to Brad Roberts, former deputy assistant secretary of defense for nuclear and missile defense, allowing allies such as Japan to maintain conventional strike systems capable of defeating adversary anti-access/area denial strategies could play a meaningful role “in reducing the confidence of enemy leaders that they could strike Japan or U.S. forces in Japan without the risk of a strong Japanese response; thereby bolstering deterrence.” On paper, the destructive and precision-based potential of non-nuclear HSWs, combined with a possibly more credible threat of use as compared to nuclear first-use, might provide a satisfactory alternative for allies. But is it enough?

Both the 2010 and 2018 NPRs support negative security assurances as part of U.S. nuclear declaratory policy, wherein the United States commits “not to use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT [Treaty on the Non-Proliferation of Nuclear Weapons] and in compliance with their nuclear non-proliferation obligations”’\* But what about an additional explicit positive security assurance, under which the United States commits bilaterally with allies such as Japan or South Korea to respond to a nuclear attack on their soil with nuclear weapons? Such a commitment in writing might serve to reinforce and therefore reassure allies of the unambiguous and continued U.S. commitment to extend its nuclear deterrent to prevent nuclear warfare while also extending a new, non-nuclear hypersonic deterrent against non-nuclear attacks. Under these conditions, it may be possible for the United States to declare a policy of NFU while also assuring allies and discouraging them from pursuing their own nuclear programs.

NORMATIVE CURRENCY: THE BENEFITS OF DECLARING A POLICY OF NFU

While thus far this work has focused on the possibility of replicating a nuclear first-use mission with non-nuclear HSWs, it has yet to consider the possible benefits associated with adopting a nuclear NFU policy. Is it possible that by adopting an NFU policy the United States could enhance its national security by raising its moral credibility among international peers, providing it with the normative currency to increase its bargaining power in the nuclear nonproliferation and disarmament arena?

The 2010 NPR states that “[b]y reducing the role and numbers of U.S. nuclear weapons we can put. ourselves in a much stronger position to persuade our NPT partners to join with us in adopting the measures needed to reinvigorate the non-proliferation regime and secure nuclear materials worldwide’”’ Since the 1995 NPT Review and Extension Conference, the United States has continued to struggle to convince Non-Nuclear Weapon States (NNWS) of the meaningful steps it has taken toward meeting its Article VI disarmament obligations. If the United States were to adopt an NFU policy, replacing its nuclear first-use mission with non-nuclear HSWs, it could demonstrate progress toward nuclear disarmament by reducing the role of nuclear weapons in its national security strategy all while creating new strategic options for defending the homeland. This in turn could provide it with additional moral credibility or what this study calls “normative currency” to bargain for the adoption of stronger nonproliferation measures to meaningfully curb the spread of nuclear technology to bad actors.

In addition to bolstering U.S. moral credibility among NPT member states, adopting an NFU policy could also help improve allies’ standing within the NPT fora and their own civil societies well known for opposition to nuclear weapons. In Japan, for example, the government's nuclear nonproliferation and disarmament policy is grounded in its 1968 “Three Non-Nuclear Principles? under which it “pledges not to manufacture, possess, or permit the introduction of nuclear weapons onto Japanese soil’”® However, the principles come with a major caveat: reliance on the extended U.S. nuclear deterrent. By offering an alternative form of extended deterrence to allies, the United States could bolster arguments for the non-nuclear option by pointing to the moral credibility allies could gain within their domestic constituencies and at the United Nations. With Japan in particular, the United States could be offering the opportunity for Tokyo to finally be the true champion of global nuclear disarmament.

Finally, adoption of an NFU policy could serve as a bargaining chip to bring nuclear powers such as China and Russia to the table to negotiate new verifiable arms control agreements. While a top criticism of NFU is the inability to verify its implementation, a U.S. willingness to adopt NFU after so many years of opposition could help bolster the global norm that nuclear weapons are reserved solely for deterring nuclear attack. Such a move could generate value in the eyes of certain nuclear powers, mollifying growing resistance to negotiating verifiable nuclear arms reductions.

As the original advocate of NFU, China has continued to maintain the policy since its first nuclear test in 1964.” According to China’s 2019 Defense White Paper, “China is always committed to a nuclear policy of no first-use of nuclear weapons at any time and under any circumstances, and not using or threatening to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon- free zones unconditionally”®° Furthermore, in a testament to the value China places on NFU, it has long advocated other nuclear states declare NFU policies as well, going so far as to call on NWS to negotiate a “Treaty on Mutual No-First-Use of Nuclear Weapons.”\*! While the Russian record on NFU is not nearly as robust as China’s, the Soviet Union did maintain an NFU pledge between 1982 and 1991, and the Russian Federation between 1992 and 1993.%? Notably, however, many argue that the NFU pledge was never viewed as credible and instead served as “a propaganda move aimed at the antinuclear movements in the West, and not as a credible policy?®\* Even still, the decision to take the pledge suggests the Soviet Union and the Russian Federation saw some normative value in maintaining an NFU policy, even if just to buy credibility among Western antinuclear groups.

Given the value China in particular has placed on NFU, it seems possible that a U.S. move to declare an NFU policy could entice China to the arms control negotiating table. If the United States were to back China’s mutual NFU treaty, would China consider discussions to limit or control its nuclear cache, something it is historically reticent to pursue while the United States and Russia maintain much larger strategic stockpiles? And if China expressed an interest in coming to the table to discuss limits on strategic weapons, would Russia be more willing to back U.S. efforts to secure a trilateral U.S-Russia-China arms control treaty? While declarations of NFU are not necessarily verifiable, such a pledge by the United States could serve as a catalyst for the negotiation of truly verifiable treaties.

THE DOWNSIDE: HYPERSONIC “FALLOUT”

While highly maneuverable conventional HSWs do not deliver the lethal radioactive fallout associated with nuclear weapons, they do come with a type of fallout of their own: major concerns over stability, crisis management, and unintended conflict escalation. As Smith points out, the development of such technologies “threatens to outpace any real discussion about the potential perils of such weapons, including how they may disrupt efforts to avoid accidental conflict, especially during crises”\*\*

Examining the potential instability affiliated with the introduction of modern HSW systems, conventional or nuclear, into the U.S. or any other country’s arsenal is not the focus of this work. In part, this is because there is already a host of literature on this topic.\*° Furthermore, this work focuses on the potential to replicate and replace a mission already associated with instability and crisis escalation—the first-use of nuclear weapons. However, it is important to briefly consider the impact negative perceptions of HSWs might have on any potential normative currency to be gained with elevating them to the first-use mission.

As noted above, many point to the potential for HSWs to introduce a dangerous degree of volatility into strategic stability. As Smith highlights, experts fear that highly maneuverable HSWs will induce a “new arms race’ threatening to “upend existing norms of deterrence and renew Cold War-era tensions’” The point is a fair one. If an adversary detects the launch of a foreign missile headed in its direction, but has no way of tracking or intercepting it due to its hypersonic speed and unpredictable flight pattern, what is to stop that adversary from launching all its strategic assets at once, for fear of losing them in a potential nuclear strike? Is it possible for the United States to dispel such perceived notions of instability?

### da – horsetrading

#### The GOP and moderate Dems will demand SLCM-N funding in exchange for the AFF.

Robert Soofer 23, senior fellow in the Forward Defense program in the Atlantic Council’s Scowcroft Center for Strategy and Security, where he leads its Nuclear Strategy Project, “Before embarking on arms control talks, Biden needs a nuclear deal with Congress,” 6/14/23, https://www.atlanticcouncil.org/blogs/new-atlanticist/before-embarking-on-arms-control-talks-biden-needs-a-nuclear-deal-with-congress/

Arms control is entering its most uncertain period in decades. New START is set to expire in February 2026, and the ongoing war in Ukraine complicates any US-Russia negotiations toward a new agreement. Meanwhile, China could have 1,500 nuclear weapons by 2035 and has shown no real inclination to discuss limits. The Biden administration has said it will “engage in bilateral arms control discussions with Russia and with China without preconditions,” as US National Security Advisor Jake Sullivan explained in a speech on June 2. However, there is a precondition the US side should set with itself before any bilateral agreement moves forward.

The White House and Congress currently disagree over the type and number of nuclear weapons required to deter nuclear-armed adversaries in the coming decade, including Russia and China, but also North Korea and potentially Iran. As long as this disagreement persists, it casts doubt on the viability of whatever the administration might agree to in bilateral talks—in particular, whether any new treaty could be ratified or survive a change in administrations. However, a bargain is available that bridges these differences, and it would strengthen the president’s hand in arms control negotiations, if the administration and Congress seize the opportunity.

2010 plans do not address 2030 threats

In his June 2 speech at the Arms Control Association annual forum, Sullivan called attention to the growing threats posed by China, Russia, North Korea, and Iran. In doing so, he reaffirmed the warnings in the Biden administration’s National Defense Strategy and Nuclear Posture Review that as it approaches 2030, “the United States will need to deter two near-peer nuclear powers for the first time in its history.” To address this emerging challenge, the White House is continuing the nuclear modernization program begun by the Obama administration and reaffirmed by the Trump administration, though the Biden administration has canceled the development and deployment of a nuclear sea-launched cruise missile (SLCM-N) proposed in the 2019 Nuclear Posture Review.

These 2010 modernization plans assumed a reset with Russia. And they did not envision the rapid expansion of Chinese conventional and nuclear capabilities or the “no limits” partnership between an aggressive Moscow and Beijing bent on upsetting the international world order. This begs the question, then, whether the current nuclear modernization program—which amounts to a one-for-one replacement of nuclear force levels established in the 2010 New START—will be sufficient against two nuclear great powers.

In March, Senate Armed Services Committee Chairman Jack Reed (D-RI) asked General Anthony Cotton, head of US Strategic Command, how the US nuclear command is adapting to this “new trilateral nuclear competition.” Cotton replied that the United States is “in an absolutely good place today with our [nuclear] systems… but the basis of which we did our modernization efforts was on a 2010 threat.”

The divide over more nuclear weapons

The threats have grown manifestly worse since 2010, but the administration has been ambivalent about them. According to Sullivan in his recent speech, “the United States does not need to increase our nuclear forces to outnumber the combined total of our competitors in order to successfully deter them.” Sullivan added that “effective deterrence means that we have a ‘better’ approach—not a ‘more’ approach.” This position is at odds with Republican leaders in the House and Senate armed services committees, who have advocated “higher numbers and new capabilities” for nuclear weapons.

There are practical limits to how quickly the United States could expand its nuclear capabilities to address the expansion of China’s nuclear forces. One option by the time New START expires in 2026 is to restore nuclear warheads to existing intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs) that were removed to accommodate the lower New START force limits (a process called “uploading”). Additional nuclear bombs and cruise missiles could be loaded onto heavy bombers, and bombers previously converted to conventional weapons use only can be made ready for nuclear operations.

Importantly, Sullivan said in his speech that “the type of limits the United States can agree to after [New START] expires will of course be impacted by the size and scale of China’s nuclear build-up.” The administration will require a sense of what additional nuclear forces may be needed beyond New START, both to ensure any negotiated limits provide the United States with headroom to deploy sufficient forces in the future, and because adjustments to US nuclear posture will likely take years to implement.

It is entirely conceivable that Russia and the United States could agree to new (modestly larger) nuclear force limits that consider US requirements to address China’s expanding nuclear capabilities and limit and reduce Russia’s regional nuclear weapons and new novel long-range systems that are not covered under New START. Such an approach might maintain limits (albeit somewhat higher than the current 1,550 warhead limit in New START) on all US and Russian nuclear forces while allowing the United States to address the problem of two nuclear peers.

The bargain the White House and Congress could strike

Sullivan was correct when he said that “responsibly enhancing our deterrent capabilities allows us to negotiate arms control from a position of strength and confidence.” But if “responsibly” implies a set policy of no new US nuclear capabilities or no expansion of US strategic nuclear forces, then Russia has no reason to come to the negotiating table. A big incentive for Moscow to negotiate is if it fears the United States will build up its own nuclear arsenal. Just as important, an arms control approach that does not include some augmented nuclear capabilities will be a non-starter for Republicans and some Democrats on Capitol Hill.

A bargain is required. The Biden administration could, for example, agree to develop the SLCM-N and prepare for a nuclear upload onto existing ICBMs and SLBMs. In exchange, congressional Republicans could lend public support to the administration’s efforts, hopefully fruitful but perhaps not, to secure a post–New START follow-on arms control framework or agreement. In such a deal, the arms control community would see the value in continued constraints on arms competition, while the deterrence community would welcome augmented nuclear capabilities to answer the growth in Chinese nuclear forces. Russia also would have an interest in limiting the potential expansion of US nuclear forces. This approach leaves out China for the time being, given its unwillingness to engage in a dialogue; but any future limits on Russian and US forces will have to take into account the likely expansion of China’s nuclear arsenal.

#### SLCM-N deployment is existential. Their extraordinary ambiguity risks nuclear war even in conventional conflict.

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As can be seen in the headlines, the House of Representatives recently passed their version of the National Defense Authorization act, laden with provisions to fight “wokeness” in the military. This will create difficulties for reaching agreement with the Senate on a final bill. However, lost in the headlines is the fact that Congress will have to decide whether to fund the development of a new nuclear-armed, sea-launched cruise missile (acronym: SLCM-N) and its associated warhead. Based on its 2022 Nuclear Posture Review, the Biden administration zeroed out funding for this system in its budget request for 2024, but both the House version and Senate Armed Services Committee’s version of the National Defense Authorization Act authorize funding for the development of SLCM-N and its warhead. There are, nonetheless, multiple steps ahead to the point of actually appropriating funds (through appropriations bills), and so there are still real opportunities for informed decision-making.

A policy debate[1] is raging about the development and deployment of the new nuclear-armed sea-launched cruise missile. Advocates[2],[3] argue that in a world where the United States and Russia are in a state of extreme tension, and China is increasing its nuclear arsenal, the United States needs to strengthen its nuclear weapons capabilities, particularly at the so-called “middle rung” of deterrence, between so-called “tactical” and “strategic.” Those who oppose the new cruise missile[4],[5] often argue that it is redundant and costly and will create practical impediments for the US Navy’s conventional war-fighting capability. Their arguments are cogent, but the situation is even worse than this. Deployment of such a weapon would seriously deteriorate, not improve, US national security and that of its allies, for reasons touched on in an article in Defense One[6] and a fact sheet by the Physicists’ Coalition for Nuclear Threat Reduction.[7] I flesh out these arguments here.

From a top-level perspective, at a time of increased tensions, renewed efforts at arms control and restraint are most needed. It is important to pull the most incendiary logs off the fire first, as President Reagan recognized in signing the Intermediate-range Nuclear Forces (INF) treaty in 1987. Now is not the time to add especially flammable fuel to the fire. Much worse than being redundant and costly, the sea-launched cruise missile is extraordinarily dangerous, having even more risky characteristics than the low-yield W76-2 warheads loaded onto submarine-launched ballistic missiles following the Trump administration’s 2018 Nuclear Posture Review.

There are at least three strongly compelling reasons that the SLCM-N is dangerous to US national security:

To an adversary, a SLCM-N is indistinguishable from a conventional sea-launched cruise missile, so the very existence of the SLCM-N makes the use of a conventional SLCM a possible trigger for thermonuclear war, due to misattribution of a conventionally armed missile as one carrying a nuclear warhead. Since the Baltic and Black Seas are only 500 miles from Moscow and the Yellow Sea is only 500 miles from Beijing, with Taiwan about 1,000 miles from Beijing, stealthy SLCM-Ns with a range of 1,500 miles would create the risk for Moscow and Beijing of an undetected decapitating nuclear strike, and as a result create for the United States enhanced risk of disastrous split-second miscalculation by its potential adversaries. This is what the Intermediate-range Nuclear Forces Treaty was designed to mitigate, and what the current restraint on intermediate-range nuclear missiles in Europe is continuing. The United States would be throwing explosive logs onto an already hot fire with the SLCM-N.

Conventional Tomahawk sea-launched cruise missiles were employed in 1991 during the Persian Gulf War. Misattribution was not a significant risk, as Kuwait is nearly 2,000 miles from Moscow, and relations at the time between the United States under President George H.W. Bush and the Soviet Union under President Gorbachev were favorable. After President Bush removed all nuclear-armed sea-launched cruise missiles from service in 1992, conventional Tomahawk cruise missiles were used in Iraq, Bosnia, Afghanistan, Sudan, Yugoslavia, Somalia, Yemen, Libya, and Syria[8] without any risk of misattribution.

NATO’s defense of Poland, Lithuania, Latvia, and/or Estonia would likely require the use of barrages of conventionally armed sea-launched cruise missiles. This would render misattribution by Russia an existential risk for the United States. Crucially, the deployment of SLCM-Ns would reduce, not enhance, the United States’ ability to defend its NATO allies.

More generally, any use of a sea-launched cruise missile would be extraordinarily ambiguous; an adversary could not know whether it carried a conventional or nuclear payload, or, if the warhead were nuclear, what its yield might be. Greatly enhancing this ambiguity is an adversary’s inability to know where a stealthy, maneuverable cruise missile is headed, even if it is detected after launch. The SLCM-N blurs the escalation ladder in an extraordinarily dangerous way, through wide ambiguity in both its yield and its target.

The ambiguity is even worse than that which surrounds a submarine-launched ballistic (not cruise) missile armed with a low-yield W76-2. This missile certainly carries a nuclear warhead, and its trajectory can be determined. Because this submarine-launched missile is ballistic, adversaries will know in advance if it is headed to a strategic target in Moscow or Beijing, or to a battlefield tactical target.

Arms-racing is now a three-player game. The United States is planning to build 38 Virginia-class attack submarines, each of which could carry up to 16 SLCM-N’s, with a potential total of 608 warheads[2], even ignoring the possibility that these missiles could be placed on surface ships. Assuming reasonably that both Russia and China would feel that they must match such increased firepower, the United States could eventually be facng twice as many additional warheads as it mounted.

Adding nuclear warheads is not a wise long-term strategy for US security in the modern threat environment. In a three-way arms race, while the United loses in a two-for-one ratio when it increases nuclear warhead numbers, it can gain by a two-to-one ratio if it negotiates warhead limitations or, better, reductions with Russia and China.

The bottom line is that a new sea-launched cruise missile will deteriorate US national security in both the short and the long term. Furthermore, the new three-peer nuclear arms environment we are facing provides a strong incentive for arms control, not for arms racing.

### cp – advantage

#### The United States federal government should negotiate with the Russian Federation a Barents Sea Demilitarized Zone that may be activated at any time by either party, invite the Russian Federation to the Arctic Security Forces Roundtable, propose and support the establishment of a pan-Arctic Coast Guard, and withdraw United States forces from Norway.

#### Barents DMZ solves conflict escalation AND demilitarizes Arctic relationships without limiting first-use.

John Ash 20, Associate at the Scott Polar Research Institute, University of Cambridge, “Chilling the Guns of August: Measures to Mitigate an Arctic War,” November 2020, Vol 3, No 2, <https://www.academicapress.com/journal/V3-2/JICS_Vol3_Is2_Ash_Final.pdf>

A Demilitarized Zone in the Arctic

Should the international political situation degenerate to the point at which Russian and NATO forces have either begun maneuvring against each other, or perhaps have already exchanged fire, both sides may perceive that the only recourse is either to engage with nuclear weapons or suffer the political humiliation of a retreat. A nuclear exchange brings three clear and related consequences. First, any military or political gain will almost21 certainly be offset by catastrophic damage to both sides. Second, both sides have systems in place to ensure that even if their political leadership has been severely damaged, their nuclear arsenals will launch a reprisal. 22 Third, although it has been argued that a full nuclear exchange will constitute a catastrophic, rather than existential risk to humanity (Scouras 2019), recent research into biosphere damage following a nuclear exchange indicates that immediate casualties would be substantially amplified at the global level by the effects of famine (Coupe et al. 2019). There are many variables in such calculations.

However, it may be possible to find an alternative, acceptable to both sides, that not only stabilizes a crisis situation and provides precious time in which to seek recourse to negotiation but also gives an appearance of success, or at least strength, to domestic political rivals and populations. It is proposed in such a case to establish a demilitarized zone to isolate the Barents Sea (BDMZ). This would form a barrier, dividing the opposing forces while allowing them to continue their respective missions to protect their key assets. Military forces would be fully at liberty to maneuvre on their separate sides of the barrier, but not cross it or engage23 assets on the opposite side.

To be clear, the zone would not cover the Barents and Kara Seas in their entirety, but instead, cordon off part of the Russian EEZ in order to bring a temporary halt to hostilities. Nor is this an attempt to revisit the proposal to establish SSBN24 sanctuaries (Østreng 1982). It contains no measure for the establishment of nuclear-free zones in the Arctic, and no strategy for moving towards nuclear force reduction (ibid.). It is the complete separation of opposing maritime and air forces in such a manner as to effect firm political control by the respective polities and a de facto ceasefire during an escalating crisis. But how would such a measure work in practice, and what are the hurdles that would have to be overcome?

The Location and Properties of the BDMZ

As an initial proposal, it is suggested that the BDMZ be established with a width of twenty nautical miles, 25 with a perimeter following that established in 2011 as part of the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic. 26 Critically, the coordinates of the Norway/Russia border forming part of that treaty are in effect a simplification of the 2010 agreement on the delimitation of the Barents27 (figure 1). The boundary therefore already has the benefit of prior scrutiny and consent in two international accords. 28 To the north, the Barents is bounded by sea ice for much of the year, rendering it a natural barrier to surface ship traffic, including most warships.29 Similar restrictions inhibit surface ship passage for much of the year between the archipelago of Franz Josef Land and the northern tip of Novaya Zemlya. To the east, the Matochkin Strait, Kara Strait, and Yugorsky Strait give access east to the Kara Sea, itself impeded by very dense drift ice for much of the year. The passage of surface ships is thus limited by the geography and cryology of the region to either a route through the barrier in the open water between Svalbard and the North Cape, or icebreaker-assisted transit of the Northern Sea Route.

A map of the world

Description automatically generated

In the vertical axis, the BDMZ would extend from the seabed upwards without limit. No military or government aircraft, drone, ship, vessel, air cushion vehicle, or submarine would be permitted to cross the BDMZ. Satellites and space vehicles would not be subject to the agreement. Quite apart from the practical issues related to altering their orbits, they are already subject to governance, at least in part, by the Outer Space Treaty of 1967. 30 In addition, their operations are desirable in ensuring compliance with the BDMZ provisions. To this end, it is essential that neither side engages in any form of anti-satellite operation when the BDMZ is active. 31 Space sensors must be fully available to the intelligence services of both sides, to facilitate enable them in verifying compliance. In addition, there must be no jamming or deception transmission targeted at GPS or GLONASS navigation systems. This eliminates any potential for a claim that opponent electronic warfare operations led to a demilitarized zone incursion.

#### The remaining CBMs and reassurance planks remedy strategic tensions without altering the regional balance of power or US commitments

Ernie Regehr 20, O.C., Senior Fellow in Arctic Security and Defence, “Pan-Arctic Military Cooperation: still the most reliable (and likely?) option,” The Simons Foundation, 1/7/20, https://www.thesimonsfoundation.ca/sites/default/files/Pan-Arctic%20Military%20Cooperation%20-%20Arctic%20Security%20Briefing%20Paper,%20January%207%202020.pdf

All around wariness is an understandable and prudent response, but much of the analysis, including offerings in the lead up to and since the December 2019 NATO summit, ignores the massive global Russia/NATO conventional military imbalance in favor of the West, while insisting that forces in the region itself must be more balanced, typically advocating for a much more overt NATO operational presence in the Arctic. 3 It’s a posture that really belongs to the same strain of imprudence that has long privileged NATO’s eastward expansion over the careful pursuit of Eurasian stability. It is notable, however, that in London, NATO leaders demurred. Their final declaration was silent on the Arctic, as had been the 2018 summit communique.

Notwithstanding Russia’s expanding military presence, the Arctic remains well down the list of official worries for an alliance that faces a rather high wariness quotient these days – on its Baltic and southern flanks, the North Atlantic Greenland-Iceland-United Kingdom (GIUK) gap, and, notably, a political flank that features growing internal challenges from both sides of the Atlantic. There are good reasons for the official silence and for questioning the more alarmist warnings about Russia’s Arctic ambitions, and it’s not just a matter of NATO having more immediate concerns elsewhere.

Even their critics recognize the legitimacy of the Russian forces’ basic military missions in the Arctic: sovereignty protection, public safety (e.g. search and rescue), the defence of its northern resource assets, and enforcement support for a more robust regulatory infrastructure for the emerging Northern Sea Route that runs entirely through Russia’s exclusive economic zone or territorial waters. Furthermore, a primary Kremlin interest in the Arctic is to avoid military confrontation in favour of promoting a stable security environment conducive to exploiting northern resources and to enticing much needed foreign investment and technology. In other words, military adventurism against neighbours does not fit Russia’s basic Arctic game plan.

The degree to which Russia’s Arctic military assets are seen as a threat to stability depends heavily on the context. Viewed in the global context (with places like Ukraine, Georgia, and Syria looming large), Russian intentions anywhere are automatically suspect in the West. Viewed in the context of the Arctic itself, suspicions should be, and actually are, mitigated by the reality of an ongoing tradition of Arctic cooperation, and wariness should also be eased by a recognition of the centrality of good governance in resisting Russian meddling and destabilization efforts.

As the Ilulissat Declaration4 affirms, Arctic cooperation and a political commitment to a rules-based order are real. Canada’s “Arctic and Northern Policy Framework” acknowledges that “the circumpolar Arctic can and should continue to benefit from a deeply ingrained culture of international cooperation” (while also warning of “complacency”), 5 and key Arctic states recognize that continuation of that cooperation accords with Russian interests.

Canada’s Arctic foreign policy simply declares that “Canada does not anticipate any military challenges in the Arctic and believes that the region is well managed through existing institutions, particularly the Arctic Council.” 6 More recently, a Department of National Defence spokesperson is reported as reaffirming the current absence of a military threat, albeit while also emphasizing “growing international competition in the region.” 7 Even Norway, sharing a land border with Russia and facing the Russian Arctic brigade stationed a mere 30 kms from that border, continues to insist that it does “not consider Russia a military threat” 8 – though it doesn’t hesitate to characterize some Russian actions and current posture as worrisome.

The central role of good governance is a reminder of just how different the Arctic context is from that of other locations where Russia hasintervened or interfered in independent sovereign states. All the non-Russian states of the Arctic are obviously led by highly stable and competent governments – free, in other words, from the kinds of internal weaknesses that Russia was and is able to exploit in places like Ukraine, Georgia, Moldova, and even Turkey. Russian political and military adventurism threatens in contexts of local instability and dysfunction, but retreats in locations of solid, confident governance and strong national consensus. And, of course, that points to a primary source of protection for territorial integrity and national security in the states of the Arctic – namely, good governance, domestically and regionally, that avoids the kind of disunity and dysfunction that create opportunities for foreign manipulation for nefarious ends.

There is, at the same time, no denying that legitimate national military roles do come with capabilities that could be turned to more threatening purposes. Fighter and bomber aircraft deployed to Russian Arctic locations for air and coastal defence operations certainly also convey threats to neighbours. And Russia’s newest icebreaker is explicitly equipped for operations beyond ice breaking – it comes with combat capabilities that include electronic warfare systems, artillery, and the Kalibr cruise missile with a range of up to 2500 kms for anti-marine and land attack missions. 9

It is also true that the military roles of NATO states carry the same dual capabilities. The US and NATO can install ballistic missile defence batteries in eastern Europe in the interests of defence, but from the Russian perspective, it pays to worry that those launchers for interceptor missiles could be re-purposed with missiles aimed at Russian targets. Indeed, Russia views NATO’s northern engagements with the same suspicion that it views NATO’s eastward expansion or NATO’s deployments and accelerated patrols in Eastern Europe and the Baltics. The Russians are unlikely to forget that their four Arctic Ocean neighbors are all members of NATO and lay claim to the all-for-one principle of Article Five.

The key challenge for NATO states in the Arctic is thus to manage that foreboding NATO presence, to Russia, in ways that avoid adding to the escalatory pressures already present. Any constructive Arctic security policy needs to encourage individual Arctic states to focus their military developments on defensive territorial and sovereignty protection missions, on contributions to public safety through enhanced emergency response and search and rescue capabilities, and on support for region-wide cooperation toward those same ends.

American troops now in Norway, 10 technically on rotation but practically on permanent deployment that ignores Norway’s early Cold War assurances that foreign combat troops would not be stationed there, 11 are an example of the opposite. While that presence is at least in part a response to Russian infantry forces in the upper Kola Peninsula, its emerging permanence not surprisingly generates Russian wariness, raises tensions, and risksinstability, even though Norway, the NATO member most directly affected if tensionsrise in the Arctic, has an obvious and declared interest in holding on to the Arctic’s rules-based order and tradition of post-Cold War cooperation and reducing tensions. There has been political opposition in Norway to the deployments, and Norway’s Senior Arctic Official, Bård Ivar Svendsen, assured the opening session of the 2019 Arctic Circle in Reykjavik that, while it is important to address the geopolitical and security issues that emerge out of the profound changes in the region, the Norwegian objective

“is to not cause unnecessary tension. The current situation is that the Arctic is a peaceful and stable region. We will do what we can to contribute to continued peace and stability, and we do no not see anything that goes to indicate that that will change significantly. Maintaining the stability and peace we have today is in the interest of all Arctic states” (emphasis added).12

NATO restraint and regional collaboration with Russia’s far superior conventional capabilities are in a sense the only realistic options, since there is, after all, no regional Arctic military balance with Russia available (and, more to the point, no one is seriously trying for that kind of regional balance). Icebreakers, for example, while not a good basis for comparing relative military strengths, are nevertheless indicators of the level of priority assigned to a surface naval presence in the region. It will take the US at least a decade to double its current fleet of one heavy icebreaker to a total of two.13 Compare that with Russia’s six-plus heavy icebreakers, some nuclear powered, its three dozen-plus medium and light icebreakers, and its plans for almost a dozen more, 14 and you get a sense of how little importance the Americans assign to icebreakers in support a conventional naval presence in the Arctic.

The Pentagon also attaches little urgency to expanding its conventional military capacity in the Arctic. Even though it characterizes Russia and China as Arctic competitors, the 2019 National Defense Authorization Act, with its record-breaking $738 bill defence budget, does not commit any new funding for Arctic operations to respond to those declared Russian and Chinese challenges. 15 Furthermore, the enhanced conventional Arctic naval roles that American military planners envision involve cooperation with the Coast Guard and such missions as preserving commercial operations, protecting the environment, and securing sovereignty16 – concerns about Russian and Chinese threats are more rhetorical than operational.

Much of Russia’s Arctic presence, notably the nuclear and strategic naval forces based on the Kola Peninsula, is obviously countered by American strategic forces far from the Arctic. Russia’s northern conventional forces, focused on regional operational roles, will not be “balanced” by the regional operations of the Arctic’s NATO states – nor should that be the latter’s objective. Canada’s Arctic military capabilities, for example, are not now and won’t in the future be a response to Russian military installations on the other side of the Arctic Ocean. Canadian military requirements are determined by domestic sovereignty, law enforcement, and public safety needs, not by threats to national defence posed by Russia’s forces. Michael O’Hanlon of the Brookings Institute argues that Arctic military operations “should not be viewed principally as a matter of rivalry with Russia (or China or anyone else),”17 but focused on building a credible emergency response and law enforcement capacity.

National military deployments should be responsive to domestic defence and public safety needs in the region. The Arctic continues to be a zone in which no state insists that it is facing a state-based military threat – leaving defence forces to focus on aiding civil authorities, reinforcing sovereignty, border security, emergency response/search and rescue, domain awareness (especially air and maritime), peacetime air and maritime surveillance and control.

The situation in the European Arctic is of course different from that in the North American Arctic. Significant Russian forces are virtually on the borders of Norway and Finland, and in both of those cases close monitoring of Russian activity is unavoidable. But Norwegian or Finnish forces on their own will not counter or deter Russian military adventurism. Broader conventional and strategic forces outside the Arctic are the defence and deterrence forces that Russia must contend with in its security relations with Norway and Finland.

There are serious political differences/conflicts that bedevil the Russia/NATO relationship, notably regarding Ukraine, but it does not follow that those differences create Arctic security challenges to which NATO must respond, 18 or that those conflicts are amenable to Arctic-based influences. NATO is part of what restrains Russian behaviour in the Arctic, not by means of a military presence in the Arctic itself but by virtue of the global strategic dynamic. Indeed, a more overt NATO operational presence in the Arctic would be taken as a provocation that would undermine the tradition of cooperation and would very likely encourage more confrontational, rather than cooperative, behaviour in the Arctic by Russia.

Ratcheting up military competition in the Arctic has no redeeming virtue, and the Arctic’s NATO states seem to have well-warranted reticence about going there. It is thus time for commentators and editorialists to focus on the real challenge, and that is to encourage further development of pan-Arctic coast guard19 and military arrangements that foster cooperation and facilitate joint operations as needed to support public safety and emergency response, law enforcement, and environmental sustainability, while respecting national sovereignty. The Canadian Global Affairs Institute’s David Bercuson has recently concluded that “the only Arctic nation that has the capacity to monitor and support…[Arctic] shipping is Russia.” His frank assessment is that “neither Canada nor the United States have much to offer in the event of a maritime disaster in North American Arctic Waters” 20 – all the more reason to work at nurturing the region’s still viable impulse to cooperate and to focus on aid-to-civil-authorities roles.

A minimalist but constructive initiative is the Arctic Security Forces Roundtable. Canadian Major-General William Seymour commended it to the House of Commons Defence Committee during a 2018 appearance. 21 The Roundtable is a regular gathering for the mutual exchange of information and exploration of the Arctic security and threat environment. Gatherings of Arctic chiefs of defence have had similar functions. The problem is that since 2014 these forums have excluded Russia, and that’s an exclusionary tactic that is no way to run a region like the Arctic. Trying to marginalize Russia in a region that it dominates will not work, and refusing to engage Russia on security matters in the Arctic will do nothing to change realities in Ukraine, Crimea, Georgia, and elsewhere.

The Arctic would clearly benefit from a forum dedicated to addressing regional security concerns, coordinating military relations within the region, and facilitating mutual cross-border assistance in support of public safety – a mechanism for ongoing regional engagement on the requirements for strategic stability and public safety cooperation in a region that, by general consensus, requires both. The nature, scope, and institutional home of such a forum will continue to be debated, but in the meantime, Arctic stability would be served by an immediate resumption of direct, inclusive engagement among the region’s military commanders and security policymakers.

## stability

### fails – 1nc

#### If their uniqueness arguments are true that will obviously derail the arctic NWFZ. This is why their best 1AC advocate proposes years of incremental CBMs to build up to the plan, and argues against proposals that jump the gun!

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The idea of establishing a nuclear-weapons-free zone (NWFZ) in the Arctic is not a new one, with proposals for one having been made since the late 1950s.1 In addition, proposals have been made in the past for a Nordic NWFZ by several Nordic governments to try to ensure lowtensions and shield the area from the arms race in central Europe.2 These proposals were taken up by academics and elaborated in academic circles, allowing over time, for the comprehensive formulation of an Arctic NWFZ. These proposals have also been picked up by Indigenous organizations, regional and international peace and disarmament groups, academic and Arctic specialists.3 Nonetheless, such a zone has yet to come to fruition.

It is curious as to why one region has attracted so many proposals for the establishment of a NWFZ over so many decades. A NWFZ in the Arctic was actually considered before any other of the now five NWFZs were established, with calls for one originating in the 1950s. Perhaps the Arctic has received such attention because of its enduring strategic nature, its contested status, its promise of prosperity. Disarmament advocates, seeking to progress the general disarmament agenda of the newly formed United Nations, sought to formalize the ‘high north, low tension’ of the Arctic Region.4 Afterall, state's successfully preserved Antarctica from militarization within the same period.5

The Arctic was, and remains, a prime arena of superpower rivalry. During the Cold War, both the United States and the USSR developed radar-based warning systems in the Arctic, tested new weapons and stealthily deployed submarines.6 Some of these structures for security have outlasted the Cold War, namely the North American Air Defence Command (NORAD), signaling the continued security interests of states in the region. The US has stationed some of its critical defence infrastructure in the Arctic, while Russia has maintained the bulk of its nuclear-laden submarine fleet there and has more recently re-invested in its Arctic defence structures.7 Despite the presence of military infrastructure, perceived strategic threats, and contested border demarcations in the Arctic, no state-to-state military aggression has occurred. Nonetheless, nuclear weapons systems remain in the region and thus their possible use endures.

It is clear then that the Arctic has, and continues to hold, intrinsic strategic value to the superpower states, but has nonetheless been largely characterized by cooperation. Or, at a minimum, has not been subject to intra-Arctic conflict. The end of the Cold War and the leveling off of some of the hard security concerns between the superpowers allowed for the institutionalization of Arctic cooperation through the Arctic Council and the resulting agreements, treaties and understandings that it, or its member states, have produced. 8 But it was only institutionalization of a certain nature and a certain genre of cooperation, since security issues were explicitly left out of the Council’s mandate.9

Thus, it has been the seemingly unique character and strategic significance of the Arctic which has drawn consecutive proposals for nuclear disarmament. Disarmament advocates have understood the profound prospect of de-nuclearizing part of the Northern hemisphere as possible, while statesmen understood the prospective benefits of enshrining the strategic stability that the Arctic has enjoyed despite facing the constant threat of over militarization and lurching misstrust. The formalization of Arctic cooperation in the 1990s can be understood to have emboldened proposals for Arctic denuclearization, with the most comprehensive proposal having been made in 2012.10 The framers of the Arctic NWFZ (ANWFZ) proposals have perceived the Arctic as different, intensely promising, and characterized by cooperation since the end of the Cold War. Advocates of denuclearization and statesmen alike have realized this and shown sincere interest in ceasing upon this.11

But what justifies a new evaluation of these non-realized proposals and efforts? ANWFZ proposals, and their evolution, remain important for the Arctic for three main reasons: (1) the Arctic is becoming a security community properly understood12, (2) the geo-strategic importance of the Arctic is growing and forecasts predict its importance will grow exponentially,13 and (3) because of this, states are paying more attention to the Arctic and devising more substantive Arctic policies.14 Yet, while the Arctic states, and those operating within the Arctic, have shown a cultivated ability to peacefully settle disputes in accordance with international law, despite rival interests across the geo-strategic spectrum, the future of state relations in the Arctic is nonetheless unclear, and it remains possible that the promise of the Arctic region could be severely undermined. Despite growing cooperation on ‘soft security’ issues, nuclear weapons remain in the region and inter-state tensions are increasing.15 This reality, compounded by ongoing developments, has kept the aspiration of some for arctic denuclearization alive.16

While Arctic states formally speak of preserving and strengthening inter-state cooperation in the face of rising uncertainties, their investments, procurements and postures often signal a contrasting reality.17 The uncertainty of the Arctic environment coupled with re-emerging global power competition has already led to increased military activity in the Arctic.18 Russia, for example, conducted its longest strategic nuclear exercise in the Arctic in 2019, titled “Grom” or “Thunder-2019,” and also tested a hypersonic cruise missile in the White Sea in both November 2019 and October 2020.19 Whereas the US and NATO have increased their activities in the North Atlantic in addition to undertaking joint exercises with Norway.20 Such developments legitimize reviewing anew the possibility of an ANWFZ since the window for establishing such a zone may be closing as temptations against cooperation and stability continue to grow as provocative, or even misperceived, military activity continues and increases. An intensifying security dilemma is on the horizon, if not already here.21

The geo-strategic situation in the Arctic is becoming increasingly unstable as the effects of climate change begin to show themselves and breed uncertainty. It is evident that climate change is a growing priority on political agendas and that the Arctic, and its changing environment, will be an imperative political question for decades to come. 22 While such forced interest in the Arctic will be structured in terms of the environment, it cannot, and will not, be analyzed without a strong security consideration. The predicted mass thawing of ice will open up vast economic opportunity, primarily through more efficient shipping routes, which has the possibility to be the catalyst for renewed challenges to Arctic sovereignty, and thus to the national security of each Arctic state.23 This could very well change the tide of inter-state Arctic cooperation and what it means for the nuclear weapons that are there.

The thawing of Arctic ice has particular implications for Arctic based economic incentives. Resource extraction, or the prospect thereof, plays a significant role in state's interests within the Arctic region. Growing accessibility has already prompted renewed and intensified interest in guaranteeing the requisite rights and protections for the extraction of resources.24 In 2009, resource exploration in the Beaufort Sea re-kindled American-Canadian boundary disputes, with the US interested in ensuring its control of the continental shelves north of Alaska and the resources therein.25 This, and other emerging analogous situations may produce opportunities for inter-state tensions to arise, and the outcomes of those tensions will largely be determined by the status of the diplomatic and security environment – strong institutional frameworks that promote cooperation should stave off military confrontations as a result of any dispute. Specifically, as Arctic accessibility continues to increase, American contestation of Canadian claims over the Northwest Passage, and Russian claims over the Dmitrii, Vilkiskiy, Laptev and Sannikov straits will be reinvigorated and pose serious political and diplomatic issues. The contest, while animated by resource access and extraction, will ultimately be a geo-political one, with resources being just a signal for much deeper political hostilities.

Rising Asian interest (and more generally, extra-Arctic state interest) in the Arctic adds to the intensity. China, Japan, India and South Korea have all showed an increasing presence and interest in Arctic affairs. The development of the juridical structures to regulate shipping will be of great interest to these states, and there will be significant pressure on resolving boundary disputes in a fashion that is favorable for international actors use of the Arctic. Again, this interest is driven by state interest in hydrocarbon extraction which can be realized through greater accessibility in the Arctic due to climate change. NATO organized exercises in the Arctic imply states sensitivities to resource-related state versus state aggression. In March 2009, NATO undertook a training exercise called ‘Cold Response’ which was billed as preparing for a scenario in which a country moved against a regional state's offshore oilfields and mineral assets.26 Russia has responded in kind with similar exercises.27

While the future of lucrative resource extraction in the Arctic does pose serious opportunities for inter-state relations to become fraught, there is reason for optimism. Five Arctic coastal states (Canada, Denmark, Norway, Russia and the United States) signed the 2008 Ilulisaat Declaration, pledging to resolve boundary disputes within the legal framework of UNCLOS, and all Arctic state policies emphasize the utility and desirability of international cooperation in the Arctic. They did, nonetheless, further declare that they saw no need to develop any new comprehensive legal regime for the Arctic. Cooperation, nonetheless, necessitates a clear-eyed accounting for and review of the hard security issues in the region. This work seeks to address a significant aspect of that – the presence of nuclear weapons in the Arctic and efforts towards greater disarmament. A cooperative future for the Arctic will not be achieved by circumventing these hard security questions, politically ultra-sensitive in nature, but by collectively working through them. While 2008 marked a cooperative high point for Arctic states, it was soon followed by cooperative fallout in the wake of the 2014 Russian annexation of Crimea. The trajectory of East-West relations, with the Arctic squarely positioned in between, since 2014 has taken a downturn. Thus, while a cooperative spirit lingers under the surface, the prospects of Arctic relations are becoming more dangerous.28

Ultimately, the will of the states involved informed by their national interests will prevail, but the environment (strategic, political, institutional) structures inter-state interactions and expectations. From such a realization rises the importance of addressing the militarization of the Arctic, and its foreseeable negative effects on inter-state relations, and this legitimizes a review of proposals to de-nuclearize, or halt the pattern of militarization, in the Arctic. Again, there is reason for optimism, for while the Arctic states have substantially invested in military and constabulary powers since 2007, the cooperative nature of the Arctic has remained, or even increased according to some.29 Some will point out, however, that this cooperation has remained solely on the ‘soft security’ tract, since growing hostilities have made it even more difficult to address hard security questions.30 Difficulty, however, is no justification for continued inaction.

It is critical to realize that the circumstances turning state attentions to the Arctic are not transitory. The effects of climate change in the Arctic have more than an indirect impact on national security (e.g., thawing opening up shipping lanes which will renew border disputes and increase nefarious activity). The thick sea ice of the Arctic Ocean has long played a role in the strategic stability of forces, by shielding submarines from detection and thus making the inherently de-stabilizing anti-submarine warfare tactics much more difficult. The strategic stability guaranteed by the ice coverage will increasingly become less reliable. This strategic stability is desirable and should thus bring new attention to previous proposals for de-militarizing the surface water of the Arctic Ocean.31 Without ice-coverage, strategic stability as relates to submarine capabilities will be necessary to negotiate. It is no surprise that some ANWFZ commentators have seriously considered the de-militarization of the surface water of the Arctic Ocean as a reasonable intermediate step towards an ANWFZ.32 Arctic experts have even commented that a demilitarization treaty could be negotiated with relative ease.33 Strategic stability as a foundation for cooperative governance must be nurtured and maintained, but climate change poses a direct risk to strategic stability in the Arctic. Within the context of the Arctic as an evolving security community, this can, and should, be seen as an opportunity for security growth, not necessarily a threat.

Exner-Pirot makes the adept point when referencing the Arctic as peaceful and cooperative that it is so “not because Arctic states are altruistic and benign north of the 66th parallel, but because they have experienced common challenges and interests since 1991 that require regional-level governance and cooperation.”34 This hints at a conceptual framework often employed by Arctic cooperation advocates, namely Arctic exceptionalism. The core argument is that the Arctic should be understood as exceptional since state behavior is modified in unique ways when engaging in the Arctic.35 Perhaps the best example of this was Russia’s 2014 annexation of Ukrainian Crimea. Despite Russian actions being decried by Western States, the situation had minimal impact or “spill-over” into Arctic relations36. From 2015 to 2016 Arctic states, including Russia, signed a number of Arctic specific multilateral agreements.37 Adding to this, or explaining this in part, is the fact that the Arctic as a political-security community is the only such region to seriously develop since the end of the Cold War and has thus been subject to a markedly different international system.38 The Arctic cannot, and never will, be totally free from classic state interests which inform security choices. The question is, to what degree can open hostilities be mitigated.

The re-shaping of the Arctic in both security and environmental terms, and the unprecedented opportunities therein, is the context in which the following research question is posed: why have ANWFZ proposals failed in the past and what does that mean for the prospects for establishing an ANWFZ in the future?

The primary focus of this study then is on the failure of these proposals. The task in reviewing the proposals for denuclearization is to isolate the variables that determined failure or acted as stumbling blocks to the realization of such a zone. In isolating these variables, it will then become possible to operationalize them in the current Arctic security environment and to judge the prospects of future realization. This study is divided into four chapters and will proceed as follows.

Chapter I will provide a broad overview of NWFZs as a legal concept developed through the international system and its practical application through the creation of five NWFZs to date will be examined. This is done to situate the ANWFZ proposals within a larger context of international non-proliferation efforts and global NWFZ efforts. While this will provide additional context to the research question at hand, it is more specifically meant to analyze what legal structures, concepts, and precedents related to nuclear arms control have been established outside of the Arctic which could be applicable to the Arctic. This is the first step in isolating the variables responsible for non-realization of the ANFWZ, for five NWFZ have been established to date which address a wide range of technical and legal issues. A guiding question to this chapter will be: are the pre-existing legal structures applicable to the Arctic, and if not, why not? If yes, how so? Rather than a simple yes or no, the answer is more nuanced.

The necessary international and legal context having been established, Chapter II reviews and analyzes the NWFZ proposals made for the Nordic region and those for an ANWFZ. This is done to trace the regional evolution of Arctic specific non-proliferation proposals, and to determine whether the non-realization of Nordic NWFZ proposals reveals why ANWFZ proposals have yet to be realized. It is also done to critically examine the existing ANWFZ proposals themselves so the factors of failure can be further refined and isolated.

Chapter III presents the core analysis for why ANWFZ proposals have thus far failed. The chapter will present three main arguments. First, that ANWFZ proposals have not paid sufficient enough attention to strategic realities, specifically strategic stability, within the Arctic region in relation to proposing denuclearization. Second, and as a consequence of the first, proposals have failed to consider the necessary intermediary steps – confidence building and arms control measures – necessary to create the conditions for denuclearization negotiations. Third, proposals have not sufficiently considered all historic and legal precedents to make their case for how to pursue and structure a ANWFZ policy. This chapter isolates these variables as the keys to understanding ANWFZ proposals failures and argues that they collectively amount to a strategic void within the proposals. Subsequently the chapter outlines the untapped historic-legal precedents which could be used to better support ANWFZ proposals.

Chapter IV responds to the uncovered strategic void by presenting a ‘menu’ of confidence building measures and intermediary arms control measures for the Arctic region. This analysis will focus on intermediate steps, namely what needs to be done to create the conditions or environment in which an ANWFZ is possible, and what steps states can take, unilaterally, bilaterally, and multilaterally to realize an ANWFZ. Fundamentally, it will be an effort to review, in light of this study, what security in the Arctic entails and how an ANWFZ not only fits into it, but makes it possible, lasting and strong.

#### Axworthy’s proposal is a high-wire balancing act---which is why he also proposes leading with CBMs that the plan omits!

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The most recent and most comprehensive proposal for an Arctic NWFZ was presented by Thomas Axworthy at a conference of the Interaction Council in 2010, of which he is the current Secretary General.159 Axworthy’s proposal, in comparison to Newcombe’s, represents a significantly more robust and articulate proposal, one which also reflects the changes in geopolitics that have occurred since 1980.

Axworthy’s proposed framework would cover the eight Arctic states territory as Newcombe laid out, while also including all adjacent seas, seabeds, continental shelves, disputed territories, international waters and airspace, of those territories. Axworthy specifies that, ““Nuclear Weapon Free” should mean all nuclear weapons and armaments, as well as the targeting of nuclear facilities and nuclear testing.”160 In connection to this, Axworthy makes the argument that an Arctic NWFZ should not only prohibit the use of nuclear weapons but should also “prohibit conventional weapons attacks on nuclear installations. This is because the environmental and health fallouts from the latter would resemble the former.”161 Axworthy also makes the interesting point that an Arctic NWFZ treaty should prohibit the conducting of nuclear weapons-related research, noting that while all other NWFZ treaties have been quite silent on this point, the Arctic has a rich history of nuclear weapon testing and research which makes such a provision more applicable. Axworthy, moreover, particularly calls for the Treaty to include a provision affirming that all zonal states support the Comprehensive Nuclear-Test-Ban Treaty (CTBT).162

While agreeing that the eight Arctic states are the most essential actors to negotiating an Arctic NWFZ, Axworthy does not discount the possible contributions of other states. He notes that “relevant actors” and “Arctic stakeholders” – China, Japan, South Korea, France, the United Kingdom, and the European Union – have vested interests in the Arctic and should thus be consulted during the treaty making process.163 This being said, Axworthy also concludes that “[i]f it is not possible to get all Arctic states to ratify the NWFZ Treaty then those states which support the initiative should sign on to the treaty and continue to lobby non-signatories to sign on.”164

Axworthy’s proposal is comprehensive and articulate representing some of the most up-todate considerations on the topic. The comprehensive nature, however, has the drawback of highlighting the daunting task of negotiating an Arctic NWFZ, making quite stark the numerous delicate issues and possible stumbling blocks. Axworthy, like Newcombe, but to a much greater degree, works from the position that nuclear weapons are catastrophic in nature, and thus seeks to provide a framework for minimization followed by elimination. To buttress this ambitious plan, he includes a system of confidence building measures designed to lay the foundation for intensified cooperation among the Arctic states in order to construct the environment in which an Arctic NWFZ is conceivable and achievable.165

### AT: cables

#### No underseas cables impact.

**Brodsky** **’18** — Senior Analyst at TeleGeography. 2018; "Submarine Cable Redundancy, Explained”; Telegeography; https://blog.telegeography.com/what-is-submarine-cable-redundancy

Most cable-using companies follow a “safety in numbers” approach, **spreading** **their networks’** **capacity** **over multiple cables** so that if one goes down, their network will run smoothly over other cables while service is restored on the damaged one. This is redundancy.

When multiple submarine cables are available between two nodes, data transmission may take multiple paths. Two cables traveling between nodes provide one level of redundancy. Three provide two levels of redundancy, and so on.

So take David Belson’s story for Dyn, which explains that “with multiple submarine cables landing in Western African countries that provide service between countries…network providers in these countries have an opportunity to take advantage of this redundancy to mitigate the potential impact of problems.”

## relations

### resilient – 1nc

#### There are tons of stresses, BUT coop is resilient and compartmentalized. Tensions certainly won’t cause conflicts.

Dr. Mike Sfraga et al. 22, preface by Dr. Mike Sfraga, Chair and Distinguished Scholar, Polar Institute, and Dr. Charles E. Morrison, Chair, Steering Committee of the North Pacific Arctic Conference; article by Oran R. Young, Bren School of Environmental Science and Management, University of California Santa Barbara; Jian Yang, Shanghai Institutes for International Studies; Andrei Zagorski, Institute of World Economy and International Relations, Russian Academy of Sciences, “The “New” Arctic as a Zone of Peaceful Competition,” Polar Perspectives, No. 11, March 2022, https://www.wilsoncenter.org/sites/default/files/media/uploads/documents/Polar%20Perspectives%20No.%2011\_NewArcticPeacefulCompetition.pdf

The normal course of Arctic affairs has been disrupted, and clearly there will be no return to the previous modes and spirit of governmental cooperation on Arctic issues any time soon. Still, it is worth noting both that the Arctic itself remains an area of low tension and that there are numerous globally significant Arctic issues that require collaboration or explicit cooperation. When circumstances permit addressing these issues constructively, there will be a need for intellectual capital featuring well-informed, innovative perspectives on Arctic issues. We hope this essay, reflecting the insights of senior experts on the Arctic from China, Russia, and the United States, will help generate further discussion and provide a useful point of departure at that future time.

The Korea Maritime Institute, East-West Center, Steering Committee of the North Pacific Arctic Conference, and the Wilson Center’s Polar Institute are pleased to advance our partnership through publication of this paper. KMI and EWC will also publish this paper and others from NPAC 2021 in book format, which will be available for download at EastWestCenter.org in late spring 2022.

The “New” Arctic as a Zone of Peaceful Competition

I. THE ARCTIC IN THE 2020s

Conditions arising in the Arctic today differ substantially from those prevailing in the aftermath of the Cold War, when the Arctic states took the initiative to create a distinctive regional governance system by launching the Arctic Environmental Protection Strategy in 1991 and then moving on to establish the Arctic Council in 1996 as a “high level forum” with a mandate to promote “cooperation and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues” (Arctic Council 1996). Underpinning this arrangement was a vision of the Arctic as a somewhat peripheral region in international affairs primarily of interest to the Arctic states and featuring a policy agenda of its own focused, for the most part, on issues relating to environmental protection and, somewhat more broadly, sustainable development (Young 2020). On this account, it made sense to foreground the role of the eight Arctic states in the Arctic Council, to provide Indigenous peoples’ organizations with the special status of Permanent Participants, and to restrict others to the status of Observers.

Now, twenty-five years on, changing conditions are raising fundamental questions about the adequacy of this vision as a basis for addressing issues of Arctic governance arising in the 2020s. It has become clear that the high latitudes of the northern hemisphere play a crucial role in the dynamics of the Earth’s climate system. The Arctic’s deposits of natural resources, including large reserves of hydrocarbons, have attracted the attention of policymakers not only in Arctic states but also in outside states such as China and in international corporations such as TotalEnergies, ExxonMobil, and Shell. Shifts in the political configuration of international society as a whole have heightened tensions among China, Russia, and the United States. While the Arctic itself is not a locus of severe conflicts, great power politics are spilling over into the Arctic, raising growing questions about the status of the Arctic as a peaceful region somewhat separated from the mainstream of international affairs (Brigham et al. 2020).

Some have responded to these developments by deploying a neorealist or geopolitical narrative and treating the Arctic as an emerging arena for the interplay of great power politics. As former U.S. Secretary of State Pompeo asserted in a speech preceding the 2019 Ministerial Meeting of the Arctic Council, “the region has become an arena of global power and competition” (Pompeo 2019). On this account, the trajectory of Arctic affairs in the coming years will be driven in large measure by spillovers from global interactions among China, Russia, and the United States into the regional arena. Increasingly prominent among journalists looking for provocative angles on current developments in the Arctic, this narrative is also evident among foreign policy analysts and students of international relations who have a limited grasp of the details of Arctic affairs but little difficulty applying a neorealist narrative of great power politics to events unfolding anywhere in the world.

Others have responded by doubling down on the appropriateness of the governance system for the Arctic put in place in the 1990s. They ground their thinking in the terms of the vision statement adopted at the 2013 Arctic Council Ministerial Meeting asserting that the Council “has become the pre-eminent high-level forum of the Arctic region and [has] made this region into an area of unique international cooperation” (Arctic Council 2013). At the 2021 Ministerial Meeting, ministers adopted a Strategic Plan for the Council that reaffirmed this vision and asserted, “[i]n 2030 we envision the Arctic to remain a region of peace, stability and constructive cooperation, that is a vibrant, prosperous, sustainable and secure home for all its inhabitants, including Indigenous Peoples,” and “the Arctic Council will remain the leading intergovernmental forum for Arctic cooperation” (Arctic Council 2021). While it may make sense to consider modest adjustments in the architecture of Arctic governance (e.g. enhancing opportunities for Arctic Council Observers to participate in specific projects), there is no need to entertain more far-reaching proposals for adjustments in the existing Arctic governance system (e.g. altering any of the constitutive features of the Arctic Council).

In this article, we argue that neither of these responses provides an adequate point of departure or interpretive framework for coming to terms with Arctic issues in the 2020s. The geopolitical or neorealist narrative ignores a range of areas where the major players have clear-cut common interests in devising cooperative responses to Arctic issues. For its part, the strategy of doubling down on existing arrangements ignores fundamental changes that limit the effectiveness of arrangements established under the conditions prevailing in the 1990s. To unpack these propositions and to explore their implications for Arctic governance, we proceed in three steps. In the next section, we provide an introduction to the “new” Arctic highlighting the ways in which conditions prevailing in the 2020s differ from those of the 1990s. This sets the stage for an examination in the following section of a number of areas where there is common ground giving rise to opportunities to devise cooperative responses to Arctic issues coming into focus in the 2020s. It also provides a point of departure for an additional substantive section in which we discuss adjustments to the existing architecture of Arctic governance needed to achieve success in taking advantage of these opportunities. The result, we emphasize in the conclusion, would be an Arctic governance system retaining key features of the existing system but also incorporating significant adjustments designed to enhance the prospects for success in dealing with the Arctic as a zone of peaceful competition during the 2020s.

II. THE RISE OF THE “NEW” ARCTIC CALLS FOR INNOVATIVE PERSPECTIVES

An unusual constellation of conditions arising in the 1990s following the end of the Cold War and the collapse of the Soviet Union led many to embrace a perspective often referred to as Arctic exceptionalism. The essential elements of this perspective were the propositions that the Arctic itself was an area of low tension and that its status as a region peripheral to the main currents of world affairs made it possible to deal with Arctic issues on their own merits, with little reference to events taking place in the rest of the world. What we have come to know as the Arctic zone of peace narrative captured this perspective on the Arctic and provided the conceptual foundation for the development and operation of institutional arrangements like the Arctic Council.

From a variety of biophysical and socioeconomic perspectives, Russia is the preeminent Arctic state. But in the 1990s, Russia was struggling to come to terms with the impacts of the collapse of the Soviet Union. The new Russian Federation was preoccupied with the challenge of creating the legal and political institutions needed to form the basis of a post-Soviet governance system. The capacity of the central government to exercise effective control over remote oblasts and republics was limited. The national economy had experienced a sharp decline. Russia was in no position to launch ambitious initiatives in the Arctic. Many Soviet military installations in the Far North were closed or abandoned; traffic on the Northern Sea Route declined sharply.

What we have come to think of as China’s economic miracle was in full swing during the 1990s, following the dramatic economic reforms initiated at the end of the 1970s. In due time, this would create the basis for China’s rise as an economic powerhouse on a global scale and ultimately for the emergence of China as a fullyfledged great power. It is worth noting that these years played an important role in establishing China’s preference for deploying economic instruments in efforts to exercise influence at the international level; a preference that has become a striking feature of China’s international activities in recent years. But there is no reason to believe that China’s policymakers were thinking about Arctic initiatives at this time, much less about the importance of articulating an explicit Chinese Arctic policy.

As a result, many thought of the United States during the 1990s as the sole remaining superpower. Whatever the merits of this characterization, it did not translate into policies featuring any explicit concern for Arctic affairs. The Clinton Administration, enjoying the benefits of a rising economy, focused largely on domestic issues. To the extent that the United States was active on the international stage during the 1990s, the center of attention was the consolidation of the nuclear nonproliferation regime, the violence associated with the breakup of the former Yugoslavia, and, to a lesser extent, continuing tensions arising in the Middle East. Preoccupied with its image as a global power, the United States showed little interest in regional concerns in low-tension areas such as the Arctic. Considering this connection, it is noteworthy that the United States, more than any of the other Arctic states, resisted ambitious Arctic initiatives and insisted on limiting the remit of the Arctic Council to matters of low politics such as environmental protection and sustainable development (English 2013).

Given these circumstances, the central premises embedded in the Arctic zone of peace narrative seemed perfectly reasonable. Contrast this situation with the conditions arising in recent years and likely to dominate the politics of the Arctic during the 2020s. Russia has reemerged with a strong central government and a reconstituted economy heavily dependent on the exploitation of large deposits of natural resources and especially natural gas located in the Arctic (Mitrova 2020). Russian policymakers are understandably interested in an acknowledgement on the part of outsiders that Russia is a great power capable of exercising influence on a global scale. In the Arctic, this has led to a stream of developments, including the modernization of the Northern Fleet, the reoccupation or strengthening of old military installations, a rapid growth in the extraction of hydrocarbons in northwestern Siberia, and the development of the Northern Sea Route into an important commercial artery.

China increasingly sees itself as a global power on a par with the United States, entitled to take an interest in issues arising in seemingly remote areas like the Arctic. Exercising its preference for economic policy instruments, China has proceeded to express an interest in the development of the Arctic’s natural resources and the growth of commercial shipping using Arctic routes. Chinese actors have explored investment opportunities in a variety of projects ranging from Canada and Greenland in the North American Arctic to Iceland, Fennoscandia, and Russia. While many of these efforts have yet to bear fruit, China has become both a major investor in natural gas projects in northwestern Siberia and a market for liquefied natural gas (LNG) shipped in state-of-the-art tankers eastward along the Northern Sea Route (Yang and Tillman 2018).

For its part, the United States discovered soon enough that being the sole remaining superpower provided no assurance of success in dealing with specific issues arising in various parts of the world. Protracted and ultimately disappointing military interventions in Afghanistan and Iraq coupled with rising tensions associated with Chinese initiatives in areas like the South China Sea made clear the limits of the ability of the United States to deploy power effectively in specific situations. In the Arctic, these developments had the effect of increasing the sensitivity of the United States to actions on the part of others that could be interpreted as challenges to U.S. dominance in the realm of high politics. Concretely, the United States began to deploy warships to Arctic waters adjacent to the North Atlantic, take steps to replenish its severely depleted fleet of icebreakers, and plan war games in cooperation with NATO allies such as Norway designed to enhance capacity to engage in effective operations under Arctic conditions (Closson and Townsend 2021; Department of the Navy 2021).

A series of specific events unfolding during the 2010s served to focus and lend immediacy to these general trends, producing significant consequences for Arctic international relations (Lanteigne 2020). In 2014, Russian actions featuring the annexation of Crimea and intervention in developments unfolding in eastern Ukraine triggered an international crisis. The United States and its NATO allies reacted forcefully by imposing sanctions on Russia, including measures forcing the termination of activities on the part of companies like ExxonMobil engaged in collaborative activities in the Russian Arctic. Triggering an action-reaction process leading to a general deterioration in relations between Russia and the United States, this situation also gave rise to a pragmatic interest among Russian and Chinese policymakers in cooperation with regard to Arctic issues. China, which had unveiled its comprehensive Belt and Road Initiative in 2013, found it easy to extend the logic of this initiative to include collaboration with Russia and with Arctic actors more generally. The result was the articulation of the idea of a Polar Silk Road and the initiation of Chinese investments in specific projects like the extraction of natural gas on the Yamal and Gydan Peninsulas along with an interest in exploring the potential of the Northern Sea Route as a commercial artery.

The election of Donald Trump as president of the United States in 2016 added an element of volatility and unpredictability to the international relations of the Arctic. Trump made friendly gestures toward Vladimir Putin on a personal level. But the United States intensified post-2014 sanctions aimed at Russia and allowed several strategic arms limitation agreements to lapse. Trump initiated open conflict with China over issues of international trade, and decried what he saw as indications that China was seeking to achieve parity with the United States as a global superpower. The result was a growing sense of turmoil regarding the future of the global political order. With regard to the Arctic in particular, these developments had the effect of creating an atmosphere of tension and derailing efforts to promote international cooperation. In his speech on the eve of the 2019 Arctic Council Ministerial Meeting, then U.S. Secretary of State Pompeo followed his assertion that the Arctic had become an “arena of global power and competition” by noting that the United States was “hosting military activities, strengthening our force presence, rebuilding our icebreaker fleet, expanding Coast Guard funding, and creating a new senior military post for Arctic Affairs inside our own military” in response (Pompeo 2019).

What should we make of these developments? One striking result is a newfound interest in the Arctic among foreign policy analysts, students of international relations, and journalists who follow issues of international security broadly defined. Whereas those of us who thought about the Arctic as a region of rising importance during the 1990s found it hard to stir up any broad interest in Arctic affairs, a remarkable range of practitioners and analysts now seem eager to take on Arctic issues and to express their opinions about what could or should be done regarding a variety of Arctic concerns. In the absence of in-depth knowledge of Arctic issues, however, it is all too easy for commentators to fall back on general narratives about international politics applied to the Arctic with little concern about the extent to which these generic perspectives are well-suited to addressing Arctic issues.

More often than not, the result is these observers deploy a neorealist narrative as a basis for organizing thinking about the international politics of the Arctic. On this account, nation states (especially major states) are self-interested actors motivated largely by a desire to maximize relative power in their interactions with their counterparts. Conflict among the major powers is the normal condition of international society; international institutions are of limited value in dealing with matters of high politics. It follows that individual states must assume others will pursue their own interests by all available means and make preparations to protect their interests in the face of all potential threats. While cooperation may be feasible regarding matters of low politics like environmental protection, there is no escaping the force of geopolitical pressures when it comes to dealing with matters of high politics arising in specific international regions. In the case of the Arctic—a region seen as a theater of operations for increasingly sophisticated military assets as well as a critical source of raw materials such as natural gas still considered essential resources even in the face of growing concerns about the impacts of climate change—this means that a three-way competition among China, Russia, and the United States is likely to dominate the 2020s (Pincus 2020).

Without losing sight of the political ambitions of both the Arctic states and other states with growing interests in the Arctic, it is easy to see that this narrative leaves a lot to be desired as a framework for organizing thinking about Arctic international relations today. All informed observers acknowledge that the Arctic remains an area of low tension. There are, of course, disagreements and even disputes about issues arising in the Arctic such as the legal status of the waters of the Northwest Passage, the legitimacy of Russian regulations pertaining to parts of the Northeast Passage, overlapping claims to jurisdiction over portions of the deep seabed in the Central Arctic Ocean, and the compatibility of Norway’s Svalbard Fisheries Protection Zone with the provisions of the 1920 Treaty of Paris. However, it is clear that these are not the sorts of issues likely to generate international crises, much less the outbreak of armed clashes. The key players have expressed repeatedly their commitment to the principles set forth in the UN Convention on the Law of the Sea and pledged to resolve these Arctic issues in a peaceful manner. None of these issues seems likely to become a focus of escalating claims and counterclaims on the part of the protagonists.

There is no doubt that links between the Arctic and the outside world have become stronger. This is true whether we think about the onset of climate change, the dynamics of global energy markets, or the efforts of countries such as Russia and China to hasten the decline of the American-dominated postwar world order. But it would be a mistake to jump from this observation to the conclusion that the (re)emergence of great power politics in the Arctic will ensure the failure of all efforts to promote international cooperation regarding specific Arctic issues (Brigham et al. 2020).

Russia is rebuilding and modernizing its armed forces as part of its effort to reassert its great power status on a global scale. Given the geography of Russia, the Arctic inevitably figures prominently in this effort. But it is important to note that Russia has not sought to deploy its armed forces as a means of exercising influence over current Arctic issues. China is endeavoring to lend substance to the claim first articulated in its 2018 Arctic policy statement that it is a “near Arctic state.” So far, however, this effort has been limited to the modest growth of investments in projects involving the extraction of Arctic resources, a rising interest in the commercial potential of the Northern Sea Route, and the enhancement of Chinese scientific research in the Arctic. The various branches of the American armed forces have announced newfound interests in Arctic issues, at least at the declaratory level. But the departure of the Trump Administration has produced a toning down of American rhetoric about such matters, and there is little evidence to suggest that we will see a sharp rise in the deployment of U.S. military assets to the Arctic during the foreseeable future.

A reasonable conclusion is that the Arctic remains a peripheral area with regard to great power politics. The central focus of Sino-American strategic competition is located in the South and East China Seas; it does not extend farther north. The resumed mutual deterrence postures of Russia and the United States emphasize Europe and the North Atlantic. Recent Russian and U.S./ NATO Arctic military activities are concentrated almost exclusively in the Norwegian and Barents Seas, properly understood as extensions of the North Atlantic. These areas of sensitive strategic competition have virtually nothing in common. They do not affect the core of the Arctic, which will remain inaccessible for conventional maritime operations except in the unlikely event that major players invest heavily in special capabilities that can operate sustainably in harsh conditions (Zagorski 2020).

Overall, the international relations of the “new” Arctic are hard to square with the Arctic Council’s vision that “[w]e have made this region into an area of unique international cooperation,” turning the Arctic into an exceptional oasis of peaceful cooperation in the overall landscape of international politics. In our judgment, the idea of Arctic exceptionalism is not helpful as a basis for addressing Arctic issues today. Great power politics will be a prominent feature of Arctic international relations during the coming years. Nevertheless, this does not mean that the impact of securitization will turn the Arctic into a zone of conflict, precluding the pursuit of cooperation regarding a range of specific but significant issues arising in the Arctic during the 2020s.

The question is not whether the Arctic of the 2020s will be a zone of peace or a zone of conflict. There is room to address specific issues in a cooperative manner, without losing sight of the differences between the Arctic of the 1990s and the Arctic of the 2020s. In this regard, it is notable that at their May 2021 meeting the foreign ministers of the G7 countries included “peaceful, sustainable economic development and environmental protection in the Arctic” on a short list of issues where cooperation with Russia is desirable and feasible, despite the continuing stalemate on other issues (G7 Communique 2021).

III. CONFLICT AND COOPERATION ARE NOT MUTUALLY EXCLUSIVE IN THE ARCTIC

In our view, it makes sense to shift attention away from broad efforts to characterize the international relations of the “new” Arctic as either cooperative or conflictual and to direct attention instead toward specific issues where the interests of the Arctic states and other interested parties are evolving in ways that generate opportunities for fruitful cooperation. The result, we argue, is a more complex picture in which mixed-motive interactions can give rise to cooperation on specific issues, even while political maneuvering driven by developments unfolding on a global scale becomes more prominent. To flesh out this perspective on the Arctic as a zone of peaceful competition, we consider opportunities for cooperation in five areas: (i) avoidance of armed clashes, (ii) climate change, (iii) commercial shipping, (iv) biodiversity protection, and (v) scientific research. The initiatives we propose are innovative but still broadly compatible with themes outlined in the document entitled “Arctic Council Strategic Plan 2021-2030” adopted at the council’s May 2021 Ministerial Meeting (Arctic Council 2021).

Avoiding armed clashes

As we have said, the Arctic remains an area of low tension with regard to issues of military security. Yet this does not eliminate the need to develop informal but effective practices designed to minimize the danger of unintended clashes and to defuse the prospect of escalation following the occurrence of isolated incidents. Several states are stepping up the deployment of advanced military systems in the Arctic. War games and military exercises of one sort or another are increasingly common, especially in the sector of the Arctic bordering on the North Atlantic. There are persistent reports of aircraft engaging in provocative activities leading others to scramble aircraft of their own to intercept them.

No one stands to benefit from the occurrence of armed clashes in the region, even in an era featuring a renewal of great power politics in the Arctic. But experience accumulated in many parts of the world involving numerous states makes it clear that unintended incidents do occur in settings of this sort and that such incidents can lead to ugly developments that are harmful to the interests of all concerned. What is needed in such settings is the development of codes of conduct designed to minimize the likelihood of armed clashes and to deescalate tensions arising when incidents do occur. Even during the Cold War, such codes of conduct emerged and played a constructive role in interactions between Soviet and American armed forces. With regard to the Arctic, there have been repeated calls to resume the informal Arctic Chiefs of Defense Forum broken off in 2014 in the wake of the conflict over the annexation of Crimea. No doubt, the resumption of these meetings would be helpful. But more specific measures are needed.

Recently, the United States and Russia reinvigorated arrangements based on an agreement dating back to 1972, designed to prevent the occurrence or escalation of dangerous military incidents at sea and in the airspace above it. These arrangements are applicable to the Barents and Norwegian Seas where operations of Russia’s Northern Fleet and the reactivated American 2nd Fleet overlap. Military risk reduction mechanisms covering activities of China, the United States, and some of its allies are also in place for the Western Pacific. China does not deploy military assets in the Arctic and has no plans to do so during the foreseeable future. But in the unlikely event of a future extension of Chinese naval operations farther North, it would be possible to make use of these mechanisms.

The most urgent need for an effective code of conduct pertains to the Barents Sea. The United States and its NATO allies are now carrying out naval operations in the Barents, which provides homeports for Russia’s Northern Fleet including the bulk of Russia’s nuclear-powered submarines equipped with sea-launched ballistic missiles. A concern of particular importance involves the operations of U.S. attack submarines in the vicinity of Russia’s naval bases and the reliance of Russian attack submarines on the Barents Sea to move back and forth between their bases on the Kola Peninsula and the North Atlantic.

Responding to climate change

The impacts of climate change are showing up more rapidly and more dramatically in the Arctic than anywhere else on the planet. Accelerating losses of sea ice and glaciers, severe coastal erosion, rapid thawing of permafrost, massive wildfires, uncontrolled flooding, and rising threats to wildlife are current realities in the Arctic rather than future prospects (Blunden and Boyer 2020). Despite American denialism under the Trump Administration and recurrent expressions of hope on the part of some Russian policymakers that climate change may produce positive effects in the Russian North, almost everyone now understands that issues relating to climate change are moving to the top of the Arctic policy agenda. Both the most recent Russian Arctic strategy adopted in 2020 and the Russian program for its 2021-2023 Chairmanship of the Arctic Council, for example, indicate clearly that there is no time to waste in taking steps to counter this rising threat (Russian Arctic Strategy 2020, Arctic Council 2021a). With regard to Arctic cooperation, this development suggests two avenues for fruitful initiatives: 1) measures designed to facilitate adaptation to the impacts of climate change in the Arctic itself and 2) Arctic initiatives that may help promote global efforts responding to the onset of climate change.

Whereas reductions of emissions of greenhouse gases anywhere contribute to efforts to mitigate climate change on a global scale, efforts to adapt to the impacts of climate change are typically local in scale. Still, there is much to be said for encouraging collaboration in efforts to protect the integrity of socioecological systems in the Arctic. Communities throughout the Arctic face similar threats arising from coastal erosion, permafrost thaw, and riverine flooding. There is considerable room for comparing notes and exchanging expertise with regard to the effectiveness of concrete measures to come to terms with these threats. The Arctic Council might well become a clearinghouse for those seeking to identify strategies that have proven successful in responding to specific problems caused or intensified by climate change. Educational activities, designed especially for young people and coordinated by the University of the Arctic, also may help to increase adaptive capacity.

Although the Arctic itself is not a significant source of emissions of greenhouse gases, initiatives in this region may offer opportunities to get the ball rolling on measures that could be taken up and amplified in other settings. A promising case in point involves growing interest to take the initiative on black carbon and methane, both of which are important short-lived climate pollutants (Miller, Zaelke, and Andersen 2021). The Arctic Council has adopted a framework for action to reduce emissions of these short-lived pollutants in the Arctic and beyond. To this end, it has established an Expert Group on Black Carbon and Methane which has advanced a pan-Arctic aspirational goal of reducing emissions of these pollutants by 25-33% below 2013 levels by 2025. Going forward, the Council may provide a convenient venue for those interested in promoting a binding agreement on these pollutants extending ultimately to both Arctic and non-Arctic states. An Arctic agreement on black carbon and methane would not solve the global threat associated with emissions of these pollutants. But it would constitute a start in dealing with a major concern that could play a role in energizing efforts to come to terms with these pollutants on a global scale (Smieszek 2021).

Managing commercial shipping

International cooperation relating to the regulation of commercial shipping in the Arctic has increased markedly over the last twenty years. Starting with voluntary guidelines in 2002 and stimulated by the Arctic Council’s 2009 Arctic Marine Shipping Assessment, the International Maritime Organization (IMO) developed the legally binding Polar Code whose provisions were agreed upon within the relevant committees of the IMO in 2014-2015 and became legally binding in the form of amendments to existing conventions (SOLAS and MARPOL) at the beginning of 2017. Featuring measures dealing with both maritime safety and environmental protection, the Polar Code stands as a clear example of the feasibility of making progress in devising cooperative measures to address concrete issues of real importance when the interests of key players can be brought into alignment. There is every indication that commercial shippers are taking the necessary steps to comply with the provisions of the Polar Code in its current form.

As commercial shipping continues to grow in Arctic waters and as concern regarding the environmental impacts of shipping continues to rise, however, it has become clear that there is more to be done regarding the regulation of commercial shipping in the Arctic and related matters such as the improvement of hydrographic charts and the strengthening of search and rescue capabilities. At this stage, the campaign to ban the combustion and carriage of heavy fuel oils in the Arctic has emerged as the top priority. But other concerns are coming into focus as well, including ship strikes on marine mammals, underwater noise pollution, the dangers of invasive species making their way to the Arctic, and potential interference with the subsistence activities of residents of coastal communities. Progress will not be easy regarding any of these issues, given the divergent interests of shippers, environmentalists, residents of coastal communities, and others. The recent decision by the IMO to strengthen the Polar Code by including a ban on heavy fuel oils in the Arctic from 2024, to take a concrete example, has come in for intense criticism from environmentalists as inadequate to address what many see as a pressing problem (Reuters Staff 2020). What is likely during the coming years is a pattern of incremental advances that environmentalists criticize as inadequate but shippers fear as increasingly burdensome. There is no reason to conclude that the conditions prevailing in the Arctic during the 2020s will present insurmountable obstacles to the process of hammering out mutually acceptable additions to the governance system for commercial shipping that has been evolving over the last several decades.

Protecting biodiversity

There is a substantial record of international cooperation regarding the development and implementation of measures to protect wildlife moving across international boundaries in the Arctic or living in or migrating through Arctic waters. Aboriginal subsistence whaling is managed under the provisions of the 1946 International Convention on the Regulation of Whaling. The 1973 Agreement on the Conservation of Polar Bears provides for coordination of the efforts of the five Arctic coastal states to protect polar bears throughout their range. There are bilateral arrangements that have proven useful in protecting wildlife and conserving habitat essential to their welfare. Prominent examples are the bilateral regime between Norway and Russia dealing with environmental protection in the Barents Sea region and the bilateral arrangement between Canada and the United States dealing with the conservation of the Porcupine caribou herd that migrates annually across the border between Yukon and Alaska. A recent addition to this network of arrangements is the Arctic Migratory Bird Initiative, an activity spawned by the Arctic Council’s Working Group on the Conservation of Arctic Flora and Fauna and designed to foster collaboration among states with jurisdiction over components of the Australasian Flyway stretching from Siberia and Alaska in the North to Australia in the South. A notable feature of these arrangements is that they have provided a basis for effective cooperation among issue oriented agencies located in relevant governments without reference to the overarching dynamics of high politics among the participating states.

What new needs of this sort are coming into focus today? Specific threats to wildlife in the Arctic are associated with biophysical changes and with the impacts of climate change in particular. The dramatic decline of sea ice in the Arctic threatens the welfare of ice-dependent species such as polar bears and walrus. The welfare of terrestrial species such as caribou/reindeer is threatened by an increasing difficulty in accessing adequate food supplies during the winter months. Changing conditions in areas such as the Bering Sea are triggering largescale die offs of a number of species of seabirds. Ultimately, responding to these challenges will require effective responses to the problem of climate change on a global scale. In the meantime, however, there are opportunities to launch protective measures in the Arctic to alleviate some of these threats. A particularly promising approach is to focus on the maintenance of biodiversity in ecologically or biologically significant marine areas (EBSAs): taking steps to protect these areas from the impacts of human activities including fishing and shipping as well as monitoring them closely to provide early warning of developments likely to prove harmful to key species (Convention on Biological Diversity 2021). Another significant initiative is the development of the Arctic Council’s Regional Action Plan on Marine Litter (Arctic Council 2021b).

Meshing scientific research

Unlike Antarctica where scientific research constitutes the principal ongoing human activity, the Arctic is a region providing a permanent home for millions of people and affected by intensive human activities ranging from fishing and the extraction of natural resources to the deployment of armed forces. Nevertheless, all the Arctic states and a number of non-Arctic states support sizable research programs in the Arctic, and cooperation regarding issues relating to science has emerged as a prominent endeavor. This has provided the basis for the development of a web of cooperative arrangements. The International Arctic Science Committee, established in 1990, has 23 members (mostly national academies of sciences) and represents the views of the science community regarding priorities and opportunities for cooperation in the conduct of Arctic science. Starting in 2016, ministers of research and education (or their functional equivalents) have developed an informal practice of meeting on a biennial basis to exchange information on their Arctic work and discuss opportunities for collaboration at the level of national science programs. In 2017, the eight Arctic states entered into a legally binding agreement designed to enhance scientific cooperation through practical measures like improving access to field sites, easing restrictions on the movement of scientific equipment and materials, and facilitating the exchange of data.

These are all constructive steps. What is missing at this stage is an effort to harmonize this web of discrete arrangements so that agencies responsible for funding research work closely with the science community regarding the identification of research priorities. Moreover, representatives of foreign offices who control the movement of people and materials across national boundaries can work more closely with the national funding agencies and representatives of the science community to minimize the obstacles to conducting research within their jurisdictions, as well as support the activities of multinational teams of researchers working in areas beyond national jurisdiction. Some constructive responses to this need are currently underway. A case in point is the ICES/PICES/PAME Working Group on Integrated Ecosystem Assessment for the Central Arctic Ocean (WGICA). But there is much more to be done to mesh the activities of scientific organizations, funding agencies, and those who control access to Arctic sites in order to move scientific cooperation to a new and more productive level.

Science programs reflect the interests of governments and other organizations that support them, which means that priorities sometimes diverge, and significant limits to cooperative practices in the world of scientific research are unavoidable. Nevertheless, there are substantial common interests in this realm, and cooperation in the conduct of scientific research can play a constructive role in the coproduction of knowledge needed to implement international agreements effectively. A current example involves the development of knowledge required to operationalize the “precautionary approach” called for under the terms of the Central Arctic Ocean Fisheries Agreement that entered into force in June 2021 (Balton and Zagorski 2020). We should be on the lookout for other cases in which scientific cooperation can play a helpful role in the creation and implementation of international agreements dealing with matters of common concern to the Arctic states and key non-Arctic states.

This account of opportunities for international cooperation regarding specific Arctic issues is not meant to be exhaustive. Our purpose in providing these examples has been to demonstrate that the conditions prevailing in the Arctic during the 2020s do not rule out focused efforts to promote international cooperation. In effect, we seek a middle way in this realm. The idea of Arctic exceptionalism is no longer realistic as a basis for dealing with the international relations of the Arctic. But neorealist accounts stressing the reemergence of great power politics in the Arctic convey an excessively pessimistic view regarding the prospects for cooperation in the Arctic. We suggest that a perspective avoiding both extremes is needed, as is a process designed to flesh out this perspective as a basis for thinking constructively about concrete issues arising in the 2020s. For shorthand purposes, we characterize this as a narrative of peaceful competition.

IV. WE CAN ADJUST THE ARCHITECTURE OF ARCTIC GOVERNANCE TO ADDRESS THE ISSUES OF THE 2020S

The existing architecture of Arctic governance, with the Arctic Council as its centerpiece, has proven more effective than many of those present at its creation anticipated. While the Council lacks the authority to make binding decisions and the capacity to take the lead in implementing substantive programs, there is convincing evidence regarding the constructive roles it has played in a number of areas (Barry et al. 2020). Yet the exceptionalist narrative underlying the creation of the Council in 1996 and articulated explicitly in the vision statement adopted at the 2013 Ministerial Meeting does not offer an appropriate lens for viewing issues arising under conditions prevailing today. Nor does this narrative provide a proper point of departure for considering ways to maximize the effectiveness of the Council in addressing the issues discussed in the preceding section. What adjustments in the existing architecture of Arctic governance would improve the performance of these arrangements going forward? Are there ways to approach such adjustments that would maximize their acceptability to all parties concerned? In this section, we respond to these questions, starting with a discussion of adjustments in the practices of the Arctic Council itself and moving on to observations relating to the overall architecture of Arctic governance.

Adjusting the Arctic Council

The constitutive provisions of the Arctic Council are set forth in a ministerial declaration rather than in an international, legally binding instrument (Arctic Council 1996). Some view this as a weakness; their inclination is to take steps as quickly as possible to turn the Council into a fully-fledged intergovernmental organization with a recognized legal personality. In our judgment, this line of thinking reflects a mistaken view regarding the role of the Council in addressing issues of governance in the high northern latitudes. The Arctic Council is not destined to become a body capable of making and implementing authoritative decisions on a range of issues of interest to the Arctic states and others with growing interests in Arctic affairs. Rather, the influence of the Council lies in its capacity to provide early warning regarding emerging issues, mount well-respected monitoring services, offer an informal venue to hammer out the terms of agreements regarding a variety of specific issues, and exercise convening power allowing a wide range of parties to interact with one another and explore issues of common concern on an informal basis. Adjustments in the existing practices of the Council should seek to strengthen these forms of influence, while avoiding changes that would serve only to muddy the waters or even undermine its contributions.

With regard to early warning, agenda formation, monitoring, and the incubation of innovative policy initiatives, the key to the success of the Arctic Council lies in the work of the Council’s working groups. To illustrate, consider the work of the Arctic Monitoring and Assessment Programme (AMAP) in enhancing understanding of the role of the Arctic in the Earth’s climate system; the initiatives of the Working Group on the Protection of the Marine Environment (PAME) in identifying the need to regulate commercial shipping in the Arctic and framing issues for treatment in the IMO; and the efforts of the Working Group on the Conservation of Arctic Flora and Fauna (CAFF) in incubating the Arctic Migratory Bird Initiative. What is needed at this stage is an effort to reconfirm the central role of these activities in the work of the Council, while avoiding developments likely to detract from the role of the working groups in handling such matters. In this connection, we recommend reverting to the early practice of the Council treating all meetings of the Senior Arctic Officials (SAOs) as opportunities to engage in substantive and in-depth conversations between the leaders of the working groups, representatives of the foreign ministries of the Arctic states, and representatives of the Permanent Participants.

There is also a need to proceed with care in articulating the mission of new arrangements such as the recently created SAO-based Marine Mechanism (SMM). In the specific case of the SMM, the danger is that its activities will overlap with the work of PAME, running the risk of politicizing the Council’s work on marine issues in a manner that detracts from PAME’s efforts to address similar concerns. The Arctic Council created the SMM in 2019 following a failure to agree on a mandate for a new subsidiary body to employ an ecosystem-based approach to marine management in the Arctic. So far, the activities of the mechanism have been confined to organizing webinars dealing with a range of marine issues of current interest (e.g. shipping, marine litter). To achieve a distinct and lasting place in the architecture of the Arctic Council, the SMM must take advantage of the convening power of the Council to provide a venue in which a wide range of players are able to engage in policy-relevant discussions of marine issues on an informal basis (Young 2021).

An important development in the practices of the Arctic Council dating from 2009 centers on the establishment of task forces to provide an informal setting for those engaged in efforts to hammer out the terms of agreements that are not formally Arctic Council agreements. As the cases of the 2011 search and rescue agreement, the 2013 oil spill preparedness and response agreement, and the 2017 scientific cooperation agreement make clear, task forces have produced significant results even in the face of the shifting conditions prevailing in the Arctic during the 2010s. It is notable that Russia and the United States served as co-leads for all three of these task forces. In our judgment, the key issue in this realm going forward is a need to clarify the relationship between working groups and task forces and to exercise extreme care in framing the remit of any new task force created to deal with a specific issue. Though misunderstandings have arisen in several cases, it should be possible to draw a clear distinction between the roles of the working groups and those of the task forces. The working groups are ongoing bodies with mandates that cover a broad range of concerns such as the protection of the Arctic marine environment or the conservation of Arctic flora and fauna. The task forces are transient bodies intended to focus on a specific issue such as search and rescue and to go out of existence once that issue is resolved. Exercising care in formulating the remit of task forces should help to clarify this distinction.

The convening power of the Arctic Council has grown substantially in recent years. With the participation of representatives of 38 Observers divided almost equally among non-Arctic states, intergovernmental organizations, and nongovernmental organizations, meetings of the Senior Arctic Officials now bring together most of the important players concerned with issues arising in the Arctic. Such gatherings provide opportunities for informal consultations regarding emerging issues over and above the issues on the formal agenda of the SAOs. Adjustments to the Council’s existing practices can enhance this important function. The goal should be to welcome input from the Observers, without triggering opposition arising from sensitivities relating to matters of terminology. Constructive measures may include eliminating obsolete procedural rules dealing with the suspension of Observers, selfreporting as a condition for the continuation of observer status, and financial contributions on the part of Observers (Zagorski 2019). The recent practice of organizing special sessions of the SAOs in which Observers are given the floor is a step in the right direction. Taking advantage of the Council’s convening power, there may also be opportunities to organize special sessions the day before or the day after SAO meetings in which all participants can discuss issues of current interest in a setting not subject to the Council’s formal rules of procedure. No doubt, other innovations are worthy of consideration. But the general point is clear: There is a need to encourage constructive engagement on the part of many actors, without distorting the architecture of the Arctic Council or undermining its unique features.

Coordinating the Arctic regime complex

While the Arctic Council is the centerpiece of the existing Arctic governance system, what is developing is an extensive network of the sort that analysts call a regime complex or, in other words, a collection of discrete institutional arrangements dealing with interrelated issues but not organized in the form of a hierarchical structure (Young and Kim 2021). Thus, we have distinct arrangements dealing with fishing, shipping, oil and gas development, wildlife management, environmental protection, and scientific research that apply to all or parts of the Arctic but that are not linked to one another in any explicit way. An interesting observation in this regard is that new arrangements featuring international cooperation on specific issues are continuing to emerge, despite the onset of great power politics highlighted in neorealist accounts of the “new” Arctic. The Central Arctic Ocean Fisheries Agreement entered into force in June 2021. The IMO is in the process of forging measures designed to regulate and eventually ban the combustion and carriage of heavy fuel oils on ships operating in the Arctic. There are preliminary indications of an emerging interest in the development of an Arctic agreement dealing with methane and black carbon. Regarding the future, this development raises two issues: One dealing with the content of specific additions to this regime complex and the other dealing with the need to coordinate the various elements of the complex to avoid fragmentation and to promote harmonization.

With regard to specific elements, there is no alternative to proceeding on a case-by-case basis. The next step in the Central Arctic Ocean Fisheries Agreement, for example, is to establish the machinery needed to move this arrangement from paper to practice. Fortunately, there are indications that both Russia and the United States are able and willing to join forces to make this happen. In the case of commercial shipping, the challenge is to push the parties to accept a ban on the combustion and carriage of heavy fuel oils with real teeth and, at the same time, to advance the dialogue on related matters like the problems of ship strikes on marine mammals and underwater noise pollution. With respect to methane and black carbon and similar issues that are just now coming into focus, the next steps involve framing the issues in a manner suitable for consideration in specific policy arenas and enlisting the support of players in a position to move the issues toward the top of crowded policy agendas. Perhaps the way forward in this realm is to provide opportunities for those working on specific issues to compare notes regarding their experiences, and to encourage constructive exchanges between practitioners working to achieve progress on specific issues and analysts who think more generally about effectively promoting international cooperation.

As the density of the Arctic regime complex increases, the need to pay attention to avoiding fragmentation and encouraging harmonization is rising (Biermann et al. 2020). How should we deal with the interface between the regulation of commercial shipping in the Arctic and arrangements regarding marine mammals, such as whales and walrus, and the human harvesters of these species? Is there a need to think about interactions between emerging proposals dealing with Arctic sea ice restoration as a means of coping with climate change and regimes dealing with artisanal and commercial fishing, commercial shipping, and offshore oil and gas development (Strawa et al. 2020)? In our judgment, the case for creating a new mechanism to deal with this function is not compelling; nor is it likely that proposals for such a mechanism would gain traction under the conditions prevailing in the 2020s. Proceeding with care, it should be possible to use the forum provided by the Arctic Council to address this matter effectively. In this connection, the Council’s convening power may provide the key to success. SAO meetings today bring together representatives of most of the major players, including key non-Arctic states such as China, relevant intergovernmental organizations such as the IMO, and important nongovernmental organizations such as IASC, that need to be consulted in efforts to coordinate the expanding Arctic regime complex. What would be helpful at this stage is to recognize this function of the Council explicitly and to institute informal practices aimed at enhancing this role. For example, it would be relatively easy to organize informal consultations on specific issues among interested parties alongside formal SAO meetings.

V. A CONCLUDING OBSERVATION

We have sought to articulate a view of Arctic international relations during the 2020s that recognizes the limits of the idea of Arctic exceptionalism embedded in the Arctic zone of peace narrative but that also provides an alternative to the proposition that the Arctic has become what a former U.S. Secretary of State has called an “arena of global power competition.” We characterize our perspective as a view of the “new” Arctic as a zone of peaceful competition. It is pointless to ignore the growing links between the Arctic and the global system and to perpetuate the belief that the currents of great power politics will not spill over to affect the treatment of issues on the Arctic policy agenda. At the same time, this should not blind us to the success of ongoing efforts to promote international cooperation on specific issues and to the prospect that similar opportunities will continue to arise in the 2020s. We have suggested a number of specific areas where cooperative initiatives seem feasible and discussed ways to adjust the existing machinery of Arctic governance to capitalize on such opportunities. This is not a matter of wholesale restructuring of arrangements like the Arctic Council or calling for an effort to negotiate the terms of a comprehensive Arctic treaty. What is needed at this stage, we argue, are adjustments in existing practices that are individually modest but that, taken together, could make a real difference in addressing Arctic challenges arising in the 2020s.

### AT: science diplomacy

#### ‘Science diplomacy solves all impacts’ is total horseshit.

Charlotte Rungius & Tim Flink 20, German Centre for Higher Education Research and Science Studies, “Romancing Science for Global Solutions: On Narratives and Interpretative Schemas of Science Diplomacy,” Humanities and Social Sciences Communications, vol. 7, no. 1, 1, Palgrave, 09/23/2020, pp. 1–10

In recent years, the concept of science diplomacy has gained remarkable ground in public policy. Calling for closer cooperation between actors from science and foreign policy, it is often being promulgated as a hitherto neglected catalyst for international understanding and global change. On what grounds science diplomacy entertains these high hopes, however, has remained unclear, and—as a blind spot—unaddressed in a discourse mostly shaped by policy practitioners. Recognizing that the discourse on science diplomacy is still unspecific about how its means and ends should fit together and be comprehended, we reconstruct the concept and its discourse as a materialization of actors’ interpretative schemas and shared assumptions about the social world they constantly need to make sense of. Science diplomacy is presented as a panacea against looming threats and grand challenges in a world facing deterioration. The prerequisite for such a solutionistic narrative is a simplified portrait of diplomacy in need of help from science that—romanticized in this discourse—bears but positive properties and exerts rationalizing, collaborative and even pacifying effects on a generic international community in its collective efforts to tackle global challenges. We conclude that these interpretative schemas that idealize and mythify science as overall collaborative, rationalizing and complexity-reducing are problematic. First, because the discourse misconceives ideals and norms for real and will therefore disappoint social expectations, and second, because science is likely to be instrumentalised for political purposes.

Introduction

The last fifteen years have seen an upswing of science diplomacy in public discourse, a concept and driver that is supposed to bridge actions of science and foreign policy. That science diplomacy entered the scene of public policy discourse and has succeeded in entertaining more and more actors far beyond the realms of foreign policymaking for such a long time is rather phenomenal. First, because the functional necessity of the concept is unclear, particularly in light of the fact that institutions and their activities at the intersection of science and foreign policymaking have existed for decades. Second, because science diplomacy shows longer trajectories than concepts usually do, when they are created for agenda-setting purposes in policymaking. And third, because the concept even affects actors we do not associate with diplomacy in the narrow sense: Nowadays, universities and individual academics want to engage in science diplomacy, and some even offer courses and master’s degree programs to study how to become a science diplomat. What accounts for the wide reception of science diplomacy, and why does the concept stick and keep encouraging practitioners to engage and affirm it? While only few scholars have reflected upon the emergence of the concept and its related policy practices (Walker, 2015; Penca, 2018; Rüffin, 2018), this article discusses science diplomacy as a discursive phenomenon. We look at science diplomacy as an expression of cultivating social order, meaning, legitimacy and identity in a globally changing world perceived as challenging. By reconstructing understandings of science diplomacy and identifying its functional roles, we can also learn how the interrelation of the social realms of science, science policy and foreign policy gets co-produced via rhetorical language politics.

Borne by constructivist approaches that highlight the functionality and structuring effects of language in communication processes, we follow the main threads of science diplomacy to discuss its underlying narratives, its taken-for-grantedness and actors’ isomorphic alignment to its myths of rationality (Drori et al., 2003). It is important to ask what has made the emergence and structuration of science diplomacy necessary: in light of the historical fact that internationality was recognized as a key condition to science policy and the evolution of science as such (Schott, 1991; Crawford et al., 1993; Stichweh, 1996; Flink and Rüffin, 2019), and functionally (Luhmann, 1995, p. 106) whether it allows to condition communication processes in a specific (and no other) way.

To do so, the article briefly introduces methodological approaches to language concepts and their social functions, followed by briefly revisiting the emergence of science diplomacy as a concept in public discourse. In the main part we reconstruct the essential currents and interpretative schemas behind the discourse on science diplomacy combining it with a discussion of rhetorical strategies that actors employ. We find that actors unanimously call upon the dramatic narrative of imminent global challenges and threats for justifying their engagement they frame by this concept. Science diplomacy is presented as the key device and solution to turn this desperate state of affairs into a situation of opportunity—even one that will yield return—invoking an almost heroic empowerment of kindred spirits all over the world. As part of that, science is portrayed to spread and propagate collaborative virtues, i.e., rationalize and pacify self-interested politics. This narrative ties in with a logic of collective action that takes a reference point in nation states. Science is believed to work as a cross-boundaring and unifying force due to its supposedly collaborative nature. Finding that science diplomacy largely rests on romanticized ideals and misconceptions urges, at the minimum, a more prudential utilization of the term in public policy.

On language concepts

With the constructivist and linguistic turns in the social sciences, scholars have gained an interest in studying language concepts as regards their structuring function in society. The common ontology is that these concepts do not merely represent but immediately shape meaning in the course of their expression during social interactions (e.g., Lakoff and Johnson, 1980; Luhmann, 1995). In political science and organization studies, concepts are held essential for actors to seize institutional legitimacy, as their activities can be framed and primed as part of narratives (Fischer and Forester, 1993; Rein and Schön, 1993; Czarniaswska, 1998). With regard to foreign policy, concepts have been acknowledged to play a vital role. In fact, a highly codified and formal system of symbolic actions, such as the ‘protocol’ in diplomacy, can be regarded as communication between state actors (and increasingly non-state actors) (Watson, 1982; Chilton and Lakoff, 1995; Jönsson and Hall, 2005). But even more so, the structural relation between science and politics is constituted by language concepts. While these keep actors at distance, e.g., ascribing to them specific responsibilities and competences, they also offer ‘meeting points’ through generalized symbols that are communicable across distinct spheres (Flink and Kaldewey, 2018).

Studying concepts in context furthermore affords us to inquire how actors (human beings and organizations) act upon them. Concepts can help actors in their strategic boundaring and tailoring work vis-à-vis each other (Calvert, 2006), but they also mould into the fabric of their identity (Somers, 1994). This does not presuppose that concepts express a blurring of systemic boundaries, i.e., policymakers do not just become scientists or vice-versa. But as Jacob (2005, p. 198) has put it, they “can build consensus in that they allow sufficient interpretative flexibility for those involved to agree on a particular problem definition without agreeing on its implications or solution”.

When a new concept seizes prominence in social communication, questions of emergence arise, such as why this and not another concept has been selected, what specific meanings a concept is charged with (Luhmann, 1995, p. 148), and to which contexts and problems it responds to. Moreover, it is interesting to see how some concepts in science policy develop popularity or prominence. Some concepts become catchy and travel across time and spatial contexts (Flink and Peter, 2018), especially if they have undergone processes of mythification, glorification and conventionalization in popular daily life (Ceccarelli, 2013).

In light of these methodological considerations, the term science diplomacy is analyzed as a symbolic concept that has opened up and structures a specific area of communication. By interpreting how actorsFootnote1 introduced science diplomacy or have positioned themselves to this concept, we can flesh out various interpretative schemas (Sewell, 1992) that operate in moments of interpretative challenges to concrete situations that evoke action. Because novel concepts can reveal how actors either develop new interpretative schemas to situations that institutionalized practices cannot cope with, or that they self-legitimize their schematic actions, prevalent understandings and convictions about the world by applying new language fixtures.Footnote2 And particularly the concurrence of old and new concepts reflects the changing of actors’ interpretations within and across functional systems. This approach requires interpreting concepts as elements embedded in narratives and their very social contexts.

Science diplomacy: the emergence of a concept

Whereas international affairs and science, technology and higher education have a longstanding relation, the explicit and copious employment of the term science diplomacy does not show up before the first years after the year 2000. Hardly any reference can be found to science diplomacy before the millennium. A search in the Web of Science, in Scopus, Google Ngram Viewer and the full text accessible online archives of the scientific journals Nature and Science (that have always featured discussions on policy issues in their editorials, letters to the editors and other formats, such as news and comments) reveal but two entries from 1945–2000. Among others, the search included the terms “science diplomacy”, “scientific diplomacy”, as well as “science [AND] diplomacy”, while related concepts (e.g., international science policymaking) were carefully taken into account, i.e., contributions read in search for discussions pertaining to foreign affairs and diplomatic issues. For example, the News and Comments section of the journal Science discussed the unfitting position of science and technology in the US State Department despite its announced creation of a Bureau of Oceans and International Environmental and Scientific Affairs (Walsh, 1974). In another instance, the AAAS celebrated its Washington Fellowships program that, since 1973, had placed scientists in Congress, in the US Department of State’s International Development Agency or in executive branches related to arms control and national security issues, based on their scientific and technical expertise as well as on respective governmental needs (Science, 1990).

The most prominent use of science diplomacy during the first years of its promotion can be attributed to a group of policy entrepreneurs in and around Washington’s science and foreign policy organizations, most notably the American Association for the Advancement of Science (AAAS), whose members aimed for institutional change in US foreign politics (Turekian and Lord, 2007; Dreifus, 2008). In preparation of a presidential change, marketing science diplomacy promised to encourage reforms within the Department of State and to resurrect the US’ image abroad, which had been compromised by the Bush administration’s hardline realist approach to foreign politics, especially its interventions in Iraq and Afghanistan. By the time that the new administration under President Barack Obama took office in early 2009, science diplomacy was to be placed high on the pedestal in US foreign policy. Indeed, the new president positively alluded to science and higher education as an international bridge-builder in a speech at the University of Cairo,Footnote3 and US-engagement was backed by fellowship programs from the Department of State teaming up for marketing campaigns together with the newly founded AAAS Center for Science Diplomacy and other agencies, most notably the US Agency for International Development (USAID) and the National Academies for Science, Engineering and Medicine (NASEM).

In other states, science diplomacy initiatives were newly advertised, and existing ones got into their stride as being part of this new discourse. In light of a transnationally interactive and mutually observing network of staff from ministries, from research (funding) organizations, academies and their many liaisons abroad (e.g., Schütte, 2008; Yakushiji, 2009; Berg, 2010) that has got stirred into action, it is hard to assess whether the US were in the vanguard of this new movement. For example, in the early years of millennium the British government began to enforce, revamp and merge its international science policy activities and parts of its foreign services under the heading of the Science and Innovation Network (SIN), then to be coordinated inter-departmentally by the “Global Science and Innovation Forum” (GSIF) and enjoying strategic funding in alignment of the Millennium Goals and UK’s business interests, such as the British Low Carbon High Growth Initiative.Footnote4 As another example, in 2009 Germany’s Federal Foreign Office celebrated the so-called “Initiative on Foreign Science Policy” (“Außenwissenschaftspolitik”) with a huge conference that brought together over 300 elites from all over the world. Linking with the Hightech Stragegy (2006) and Internationalization Strategy (2007) of the Federal Ministry of Education and Research, this initiative was flanked by a series of funding programs: the founding of bi-national universities, several one-stop-shop houses abroad (“German Science and Innovation Houses”) that should market the different research (and funding) organizations under one roof on several innovation hotspots abroad, and the bilateral Centers of Excellence managed by the German Academic Exchange Service (DAAD) twinning German university research and postgraduate training with those of developing and threshold countries. A similar initiative was taken by Switzerland that invested into promotion activities under the label of “Swissnex”, also including the Swiss science and innovation houses. One could add many more examples of countries’ explicit agendas that have been newly set under the label science diplomacy. After, as it were, a formative phase of a new discourse on science diplomacy the concept has for more than ten years flanked numerous national and transnational policy initiatives (these and further initiatives of France and Japan were analyzed by Flink and Schreiterer, 2010).

Following the European Council’s decision of 26 July 2010, also the EU started to strategically interlink its newly set up European External Action Service (EEAS) with science, technology and innovation policy goals set by its respective Directorate General. In 2012, the European Commission explicitly introduces the term science diplomacy,Footnote5 before the EEAS adopted it in 2016 mainly acknowledging it as a soft power tool: “Science cooperation is a fantastic way to developing links of all kinds (human, political, business oriented…), and maintaining them when other kinds of direct relations are difficult (cf. Iran)”.Footnote6 Next to seconding attachés and counselors to external representations of strategic regional and thematic interests (ibid.; Rüffin, 2020) for observation activities and Framework Programme marketing, the European Commission’s Directorate General for Research is increasingly consolidating the EU’s geopolitical goals and strategic research and development goals, when it comes to negotiations with regions, such as the Middle East or new global superpowers like China and Russia. To fathom the potentials of science diplomacy while marketing the EU’s new interests and seeking for training possibilities, Directorate General for Research has recently funded three collaborative research and development projects.Footnote7

Interpretative schemas and narratives of science diplomacy

Science diplomacy and global challenges

It is almost common sense that human beings try to understand individual situations and actions by placing them into a coherent narrative, an explanatory framework that helps them to make sense of the complex social world they are situated in. Narratives can operate with spatial-temporal markers allowing for meaningful chronologies and directionalities. They also operate with conditional and causal explanations of actions that will or have happened, and often they contain categories of collective identities—we as opposed to them—to name some aspects (Lakoff and Johnson, 1980). When narratives of modernity contain an element of significant problems or crises, their story-telling is likely to imply clues of how to solve or overcome them.

The concept of science diplomacy is embedded in the narrative of a crisis, in fact a looming scenario in which the world is facing pressing and existential problems that do not only affect a single nation state anymore but the entire mankind. In adjacent discourses, this dramaturgy is known as ‘global challenges’ or ‘grand/societal challenges’ (Stone, 2020; Keenan et al., 2012; Flink and Kaldewey, 2018). The narrative of challenges builds on the idea that problems are never too big to fail but rather present a “challenge” that, once taken, one could even grow stronger with. However, these challenges require collective collaborative efforts if they want to be mastered. And here comes science diplomacy, a cherished solution to these challenges, promising to foster international understanding and a greater sense of collaboration between actors from different functional systems and states (Moedas, 2016; Müller and Bona, 2018; Turekian et al., 2015; Royal Society, 2010).

The fact that the concept of science diplomacy is born out of this projection has at least two defining implications. First, it evokes a sense of immediacy and urgency to act by pointing to world-spanning threats to human life and wellbeing (Royal Society, 2010; Müller and Bona, 2018) exemplified here by the Royal SocietyFootnote8 report:

“Science diplomacy is not new, but it has never been more important. Many of the defining challenges of the 21st century—from climate change and food security, to poverty reduction and nuclear disarmament—have scientific dimensions”. (Royal Society, 2010, first page of main text body)

The suggestion here is to conceive of this situation as ultimately hopeful and manageable with the unexpected virtue of what is called science diplomacy. Science diplomacy is presented as a response to these exact same challenges, if not a panacea. The second defining characteristic, therefore, is conveying a sense of competence and accomplishment in light of these urgent scenarios. In the face of a threatening future, science diplomacy appears as a sensationally empowering vision. In summary, the narrative of global challenges builds the very foundation for science diplomacy to appear as an indispensable remedy and a spark of hope. It prepares the ground for a dramaturgy of ability, reassurance, and (almost heroic) empowerment in the wake of seemingly intractable challenges. The current understanding of science diplomacy largely rests on a specific blending of visions, hopes and beliefs that respond to a shared description of challenges and threats.

Global challenges as collective action failure

That science diplomacy is narrated as a remedy to global challenges hinges on their specific framing and the properties ascribed to these challenges. Vaulting national borders, these problems are presented as elusive to traditional governmental control and regulation, and in that they particularly pose a problem to national accountability. Moreover, global problems are cross-cutting topic areas, e.g., climate change relates to questions of energy supply, poverty, migration etc. “This also means that impacts and responsibilities are not anymore to be found on a national scale. Rather, their transnational nature requires constructive engagement of stakeholders across borders and between policy levels”. (Aukes, 2020, p. 6) We can say that the different forms and expressions of global challenges (e.g., climate change; but also resource degradation, violation of human rights etc.) in the context of science diplomacy are presented in the logic of global negative externalities.Footnote9 Externalities are the unintended effects of self-interested individual activities on someone else or on global commons. They can be positive (beneficial) or negative (detrimental). The main feature of global commons is at the same time their main problem in terms of providing fair allocation and accountability:Footnote10 They are non-excludable (which makes it difficult to govern them; also referring to interconnectedness and transnationality) though rivalrous (which makes it necessary to govern them). This results in a collective action problem, which refers to the inability to yield compliance between self-interested actors in the absence of a world government ruling upon nation states.

In this respect, the narrative of science diplomacy relates to the problem of collective action failure (Olson, 1965; Hardin, 1968). While globalization opens up highly interconnected, transnational action contexts, national governmental actions bound to their own territory are rendered ineffective. Spill-over effects (negative externalities) would increase and could not be controlled (rewarded, restricted etc.) by single regulative systems (cf. Turekian et. al., 2015, pp. 1–2; Royal Society, 2010). As Diane Stone (2020, p. 1) puts it upfront in her new book:

“Global policy problems are […] very difficult, sometimes impossible, to solve for many reasons: first, incomplete or contradictory knowledge creating uncertainty; second, the number of countries, communities and other interests involved with quite disparate values; third, the multiple arenas for deliberation; and fourth, the interconnected nature of many global issues with other problems (Geuijen et al., 2016; Head, 2013). International policy coordination to deliver collective action and implement a set of genuine global responses is often slow and incomplete, while effectiveness is often driven by non-compliance”.

While collective action problems are common sense in the debate on global governance and many other scholarly and practitioners’ fields, science diplomacy promises to provide an unexpected and innovative solution: by calling in science. Science—more precisely, a specific view on science that advocates of science diplomacy hold—seems to perfectly address the two main conditions required by the specific problem-framing: complete information and trust. Science diplomacy not only constitutes a promise that scientific expertize and advice should serve foreign policy whenever complex international issues are to be dealt with (information requirement), such as climate change, pandemics, issues of non-proliferation etc. Also, science is regarded in all confidence as naturally adding to the level of trust—a logic of action that seemingly promotes disinterested and collaborative virtues in self-interested actors who would better cooperate on an international level. Accordingly, the ‘language of science’ is presented as a means to achieve higher-level policy goals, as it would foster collective action in the international arena, particularly on cross-border issues, and substitute classical means and styles of communication in foreign policy (Berkman, 2019; Copeland, 2016; S4D4C, 2018).

Collaborative science?

The narrative that science diplomacy would be capable of solving global challenges—all of them collective action problems—nurtures from the idea that science was a conscientiously collaborative endeavor. There are explicit statements that praise science diplomacy for “using science to rise above military conflict and political and cultural differences”. (Royal Society, 2010, p. 1; quoting Lorna Casselton). Overall, the discourse constantly repeats that science would foster trust, understanding and collaboration across borders. Thereby, it would help identify common goals, transcend national identities and provide arenas of exchange. The following quote exemplifies the role of science to identify common interests. It goes so far as to attest science with a “unifying power” in the wake of post-WWII era:

“In 1954, CERN, the European Organization for Nuclear Research was formed by twelve European countries, including Germany and Italy. These twelve nations signed on to promote the unifying power of science, both ideologically and pragmatically—bringing scientists together from countries that had been at war less than a decade previously, while sharing the increasing costs at the frontiers of nuclear physics research. Thus, modern science diplomacy among European nations was born out of both shared aspirations and a practical necessity”. (Moedas, 2016, p. 2)

Statements like these from the former EU Research Commissioner are cautious with contending overly explicit correlations between science and peace, but at the same time they are ambitiously suggestive. “The unifying power of science” is described to originate in a rather unavoidable side effect of a mundane requirement. It is claimed that science can even offset ideological chasms from the most atrocious wars ever fought: by raising pragmatic necessities. From this point of view, science diplomacy seems to bear an almost magic touch: Enmity, usually negotiated as a tragic and irrational trait of the human race, gets defeated (virtually on the side) by accommodating a pragmatic necessity to collaborate, which would be inherent to scientific research. In that, formerly overshadowed common interests are remembered, shared aspirations are identified, and even pragmatism and ideology unite in the frame of science diplomacy. Yet, common goals represented by science appear to be quite compelling rather than incidental: “When traditional forms of diplomacy have been exhausted and conflicting sides have not reached a common understanding, science diplomacy may offer a breakthrough, bonding them through a shared goal” (European Commission, 2019, p. 75). Scientists should thus exert a “bonding” or cohesive force that seems even strong enough to serve as a back-up in situations where actors differ substantially on a political level.

The second theme (transcending national identities) rests on the vague and simplistic ideaFootnote11 that scientists would have a dual, i.e., a national and scientific identity. Their scientific identity would allegedly set aside prejudices and affords collaborating with colleagues regardless of their provenance and worldviews. This theme has become almost emblematic for science diplomacy:

“During the Cold War, the development of organizations such as the International Institute for Applied Systems Analysis and scientific exchanges between American and Soviet scientists provided a critical connection between adversaries”. (Turekian and Lord, 2007, p. 769)

“Throughout history, science has been an effective means of bringing together political opponents that need to address a pressing common threat. For instance, cooperation between western and former Soviet scientists helped in mapping and assessing Soviet weaponry shortly after the fall of the Soviet Union, preventing a nuclear disaster. Thus, science can be used to move beyond ideological cleavages, gathering together people with very different worldviews”. (European Commission, 2019, p. 71)

Quite strikingly, this reputed capacity to move beyond political cleavages can only seize significance in this narrative, as long as scientists are still construed as different. Thus, we are dealing with a political construction that scientists actually have or maintain distinct national and/or cultural identities that seem conflictive from outside. Or put in other words, the purported non-ideological, a-political and therefore collaborative virtues of science assume significance only in a profoundly political setting.

This brings up a principal flaw in the science diplomacy concept, hitherto woefully ignored in the discourse. The narrative offers the outlook that political conflicts can be overruled by genuinely ‘scientific’ (e.g., disinterested and rational) attitudes. Being educated and socialized as a scientist, individuals would have seized collaborative virtues and shaken off all appraisement of values related to national, local, cultural, racial and religious provenance. Science serves as an allegory for the universal human motivation and pursuit of reason. Scientific disinterestedness is expected to act as a unifying point of orientation deliberately opposing competing national interests. Science is used emblematically for communism, universalism, and disinterestedness, but in a deeply political context: to counter what are considered the deficiencies of politics; divisiveness, opposition, and self-interestedness. In that, the discourse principally turns “retro” by alluding to The Normative Structure of Science (Merton, 1973).Footnote12 It is necessary to recall that Robert Merton’s original cause was to inquire—and later attest—that science could only thrive in democratic societies due to corresponding but not interfering social principles. And still, as Merton himself was fully aware of, norms should not be taken for reality, and hardly can they function as an empirical foundation that science was in fact a genuinely collaborative endeavor undertaken by socially care-taking altruists, as is portrayed in the discourse of science diplomacy. Therefore, what the narrative actually bears on in the first place is a permutation of a normative ideal surging on historical examples that are being taken out of context with real circumstances.

Apart from misinterpreting scientific norms as a practical reality and incorrectly taking them at face value, a second fallacy regards neglecting the fact that these norms were primarily meant to apply to a methodological context, i.e., they are confined to the process of generating and validating knowledge. In the context of science diplomacy, however, these methodological principles are exploited to call for transformative effects in politics. While there is no doubt about the fact that some forms of scientific cooperation among conflicting nations can allow new perspectives on each other and open up channels for communication, it is an erroneous conclusion to ascribe these effects to a somewhat compelling cooperative attitude of science. Fierce competition, hierarchy, patronage, reputation games (Latour and Woolgar, 1986), chauvinism and elitism (Musselin, 2013), scientific misconduct, arbitrariness in peer judgements (Lamont et al., 2006), a “global war on talents” (Michaels et al., 2001) and national ranking games (Lynch, 2015), as well as a huge gap between the Global North and South as to possibilities of taking part in the world science system (Bradley, 2008; Wagner, 2009), to name but some other social aspects of science that de facto exist, all seem to be far away from what the discourse on science diplomacy envisages as science. Science diplomacy is rooted in the idea of science to be non-ideological and due to that able to pacify and advance the course of action in politics (Royal Society, 2010; Colglazier, 2017). This does not only stretch the original idea of scientific principles on the one hand, but also reveals a highly simplistic idea of the nature of political conflict on the other.

The myth of rationalizing politics

Whereas the discourse on science diplomacy narrates the story of science being a-political, it is twisting science to unfold political authority. Scientific collaboration should become a standard for political behavior in international arenas, even to the point that political conflicts could be settled on the grounds of scientific values and principles (European Commission, 2019, p. 71). In that, science diplomacy vaguely alludes to longtime debates about the standing of science vis-à-vis society. Without any explications or cautious scrutiny, hopes rest on the presumption that science could permeate politics and override futile partisan politics.

“Like some proponents of science diplomacy, I am rather an optimist, perhaps too much so. My optimism is based on science playing an influential and positive role in human affairs, including in diplomacy and foreign policy. It often translates into a worldview, rooted in the Enlightenment, that human history is predominantly a story of continual upward progress that benefits all. […] Nevertheless, science diplomats are realists and recognize that politics is a more powerful force than science, at least in the short run”. (Colglazier, 2017, p. 1)

Despite all ascribed modesty or realism to science diplomats, the discursively expressed expectations on the role of science in society are obviously high. Science is meant to play an “influential role” in politics and might eventually overrule and supersede politics:

“It is time for the scientific community to increase its role in diplomacy—and maybe even take the lead. Nongovernmental scientific organizations are more credible, more nimble, and—as honest brokers—in many cases more respected than the U.S. government overseas”. (Turekian and Lord, 2007, p. 770).

It is this pervasive confidence in the powers of science to accommodate political conflict that composes the optimistic tapestry of sound of science diplomacy. This optimism seems to be particularly based on a specific understanding of how science relates to society and politics. While advocates of science diplomacy remain almost entirely silent about the fact that scientific research depends on political regulation and distributions of public funds, they lean on the notion that science informs policymaking, as was e.g., captured by the metaphorical figure of the ‘honest broker’ (Pielke, 2007). Accordingly, scientists or scientific organizations are meant to act as unselfish and therefore credible facilitators in politics. At the same time, however, they are not supposed to touch upon grand policy goals. Science as an honest broker does not advocate for or against a policy alternative. As congenial as this may sound, however, the discourse takes a role model for reality, and no matter what status, it would still remain highly presuppositional and conceptually problematic. If we follow Roger Pielke, the positive sides of policy, “a commitment to a particular course of action”, should be distinguished from the negative sides of politics, i.e., “the process of bargaining, negotiation, and compromise that determines who gets what, when, and how” (ibid., 2007, p. 31). The latter would also stand for the abysses of the everyday political struggles that threaten to obstruct and “overshadow policy” (ibid., 34). On the grounds of this distinction rests the illusion that the political realm (e.g., diplomacy) can be rationalized and enhanced via science, while landmark decisions remain in the peoples’ power. In this, the idea of the honest broker is to draft a middle ground for the role of science in politics between the two theoretical extremes, technocracy and decisionism. However, the extremes are in fact not truly mediated, but only split up and projected onto the previously differentiated realms of policy and politics: Scientification and technocratization are strongly cherished on the operational administrative level, while decisionism is preserved on the higher-order policy level.Footnote13

Science diplomacy assumes that politics and policy could be differentiated to eliminate political conflict on the operational level by scientific reason. The discourse actively promotes a favor for scientists to serve in and replace genuinely political positions—or what is called “science diplomats”. One of the first publications spreading the term science diplomacy was dubbed with “Scientists are among America’s most effective diplomats” (Turekian and Lord, 2007). However, apart from the fact that this distinction between politics and policy is merely a conceptual one, the idea that science can rationalize the level of politics is similarly hypothetical. As the Social Studies of Science have empirically shown many times, even if all involved actors are strongly committed to rationalizing decision-making processes by providing scientific evidence, dissent and conflicts tend to shift to the level of how to include what kind of knowledge etc. (e.g., Jasanoff, 1990; Sarewitz, 2000; Weingart, 1999). But Social Studies of Science do not give evidence that including scientists or scientific expertise would systematically shorten, simplify or ameliorate decision-making processes. Quite to the contrary, scientific knowledge increases uncertainty by raising awareness of the actual status quo and the very limits of knowledge, of increased complexity inherent to facts under investigation and of increased options for decision-making that entail unforeseeable consequences (Beck, 1992; Böhme, 1997). This is not to say that science should keep its hands off politics. But science cannot relieve from the burden of insecurity and complexity—conditions appertaining to any major political decision-making process. Science can inform political disputes, but it cannot settle them.

The invisible hand of science

That messy politics could be rationalized by science to develop better policies, is one myth within the narrative of science diplomacy. The second myth expresses the hope that stakeholders’ interests will somewhat magically converge—and conflicts around the globe dissolve—, if only science was more dominant and influential in international affairs. These virtuous effects of science in society remind of the idea of Adam Smith’s (1776) “invisible hand” that benefits will be most far-ranging to society, if institutions like Adam Smith’s economic market—or in our case science—would unfold self-regulatory forces among their self-interested participants. Science, as in science diplomacy, is held to provide a similarly tacit and built-in vigor that promotes the common good out of its own and regardless of actors’ individual motivations. Certainly, science diplomacy does not advocate against political intervention and regulation, but it ranks the merits of scientific reason as a social force of its own. Right from the beginning of the public discourse on science diplomacy, its advocates and endorsers claimed that the concept would comprise the entire spectrum of different motivations: narrow strategic state interests, as well as the unselfish pursuit of the global greater good seem to harmonize effortlessly as one (Turekian and Lord, 2007; Turekian et al., 2015; Gluckman et al., 2017). Science diplomacy ranges from “protecting and advancing state interests”, particularly the improvement of a state’s image in the sense of ‘soft power’, to working “on global problems such as energy, clean water, and health” (Turekian and Lord, 2007; S4D4C, 2018; López de San Román and Schunz, 2018). Conflating different categories of motives is not a trivial side effect but has developed into a flagship feature of science diplomacy understandings. Things would fall into place, if only science took a more pervasive and predominant stance in global affairs and on all political levels.

In fact, it is one of the major promises of science diplomacy that self-interested and altruistic ambitions (redefined as “direct” and “indirect national interests”; Gluckman et al., 2017) would not contradict but even reinforce each other for the benefits of humankind. Many speech acts are eager to point out that science diplomacy includes as well narrow, strategic ends, e.g., securing economic and innovative competitiveness (Copeland, 2011, Royal Society, 2010). Hedging talents from abroad and running in the global footrace on innovation leadership, it is argued, would contribute to progress in the long run—almost a classic from National Innovation System’s research (e.g., Nelson, 1993; Sharif, 2006) that gets raked up by advocates of science diplomacy. This notion is echoed by another prominent reference published by a small group of chief science advisors to prime ministers and foreign ministers,Footnote14 who came up with their own “utilitarian framing” of science diplomacy, in comparison to the “traditional taxonomy” of the Royal Society and AAAS. This publication can be regarded as a reaction to the critique that the discourse on science diplomacy would have ignored the competitive elements of science, technology and innovation policies, and so their simple twist is to frame all self-interested competitive aspects of science, technology and innovation as being beneficial to society, as long as this happens through the means of science.

The soft power paradox

The term science diplomacy used by administrations is mostly employed in the sense of a ‘soft power’ (Nye, 1990, 2008) tool that belies its very promises with regards to strengthening collective action around the globe. In this context, science diplomacy is linked to the rather traditional intention of expanding the realm of influence and securing national and regional advantages. For example, the last European Research Commissioner Carlos Moedas, repeatedly praised science diplomacy for contributing to the EU’s effort “to carve out a more political role” and its “global ambitions” (Moedas, 2016), which effectively translates into “a more influential and powerful role” (cf. European External Action Service, 2016; “principled pragmatism”). The Global Strategy of the EEAS from 2016 can be considered the first EU document that explicitly adopts science diplomacy as a foreign policy tool, gushing out statements of a critical security situation: “We live in times of existential crisis. […] Our Union is under threat” (European External Action Service, 2016, p. 7). The predominant concern in this context is “to make Europe stronger: an even more united and influential actor on the world stage that keeps citizens safe, preserves our interests, and upholds our values”. (European External Action Service, 2018, p. 1). Against this background, it does not come as a surprise that science diplomacy is resized and ranged in as one tool of many to serve overriding EU power and security concerns. This dominant logic of action even stretches into other areas of competence. With explicit reference to science diplomacy, Moedas noted:

“At a time of great political uncertainty—exacerbated by the sovereign debt crisis and the sensitive political and humanitarian consequences of nearby conflicts in Ukraine and Syria—the commission must demonstrate clear political leadership in the interests of Europe” (Moedas, 2016).

As part of a soft power tool, science diplomacy is also charged with promoting values that are not as universal as they are claimed to be. In some cases, the speech acts promote liberal values and democratization in a rather unreflected, almost neo-imperialistic manner. At least in the US context, the use of the term science diplomacy reflects rather direct intentions to influence and shape other parts of the world (“create citizens”, nota bene non-US citizens!) in order to serve US interests.

“If we understand public diplomacy in these terms, the role of S&T is pivotal. Scientific education creates citizens with the critical thinking skills necessary for successful participatory governance and competition in the global economy”. (Turekian and Lord, 2007)

Here, it is worth turning to Joseph Nye’s (2017) self-critical revision of his almost inflationarily used concept of ‘soft power’—in a double sense. First, the trajectories of ‘soft power’ illustrate how an analytical term, introduced by Nye (1990) in his book Bound to Lead: The Changing Nature of American Power, can turn into a political concept hallowing no matter who’s intention “to affect others by attraction and persuasion rather than just coercion and payment”. Second, ‘soft power’ just, as well as ‘smart power’—another of Nye’s often-used terms (2008) illustrating the combination of coercion and payment with charm offensives—gets twisted by policy practitioners into something normative, whereas Nye never claimed that these terms would describe actions to be borne by higher grounds. They are simply observable means in politics, especially foreign affairs, to win a “contest of competitive credibility” vis-à-vis others (Nye, 2008, p. 100). In this respect, the promising vistas of science diplomacy, i.e., getting academics to engage in unselfish international collaborations, is no more than a subordinate to national interests in a global footrace on geopolitical advantages.

Conceptual reflections on science diplomacy

The different threads, means and purposes of science diplomacy, discussed and marketed in public policy during the first ten years of the millennium, got deftly engraved by policy practitioners with reputational organizational backing to form some sort of a standard definition (Royal Society, 2010) containing three dimensions: (i) diplomacy for science, (ii) science for diplomacy, and (iii) science in diplomacy and diplomacy for science. Quite strikingly, the three dimensions comprise but every form of interaction between science and international policy possibly imaginable and considered to yield positive results. Whereas definitions are required to be distinctive, essentially excluding, non-circular and non-obscuring, we are in fact dealing with a catch-all-phrase that enables actors to do the exact opposite. They can either argue that science diplomacy was all-inclusive and rectify that any action related to international science and foreign politics was of—or should occupy—moral high grounds. Or they can emphasize that specific actions have been—in retrospect—or are currently being part of such august calling. This conceptualization serves more as a rhetorical game: Instead of defining what science diplomacy is in an analytically unambiguous way, it is rather an invitation to interrelate two spheres in an unsystematic and inconclusive way (not included are ‘diplomacy against science’, ‘diplomacy in science’) without further defining the spheres themselves (Rungius et al., 2018). This implies the framing of activities under the guise and allusion of being scientific, such as by conferences with panels, poster sessions and awards, a strong emphasis of academic titles to signal actors’ merits, their belonging to science, no matter if their expertise is up-to-date, and not least by use of scientific media, such as journalsFootnote15 and publishing styles respectively.

The concept builds an image of scientificity by showing systematic efforts of defining how science diplomacy should be comprehended, yet is barely helpful in analytical terms and “far from being stable and clearly defined” (Trobbiani and Hatenboer, 2018, p. 3). Both key elements of the concept, i.e., ‘science’ and ‘diplomacy’, are employed associatively but without further elucidation. Nowhere can we find clarifications within discourse what is actually meant by diplomacy: Is it an action, an art, profession or occupation, does it have to take place somewhere specific, such as in foreign ministries, embassies or permanent representations, does it entail the so called ‘protocol’, symbolizing a convention of nation states (and other international organizations) to reciprocally acknowledge sovereignty in an “organized conduct of relations” (Adler-Nissen, 2015, p. 92; compare Bjola and Kornprobst, 2013)? Does diplomacy refer to specific forms of communication, e.g., a noncommittal consenting language, or a “choreography of diplomatic intercourse” (Jönsson, 2016, p. 84) or simply a style of non-committal communication? These questions are left unanswered or answers are variable at will. The same holds for science: in light of about 50 years of Science And Technology Studies, presenting science as a singular and essentialist given is pointless and old-fashioned. But even if we acknowledge that proponents of science diplomacy employ the term ‘science’ in an ordinary way, the most simple questions would still remain unanswered: Does it denote a specific logic of action, a set of standards, a profession or rather a community of actors? Is science, if in theory or practice, the same everywhere around the world? Are social sciences and humanities to be included? Would proponents of science diplomacy call any communication between academic researchers from different countries an act of science diplomacy?

Another recurring theme in the literature to define and illustrate science diplomacy is reinterpreting historic cases of science collaboration (Moedas, 2016; Royal Society, 2010; Berkman et al., 2011, Berkman, 2019; Neureiter, 2011). International science collaborations are retrospectively presented, relabeled, and retold as examples for the alleged legacy and future prospects of science diplomacy. This discursive strategy reaches back to the past five to seven decades, usually relating to the early post-WWII era. In some cases it goes as far as to reinterpret “the enlightenment” “as an admirable time for European science diplomacy” (Müller and Bona, 2018, pp. 1–2). Within the European context we regularly find references to CERN, the European Organization for Nuclear Research (Moedas, 2016, p. 2). In the global context another historic case often cited as a prime example is the 1959 Antarctic Treaty. It was concluded by the Soviet Union and the United States during the heights of the Cold War (Berkman, 2019; Royal Society, 2010). The following sequence is only one example that shows how past events are reframed as beacons of a history of science diplomacy.

“Why did the 1959 Antarctic Treaty become the first nuclear arms agreement? What enabled the US and the Soviet Union to establish the region south of 60° south latitude for peaceful purposes only? Answers to these questions underlie the origin of science diplomacy, with its deep roots through history, especially after World War II. The global precedent of the Antarctic Treaty embodied six ‘matters of common interest’ with science as the keystone, establishing a ‘firm foundation for the continuation and development of such cooperation on the basis of freedom of scientific investigation in Antarctica as applied during the International Geophysical Year’”. (Berkman, 2019, p. 64)

Without providing any further definition, the term science diplomacy is presented as something that has a long history and deep roots. Science diplomacy is pictured as if pervading the history of international conflict. Examples from the past on what can nowadays be associated with science diplomacy thus serve on purpose as a naturalistic fallacy to confirm its relevance. They presage that science diplomacy carries a claim that is bigger than merely the relevance of science and diplomacy interfaces. Such historicization conveys an almost dramatic promise that rests on the projection of particular interpretations of past events into the future.

The term science diplomacy is often employed as some kind of an incantation, a mantra that undergird protest against menaces to collaborative science and against reason that seem to correlate with the new rise of populism and nationalistic voting public, as well as with national-egoistic geopolitics. In response, science diplomacy is used to indicate righteous attitudes, i.e., social openness, integration, right-minded communication and scientific reason wherever possible. During conferences and in social media communication, one often notices statements pertaining to a wide variety of generally science-related topics that endorse the relevance of science diplomacy. One cannot but conclude that the concept has been inflated toward becoming a “catch-all phrase” (Trobbiani and Hatenboer, 2018, p. 3) of public engagement in and for science.

Conclusion

While science diplomacy has been thrusted into public policy discourse about fifteen years ago, the concept promises to have legs given its proliferation and dispersion across countries and various kinds of organizations. Acknowledging the concept’s sudden appearance and uncontested fittingness to science, higher education and foreign policy that we found astonishing, our aim was to reconstruct the main undergirding interpretative schemas of science diplomacy and its narrative. After its emergence in the first years of the millennium, as part of marketing campaigns of foreign, science and higher education policies, science diplomacy has become part of a narrative of global threats and challenges that call for collective measures of various actors across national borders. To tackle these challenges and avert such threats, diplomacy is held necessary, but traditional forms are being depreciated as defective. This is where science is called upon: to take on the role of an undeceived and considerate, rationally superior and diligent actor countering all sorts of deficiencies that national politics would be carrying along: divisiveness, opposition, and self-interestedness. The proposed solution, an impregnation of diplomacy by science, rests on an idealized, modernistic understanding of science as an uncorrupted and august pacemaker of change and progress toward the positive, not least promising the tacit, almost miraculous percolating of cooperative scientific values into politics. Different worldviews, norms and “ideological cleavages” seem to be trumped by the allegedly practical orientation, objectivity and other collaborative virtues of science, an idea we termed “the invisible hand of science”. As part of a myth of rationalizing politics, science is even twisted into becoming a political authority of its own, while science diplomacy would offer an adequate opportunity.

Whilst remaining silent about the mechanisms how the concept would produce its alleged effects, the discourse on science diplomacy seems to have stabilized via associative rhetorical strategies. Definitions are used that are, in fact, circular and non-negatable, in combination with exemplifications that hardly exceed the anecdotal level, no matter if heroic historical or current cases are employed. The discourse has idealistically transfigured an image of science, in particular regarding its social dimensions, that has never or only partly existed. In contrast, advocates and endorsers do not use the discourse on science diplomacy to reflect on the profound societal interventions they wish to see, in particular with respect to the expected impregnating role onto science, nor on the paradoxes regarding the implementation of science diplomacy as a soft power tool. In the paragraph we called the ‘soft power paradox’, a strong inconsistency became manifest: While science is cherished for being non-political, this property was to be instrumentalized as a form of ersatz diplomacy, i.e., it is being used for political purposes that essentially revolve around interests and power.

In general, neither real circumstances in, but idealistic norms of, science and politics are used in cross reference to stabilize the concept of science diplomacy. The question is—what’s happening next to science diplomacy? First, it is likely that advocates of science diplomacy continue to showcase ample positive examples from the past and the present, which will enlarge the concept’s application and, by inflationary use, the likeliness of its decline. Before that, however, its proponents might need to cope with the fact that more and more non-democratic governments can take to science diplomacy too for window-dressing their activities in the name of science. As the European Union is currently acclaiming its own values in a geopolitically tensioned situation, the idealistic norms of science and politics that the discourse on science diplomacy is bearing on can be easily disavowed as either inexistent or chauvinistic and condescending.

### AT: FON

#### Freedom of navigation fails---China will never disagree with our interp, trying to impose it ensures conflict

**Smith**, research fellow at the Heritage Foundation in Washington, D.C., **‘2/16/21**

(Jeff “Biden Must Keep Challenging China on Freedom of Navigation,” Foreign Policy)

Few foreign-policy challenges confronting the Biden administration are more daunting than China. With recent headlines drawn toward trade wars, repression in Hong Kong, COVID-19 conspiracy theories, the intimidation of Taiwan, concentration camps in Xinjiang, and the China-India border crisis, it’s easy to forget that the South China Sea, despite being quieter than it was in the mid-2010s, remains one of the most controversial and volatile disputes in U.S.-China relations. The two countries’ **differences over freedom** **of** **navigation** in the vital waterway **constitute the only bilateral dispute** that has **repeatedly produced** **hostile or** **dangerous** **encounters** between Chinese and U.S. military platforms in **close** **proximity with** **escalation risks.**

Over the past decade, a series of **provocative Chinese claims** and actions in the South China Sea have opened a **gaping geopolitical fault line with the United** **States**, including its unlawful nine-dash line claim, its occupation of the disputed Scarborough Shoal, its creation and militarization of seven artificial islands in the Spratlys, and its use of a vast maritime militia to bully and coerce its neighbors. But **it is** **Beijing’s attempts to restrict freedom** **of** **navigation** in the South China Sea, particularly for U.S. warships, that has generated the most concern in Washington and provoked the most robust policy response.

The U.S. Freedom of Navigation operations (FONOP) program, which sees U.S. naval vessels challenge “unlawful and sweeping maritime claims that are inconsistent with customary international law,” was bought from obscurity into international headlines in the mid-2010s when China began construction of its artificial islands in the South China Sea.

After a hiatus of several years, the Obama administration began conducting FONOPs near Chinese outposts in 2015. The number of annual FONOPs in the South China Sea swelled under the Trump administration, prompting mounting anger from Chinese officials who deemed U.S. operations as “blatant navigation hegemony” and a “military provocation.”

The Biden administration is expected to continue regular FONOPs in the South China Sea, but the pace of operations and the Chinese claims challenged are up for debate. As U.S. President Joe Biden deliberates his South China Sea strategy, the administration should recall and avoid some of the stumbles that characterized the Obama administration’s early FONOP policies. Operations should be regular and routine, ideally at a pace of at least two per quarter, in addition to being depoliticized and not sensationalized. Finally, FONOPs cannot be viewed as a bartering tool to solicit Chinese cooperation in other areas: Freedom of navigation must remain nonnegotiable.

Since 1979, the U.S. Defense and State Departments have jointly run the FONOPs program, which challenges maritime claims the United States finds inconsistent with international law. China is far from the only country targeted by the program. In 2019, the U.S. government used FONOPs to challenge unlawful claims of 22 countries. However, since the construction of China’s artificial islands in the mid-2010s, U.S. FONOPs in the South China Sea have attracted greater international attention and greater Chinese ire.

Based on publicly available information, the United States conducted one FONOP directed at excessive Chinese maritime claims in 2015, three in 2016, four in 2017, six in 2018, eight in 2019, and nine in 2020, although the number of actual FONOPs may be higher than those publicly reported. In 2019, U.S. FONOPs challenged a variety of unlawful Chinese claims in the East and South China Seas, including China’s demand that foreign warships obtain prior permission from Beijing for “innocent passage” through China’s territorial sea.

China’s Ministry of Foreign Affairs claimed U.S. FONOPs have “gone beyond the scope of freedom of navigation. It is a political provocation, and the purpose is to test China’s response.” U.S. freedom of navigation “is actually deprivation of others’ freedom,” according to China Military, a publication run by the Chinese military, and an excuse “for its gunboats to run wild in other country’s territorial waters.”

In public, Chinese officials often claim Beijing would never seek to restrict freedom of navigation in the South China Sea.

In public, Chinese officials often claim Beijing would never seek to restrict freedom of navigation in the South China Sea. “When has freedom of navigation in the South China Sea ever been affected?” asked Adm. Sun Jianguo at a 2016 closed forum. “It has not, whether in the past or now, and in the future, there won’t be a problem as long as nobody plays tricks.”

However, Chinese scholars and officials, including Sun, have repeatedly revealed that when they speak of freedom of navigation, they refer only to commercial vessels, not military vessels. “China doesn’t believe the United States’ military surveillance and reconnaissance in China’s exclusive economic zone is freedom of navigation,” said an opinion reporter for China Daily. “No freedom of navigation for warships and airplanes,” added Chinese Ambassador to the Philippines Zhao Jianhua.

This is not merely a rhetorical dispute. Since the turn of the century, Chinese ships and aircraft have repeatedly harassed or intimidated U.S. military vessels operating lawfully in China’s 200-nautical-mile Exclusive Economic Zone (EEZ) and 12-nautical-mile territorial sea. International law grants China exclusive economic rights in its EEZ but not the right to regulate most foreign military activities. And although China can demand prior authorization for foreign military operations in its 12-nautical-mile territorial sea, it must respect the right of “innocent passage” for foreign warships there.

Disputes over freedom of navigation are not new to U.S.-China relations. Beijing has long objected to U.S. “close in surveillance” activities near Chinese territory despite U.S. operations adhering to international law and the United Nations Convention on the Law of the Sea (UNCLOS). (China, which helped draft UNCLOS, ratified the convention in 1994. The U.S. Senate has not ratified UNCLOS, but U.S. policy recognizes and aligns with UNCLOS’ provisions on maritime entitlements and freedom of navigation.)This rift was exacerbated by China’s construction of artificial islands in the South China Sea.

In late 2013, China began dredging what would eventually be thousands of acres of sand on seven disputed rocks and low-tide elevations in the Spratly Islands, transforming the features into seven large, militarized artificial islands. However, it wasn’t until early 2015 that they were drawn into the international spotlight when the Asia Maritime Transparency Initiative published high resolution satellite images of the growing Chinese outposts.

National security experts quickly began calling for the Obama administration to conduct FONOPs within 12 nautical miles of the artificial islands, correctly predicting China would seek jurisdiction around the outposts inconsistent with international law, including attempting to restrict U.S. freedom of navigation.

Yet, **Washington deliberated for months**. In June 2015, Daniel Russel, the U.S. assistant secretary of state for East Asian and Pacific affairs, sent a peculiar and confusing signal by saying, “As important as [the] South China Sea is … it’s not fundamentally an issue between the U.S. and China.”

The long deliberation prompted an escalating game of diplomatic chicken with Beijing. “China will never tolerate any military provocation or infringement on sovereignty from the United States or any other country, just as the United States refused to 53 years ago [during the Cuban Missile Crisis],” according to the China Daily in 2015. “This is our backyard; we can decide what vegetables or flowers we want to grow,” said Senior Col. Li Jie of the People’s Liberation Army Navy’s Military Academy.

In September 2015, for the first time, Chinese naval vessels entered U.S. territorial waters following a naval exercise with Russia, passing through Alaska’s Aleutian Islands precisely as the state was hosting a rare visit by President Barack Obama. The following month, a senior Chinese military official told Newsweek, “There are 209 land features still unoccupied in the South China Sea, and we could seize them all.”

Eventually, the Obama administration called China’s bluff. In late October 2015, the USS Lassen conducted a FONOP near Subi Reef, one of China’s artificial islands in the Spratlys. However, **even** **that delayed operation drew criticism**. With several Chinese artificial islands and several forms of FONOPs to choose from, the administration opted for exercising innocent passage within 12 nautical miles of Subi Reef, “the weakest type of FONOP the U.S. could have chosen,” according to international law expert Julian Ku. “And to make matters worse, limiting the FONOP to innocent passage could actually strengthen China’s sketchy territorial claims in the region.” Even sympathetic experts found the FONOP to be “poorly managed” with a **“lack of clarity**” and potentially a “huge blunder.”

In the years to follow, FONOPs in the South China Sea **became more robust and routine**, but the **hesitation** and seeming **politicization** of the first operation risked feeding the impression that freedom of navigation was **negotiable**. Ely Ratner, former deputy national security advisor to then-Vice President Joe Biden, has argued the United States was insufficiently resolute in its response to early Chinese provocations in the South China Sea, **resulting in “incremental gains” for China as a result**.

## 2NC – Round 4

### K

#### 2. Discourse determines the boundaries of nuclear policy debates. Current experts take nuclear weapons as given for “strategic security,” which directs all “deliberation” towards the goal of nuclear stability.

Ray Acheson 21. Director of Reaching Critical Will, disarmament programme @ Women's International League for Peace and Freedom (WILPF); Member, steering group, International Campaign to Abolish Nuclear Weapons (ICAN) (winner, 2017 Nobel Peace Prize); MA, Politics, the New School for Social Research; Visiting Researcher, Princeton University's Program on Science and Global Security. “Reclaiming Our Time: Changing Discourse, Changing Minds.” Chapter 3 in *Banning the Bomb, Smashing the Patriarchy*. Rowman & Littlefield. 2021.

This is how some of us felt at the 2010 NPT Review Conference when language about the humanitarian consequences of nuclear weapons was successfully included in the outcome document. A paragraph, unprecedented in nuclear weapon agreements, expressed states’ parties “deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons,” and reaffirmed “the need for all States to comply with international humanitarian law at all times.”

To have such language included in the outcome of a meeting his- torically and habitually controlled by the nuclear-armed states to reflect and reify their worldview and their interests was rather extraordinary. It was a moment of quiet, subversive victory for those of us who had spent years or even decades working within that sometimes soul-crushing, otherworldly space of nuclear-armed mythologies. For those who have not bought into the “falsely obvious”2 beliefs of the magic of nuclear deterrence, talking about nuclear weapons in humanitarian terms in an NPT document was like a glimpse of reality disrupting an otherwise steadfast traditional narrative of unreality.

This language didn’t come out of the blue. It was based on years of activism and academic research of decades past. The collection of baby teeth in the 1960s proving children across the United States were being affected by nuclear testing in the Nevada desert; scientific studies on “nuclear winter” and the resulting global famine; books such as On the Beach depicting how radioactive fallout would spread across the globe— all of these provided information about the dangers of nuclear weapons to humanity and our planet. But this was not the dominant discourse at intergovernmental meetings about nuclear weapons. Those meetings were, as described in the previous chapter, dominated by countries with nuclear weapons talking about “geopolitical stability” and “strategic security.” The minutia of those meetings is rarely reported in the media, but the discussions there set the stage for the policies of Moscow and Washington. The idea that nuclear weapons are essential to security is treated as gospel and justifies the massive investment in these weapons.

But, that’s the thing about discourse shift. You have to be willing to put out unconventional ideas and carefully, methodically build the case for them, with the cooperation and coordination of others. Mainstream discourse on any subject reflects and reinforces relations of power “by reproducing accepted ways of being and acting in the world and silencing others.”3 Discourse shapes our understandings of what is “appropri- ate”—it sets the boundaries of what can be said and how it can be said. It determines “truths” that control “how actors, events, and desired outcomes are defined and interpreted, and what information or knowledge is considered ‘real,’ legitimate, and therefore relevant.”4

Seyla Benhabib says that to deconstruct a discourse, one needs to show that what appears as a given is not a “natural fact” but a “historically and socially formed reality.”5 Discourse can become solidified or naturalized as social facts and, thus, become resistant to change. But if different interpretations and approaches emerge, the dominant discourse may be able to be splintered. The very act of contesting and challenging dominant narratives helps this splinter, opening up space for change to take shape. New understandings or practices can develop in response to this contestation and splintering. This process can involve rhetorical shifts by powerful players—for example, the language Obama was using in 2009 about the “peace and security of a world without nuclear weapons.” But rhetoric from those in power, as we have seen, can easily be accompanied by and even serve to mask opposing policies. We can’t rely on those possessing nuclear weapons to lead the way. Time and history have clearly shown that change would have to come from elsewhere.

This chapter looks at the resurgence of a conversation about the humanitarian and environmental impacts of nuclear weapons, which Norway, Switzerland, and others initiated in 2010. To contextualize this advancement, this chapter also explores the history of previous efforts to get international humanitarian law to address nuclear weapons and to delegitimize nuclear deterrence theory. It examines multiple UN-based efforts to advance a new narrative on nuclear weapons and the conse- quent pushback from nuclear-armed states.

DEVALUING NUCLEAR WEAPONS AND DEBATING DETERRENCE

In his history of scientific revolutions, Thomas Kuhn argues that each shift in science is hard to come by, due to resistance of scientists to let go of existing theories.6 Students study the precepts of paradigms to prepare for membership in the community with which they will later practice. Each person whose research is based on these shared paradigms is com- mitted to the same rules and standards. When scientists, as a community, are confronted with information that is inconsistent with the collective understanding of how the world works, these challenges generally are met with broad resistance. Even when confronted with “severe and prolonged anomalies,” they are unlikely to renounce the paradigm that has led them into crisis until they have a new theory ready to take its place.7 They may experience cognitive dissonance, a psychological stress in which they hold thoughts or beliefs they know to be untrue because nothing else fits with their view of the world, until it can be explained in a way that is broadly acceptable to the community.

This kind of shift in nuclear weapon theory arguably took place— and is still taking place—with the development of the humanitarian initiative, which, as one of its diplomatic progenitors says, “emerged as perhaps the most serious challenge to the nuclear deterrence orthodoxy.”8 This initiative began with the introduction of language about the “catastrophic humanitarian consequences of nuclear weapons” in the 2010 NPT Review Conference final document. It then grew through three international conferences on humanitarian impacts, multiple joint statements at various intergovernmental forums, and a concerted effort by a core group of activists, academics, and diplomats to shift the nuclear weapon discourse from abstract security policy to the concrete humanitarian and environmental consequences of nuclear weapons. The humanitarian initiative challenged the acceptability and legitimacy of nuclear weapons and the policy of nuclear deterrence by reinvigorating discussions and studies on the effects and risks of nuclear weapons. Although such analysis in itself is not new, the paradigm shift is reflected in how this information was presented and used: it was intended to pointedly disrupt the nuclear deterrence myth and lay the foundation for a revolt by nonnuclear-armed states to change international law.

#### That explains 70 years of irrational, uncritical faith in a paradoxical strategy of deterrence.

Weiner, '23 – Associate Professor at the School of International Service, American University (Sharon K. Weinern; "The Ethics of Choosing Deterrence"; Cambridge Core; https://www.cambridge.org/core/journals/ethics-and-international-affairs/article/ethics-of-choosing-deterrence/3D92A83A6C0BCBEAC55B69F8CBC74CAC; 4-1-2023; NC)

Once free from office, General Lee Butler, a former head of Strategic Command—the military command in charge of the nuclear arsenal—described deterrence as a “false god” that was “premised on a litany of unwarranted assumptions, unproveable assertions and logical contradictions. It suspended rational thinking about the ultimate aim of national security: to ensure the survival of the nation.”Footnote24 Deterrence advocates would argue that these flaws are needed to make the theory whole and serve to make deterrence credible. Without this “rationality of the irrational,” as Herman Kahn phrased it, a state's threat to essentially commit suicide would not be taken seriously.Footnote25

If there is to be an ethics for the threat to use nuclear weapons to secure the state, its allies, and their interests, that ethical construct should be based on realistic assumptions about human behavior and rationality. Deterrence, instead, relies as least partially on luck. It is at best a relationship based on the hope that each side understands what the other values; can interpret the actions of others and correctly convey its own intent; and that other events, goals, and extraneous matters do not cloud judgement. Deterrence also assumes away the decision-making heuristics and other shortcuts that characterize human behavior. We hope that decision-makers will be rational even though we have a surfeit of evidence to the contrary, especially with respect to crises.

If, in spite of these flaws, deterrence remains a nuclear strategy, in a democracy this should be a choice embraced by society and based on its informed consent. If avoiding nuclear annihilation is a function partially of luck and idealized human behavior, people should agree to this gamble. But the policy-making and practices of deterrence have long been exclusionary. It is well established that the president and members of Congress are not privy to nuclear-targeting plans and indeed are denied full access to them.Footnote26 The bureaucracy that guards and governs nuclear weapons policy, planning, and use discourages debate, hinders democratic oversight, and makes policy reform difficult.

This at least partially explains why deterrence is never judged against other alternatives. Instead, it is refined. For example, Strategic Command is currently “furiously rewriting” deterrence because of nuclear modernization in China rather than questioning the value of the U.S. nuclear arsenal, given the evidence that China and Russia seem not to have been deterred from challenging U.S. interests.Footnote27

Rather than an ongoing deliberation about national security and how best to achieve it under changing circumstances, deterrence has become an institutional behavior. It is taught, learned, passed along, and implemented as strategic necessity. Ethics, however, requires if not a search for alternatives, then at least an informed examination of current practice.

#### 4. Plan focus in nuclear policy arbitrarily excludes core controversies – proves it’s more unpredictable and unfair.

Kjølv EGELAND Marie Skłodowska Curie postdoctoral fellow in security studies @ Center for International Studies (CERI), Sciences Po (Paris) ET AL ‘22 (Additional Authors: Thomas Fraise & Hebatalla Taha) “Casting the atomic canon: (R)evolving nuclear strategy” *European Journal of International Security* 7 p. 397-398

Reimagining nuclear security studies

The Evolution encompasses two key empirical findings that fundamentally challenge the field of nuclear security studies. First, the authors’ discussion of nuclear proliferation and national nuclear strategies reveal that decisions to build the bomb have typically been made prior to the formulation of coherent nuclear strategies or operational plans. Accordingly, if strategy describes the art of coupling military means with political ends, decisions to acquire nuclear weapons have typically been decidedly non-strategic.133 Second, Freedman and Michaels find that nuclear debates have been cyclical.134 The authors point out that the fundamental ideas ‘tend to be recycled’ and lament the lack of new ideas and fresh thinking.135 This implicit call for renewal is welcome. At the same time, it could be argued that the authors’ faith in the basics of deterrence theory and generous praise for the ‘golden age’ strategists contribute to upholding the field’s orthodoxies. As some observers have argued, the absence of new thinking in the field of nuclear policy studies could be explained in part by self-censorship and deference to authorities.136 There is a widespread acceptance within the field ‘of what constitutes “serious nuclear scholarship and political theorizing”, and what, conversely, does not’.137 In other words, standing on the shoulders of the ‘giants’ and ‘visionaries’ of nuclear strategic thinking almost inevitably implies accepting the supposed axioms of the nuclear age, including ‘the attraction of a sudden attack’ and the ‘necessity of a capability for retaliation’.

One way forward is to deal with the concepts crafted by strategists and policymakers as categories of analysis, rather than categories of practice, and to further investigate the social conditions of intellectual supremacy. Future scholarship could dig further into the nature and drivers of nuclear strategy, investigating the life cycle of nuclear concepts and categories. Placing nuclear categories into historical, social, and transnational contexts could widen the scope for nuclear thinking. Furthermore, nuclear security studies could gain from further employment of counter- factual analysis. Counterfactual thinking can help make sense of nuclear close calls and integrate them in a less confident narrative of nuclear history. Beyond passing references and analyses of deterrent threats ‘that leave something to chance’,138 mainstream strategic studies has paid limited attention to luck and contingency in nuclear affairs.139 In Peter Katzenstein’s words, security studies and IR have displayed unwarranted ‘overconfidence in controllability and predictability’.140 We maintain that, as other fields of policy, nuclear history must be seen as a ‘field of possibility’ rather than a teleological process.141 In understanding how nuclear policies and strategies were formed, then, it is crucial to understand how contingencies and imagined futures informed conceptions of responsible action. After all, if the present is shaped by the past, it is also shaped by how we conceive the possible futures of our world. A supposed ‘nuclear eternity’, for instance, has framed debates and thinking about nuclear weapons for decades.142

#### This controls the debate. They must win deterrence is good in some form otherwise there’s only a risk abolition solves more than NFU. BUT the nuclear order is an unethical wager that structurally raises the risks of nuclear war.

Benoît Pelopidas Chair of excellence in security studies at CERI (Sciences Po) ’15 “A Bet Portrayed as a Certainty: Reassessing the Added Deterrent Value of Nuclear Weapons” in *The War That Must Never Be Fought. Dilemmas of Nuclear Deterrence* eds. James Goodby; George Shultz., Hoover Press, p. 13-20

Critics of abolition portray a world without nuclear weapons as war- prone and believe that nuclear weapons are a necessary and sufficient cause for great-power peace. This is only the latest instance of an idea that has repeatedly been proven wrong, since at least 1860: the expectation that the unprecedented destructiveness of a new weapon system and the threat of its use will put an end to war. This was wrong for dynamite, submarines, artillery, smokeless powder, the machine gun, and poison gas.24 Was nuclear deterrence a necessary and sufficient cause for peace among great powers? Most critics of the idea of a world without nuclear weapons maintain that it was. They argue that the nuclear-armed states never fought a war against each other.25 This can now be proven wrong. The 1969 border clash between China and Russia26 and, more recently, the 1999 Kargil crisis between India and Pakistan show that the conventional wisdom that a nuclear-armed state cannot be attacked is historically inaccurate. Moreover, nuclear-armed states have been attacked by non-nuclear-weapon states on multiple occasions. US troops were attacked by Chinese forces in 1950 in Korea and by Vietnamese forces in the 1960s and 1970s; Israel was attacked by Syria and Egypt in 1973 and by Iraq in 1991; and in 1982, Argentina invaded the British Falkland Islands.27 This narrows down the claims for nuclear weapons as peacemakers. More importantly, even this narrower claim needs to be reexamined taking into account two facts: (1) avoidance of several nuclear disasters was due to luck and cannot be explained by nuclear deterrence; and (2) deterrence as a strategy has favored more risk-prone strategies and in some cases made war possible instead of preventing it.

Luck is too often taken as a confirmation that nuclear deterrence kept the peace.28 But luck should not be misread as successful deterrence.29 More accurately, as Thomas Schelling noted, leaders of nuclear- weapon states can make threats that “leave something to chance”30— recognizing that things could spiral out of control and nuclear weapons could be used even if they do not intend to use them—to make those threats more credible. But including luck in a successful deterrence strategy, as if you could control it, is both a conceptual confusion and a retrospective illusion.31 Luck was on our side this time, but this is not a consequence of purposeful action. For example, during the night of October 26–27, 1962, at the height of the Cuban missile crisis, an American U-2 spy plane strayed into Soviet airspace over the Arctic. Soviet fighter jets scrambled to intercept the U-2 while F-102 interceptors were sent to escort it home and prevent Soviet MIGs from freely entering US airspace. Given the circumstances, the F-102s conventional air-to-air missiles had been replaced with nuclear-tipped ones and their pilots could decide to use nuclear weapons. According to Scott Sagan in The Limits of Safety, “the interceptors at Galena were armed with the nuclear Falcon air-to-air missiles and, under existing safety rules, were authorized to carry the weapons in full readiness condition in any ‘active air defense’ mission.”32 Fortunately, the spy plane turned back and the Soviet jets held their fire.33 There are many other instances in which deterrence cannot account for favorable outcomes.34 Robert McNamara was direct about the role of luck during the Cuban missile crisis:

According to former Soviet military leaders, at the height of the crisis, Soviet forces in Cuba possessed 162 nuclear warheads, including at least 90 tactical warheads. [And the United States. was not aware of that at the time.] At about the same time, Cuban President Fidel Castro asked the Soviet ambassador to Cuba to send a cable to Soviet Premier Nikita Khrushchev stating that Castro urged him to counter a U.S. attack with a nuclear response. Clearly, there was a high risk that in the face of a U.S. attack, which many in the U.S. government were prepared to recommend to President Kennedy, the Soviet forces in Cuba would have decided to use their nuclear weapons rather than lose them. Only a few years ago did we learn that the four Soviet submarines trailing the U.S. Naval vessels near Cuba each carried torpedoes with nuclear warheads. Each of the sub commanders had the authority to launch his torpedoes. The situation was even more frightening because, as the lead commander recounted to me, the subs were out of communication with their Soviet bases, and they continued their patrols for four days after Khrushchev announced the withdrawal of the missiles from Cuba. The lesson, if it had not been clear before, was made so at a conference on the crisis held in Havana in 1992. . . . Near the end of that meeting, I asked Castro whether he would have recommended that Khrushchev use the weapons in the face of a U.S. invasion, and if so, how he thought the United States would respond. “We started from the assumption that if there was an invasion of Cuba, nuclear war would erupt,” Castro replied. “We were certain of that. . . . [W]e would be forced to pay the price that we would disappear.” He continued, “Would I have been ready to use nuclear weapons? Yes, I would have agreed to the use of nuclear weapons.” And he added, “If Mr. McNamara or Mr. Kennedy had been in our place, and had their country been invaded, or their country was going to be occupied . . . I believe they would have used tactical nuclear weapons.” I hope that President Kennedy and I would not have behaved as Castro suggested we would have. . . . Had we responded in a similar way the damage to the United States would have been unthinkable. But human beings are fallible [emphasis added].35

This fascinating account shows how lack of information, misperception, and ideology could have led to disaster if we had not been lucky. But false information, lack of information, and misperceptions were not the only reason why luck was the decisive cause of the positive outcome of the Cuban missile crisis. Limits of safety, limits of command and control, and organizational problems also have to be taken into account. As Scott Sagan wrote:

Many serious safety problems, which could have resulted in an accidental or unauthorized detonation or a serious provocation to the Soviet government, occurred during the crisis. None of these incidents led to inadvertent escalation or an accidental war. All of them, however, had the potential to do so. President Kennedy may well have been prudent. He did not, however, have unchallenged final control over U.S. nuclear weapons.36

#### Investing in deterrence turns their impact – deterrence breakdown is uniquely terrible in the Arctic & Deterrence theory can’t explain it.

Rempe ’23 [Rebecca; May 9; BA Honors Specialization in Political Science from the University of Western Ontario; Security Distillery, “The Meltdown: Nuclear Relations in the Arctic,” https://thesecuritydistillery.org/all-articles/the-meltdown-nuclear-relations-in-the-arctic]

Arctic security can be characterised as a nexus between multipolar nuclear conflict and climate change. Multipolarity is defined as a global balance of power between multiple actors [3]. Climate Change is making seaways and resources more accessible, which is leading to a thawing of territorial conflicts which were formerly frozen [4]. China’s increasing economic interests in the Arctic means it must be considered as a regional actor despite its near-regional status [5]. Russia has recently threatened to use nuclear weapons against the United States (U.S.) due to its objections to Russia’s invasion of Ukraine; this sets a precedent for heightened nuclear tension in the Arctic, which is the most nuclearized area in the world and has seen a steady buildup of nuclear and conventional forces by regional actors [6]. These factors have led to direct tensions between three major nuclear actors (namely, NATO, China, and Russia) in a region that is becoming increasingly competitive [7]. These tensions cannot be adequately explained by existing deterrence models, which rely on Cold War-era bipolar game theory [8]. Due to climate change, geopolitical tension, and the Russian invasion of Ukraine, nuclear relations in the Arctic are unstable and present serious security risks that cannot be contended with through the use of classic deterrence theory [9].

ARCTIC GOVERNANCE AND CLIMATE CHANGE

The Arctic region is 66.5° north of the equator and encompasses the United States, Canada, Finland, Sweden, Denmark, Norway, Russia, and Iceland, all of whom are members of the region’s governing body, the Arctic Council [10]. The region’s international legal status currently lies under the United Nations Convention for the Law of the Sea, however, due to climate change, polar ice is melting, making the region more accessible by sea and opening up its vast oil and gas deposits for extraction by regional actors [11].

Sino-Russian cooperation along sea routes has given China significant influence in the region, which it wants to develop into a “Polar Silk Road” as outlined in its 2018 Arctic White Paper [12]. Chinese development interests do not align with Russia’s geopolitical goals in the Arctic, and China’s ownership over Arctic infrastructure represents an economic threat to Russian interests [13]. There is growing competition between these regional actors which is exacerbated by overlapping territorial boundary claims by Denmark, Canada, and Russia. In addition, the Arctic Council has suspended cooperation due to its chairmanship by Russia until the end of 2023 [14].

DETERRENCE AND ARCTIC NUCLEAR RELATIONS

Classic nuclear deterrence is steeped in Cold War bipolarity and relies on two rational actors basing their decisions on what they believe their opponents' actions will be [15]. Classic deterrence is expressed through the Chicken Game [16]. As seen in the figure below, a player’s options are to defect and pursue a foreign policy objective or to cooperate and maintain the status quo [17]. The best outcome for an actor is to defect against a cooperating partner; however, this runs the risk of both players defecting, leading to nuclear annihilation [18].

This classic deterrence game does not contend with the possibility of conflict between multiple nuclear actors, which is a key feature of Arctic security [19]. Though a three-player chicken game has been applied to theoretical problems, such as two out of three players needing to complete a task that all would rather not complete, this model has yet to be applied to nuclear relations [20]. China, NATO, the U.S., and Russia’s nuclear doctrines are informed by deterrence theory, which is problematic due to the theory’s assumption of a bipolar world order [21].

Nuclear multipolarity in the Arctic is unstable because it no longer falls within the traditional game theory matrix, and there is an increased risk of nuclear action due to a larger number of nuclear actors and significant regional tension [22]. Preemptive nuclear strikes are more prevalent in multipolar nuclear politics due to a greater perception of threat from other actors [23]. Though China promotes itself as a No First Use (NFU) state, meaning that it will not strike unless struck upon in a nuclear capacity, Russia has threatened to strike first, and America’s position on NFU is vague [24]. NATO is a nuclear deterrent organisation in the Arctic region, only Sweden is not yet a full NATO member and Finland has just recently gained NATO membership [25]. In multipolar deterrence, regional conflicts are more likely to escalate into total nuclear warfare, and de-escalation relies on political bargaining as opposed to rationality modelling. Thus, it is unclear how political bargaining will take place in an increasingly polarised Arctic [26].

Though the U.S., China, and Russia have all acceded to or ratified the Treaty of the Non-Proliferation of Nuclear Weapons (NNPT), both Russia and the U.S. have backed out of data-sharing obligations under the New START treaty [27]. This breakdown in communication between Arctic actors due to Russia’s invasion of Ukraine, and Russia’s recent threat to use nuclear weapons against the U.S. indicates that future regional disputes over Arctic resources, navigation, and territory may give rise to nuclear crises [28].

CONCLUSION

Climate change in the Arctic has rendered the region more accessible to its actors; this has inflamed tensions between the NATO bloc and Russia over territorial disputes and Russia’s war in Ukraine and between China and Russia due to diverging economic development goals [29]. As temperatures warm, the region may become a nuclear flashpoint that cannot be analysed using classic deterrent models [30].

#### 3. That outweighs. “Boring” apocalypses generated by structural vulnerabilities are a more likely cause of existential risk than isolated scenarios. Prioritizing immediacy makes extinction more likely in the long term.

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1. Introduction the definition and framings of existential risk

In recent years, a growing body of scholarship has argued that a new class of risks bears closer study, for their potential extreme impact on the survival of humanity (Bostrom, 2002, 2013; Bostrom & Cirkovic, 2011; Matheny, 2007; Rees, 2004). Prior research has identified a range of such human extinction risks (Bostrom & Cirkovic, 2008; Haggstrom, 2016; Pamlin & Armstrong, 2015), both natural and manmade, including risks from supervolcano eruption, asteroid impact, global warming, nuclear war, as well as more speculative risks from emerging technologies such as biotechnology, high-energy physics experiment disasters, or misaligned arti- ficial intelligence. (Asimov, 1981; Baum & Barrett, 2016; Bostrom, 2014; Ord, Hillerbrand, & Sandberg, 2010; Posner, 2004; Sagan, 1983; Smil, 2005; Tegmark & Bostrom, 2005; Yudkowsky, 2008a).

While it is encouraging to see greater attention for a critical topic that has long remained understudied, it is relevant to ask how the framing of the field’s basic concepts shapes both which problems it identifies and prioritizes, as well as which policy approaches it considers and engages. In his seminal paper, Bostrom defined an existential risk as ‘[o]ne where an adverse outcome would either annihilate Earth-originating intelligent life or permanently and drastically curtail its potential’ (Bostrom, 2002). Thus in Bostrom’s view, existential risks are characterised both by their scope (pan-generational) and their intensity (crushing): the size of the group of people who are at risk1 and how badly each individual within that group is affected, respectively (Bostrom, 2002).

Much prior research on existential risks has thus deployed criteria and methodology which have identified discrete and in- dependent challenges of sufficient severity and pervasiveness to bring about the ‘adverse outcome’ in a direct causal manner. In this reading, existential risks are an extreme offshoot of global catastrophic risks—disasters which “might have the potential to inflict serious damage to human well-being on a global scale” (Bostrom, 2013; Bostrom & Cirkovic, 2011, p. 2), but which fall short of permanent collapse. While we are not necessarily averse to the Bostromian definition of ‘adverse outcomes’—a definition which indeed seems to characterize the space of eventual outcomes to be avoided—we take more issue with the limited range of pathways towards this dreaded outcome-space, which much of the literature has focused on exploring. Specifically, as noted by others in the community, much prior research “has focused mainly on tracing a causal pathway from a catastrophic event to global catastrophic loss of life” (Avin et al., 2018, p. 1). As such there remains an event-focus, in the sense that only discrete events that are causally connected to the demise of humanity within a relatively short time-frame qualify as an existential risk (rather than a ‘merely’ globally catastrophic one, or a background risk).

1.1. Existential risk (re)framings as crucial consideration for law & governance approaches

Distinguishing existential risks as a uniquely threatening outlier along the spectrum of global risks, however, is arguably an unnecessarily narrow framing of the field of study. Indeed, a high-profile ‘one-hit-KO’ existential risk such as a global nuclear war or a pandemic may constitute only one avenue towards that ‘adverse outcome’, and concentrating predominately upon (ways to intervene in) its origin and direct pathway, risks overshadowing other potential paths or disaster interaction effects2 that functionally converge towards that same disastrous outcome, even if only indirectly or over longer timescales, with a potentially higher probability. Indeed, as recently noted by scholars in the field, a full mapping of scenarios that lead to catastrophic outcomes “requires exploring the interplay between many interacting critical systems and threats, beyond the narrow study of individual scenarios that are typically addressed by single disciplines” (Avin et al., 2018, p. 2).The precise framing of ‘existential risks’ is therefore a crucial consideration, informing ethical, strategic, and epistemological (cf. academic) priorities in facing ‘adverse outcomes’. This is particularly the case in the context of studying how global political dynamics may interact with certain existential risks, and in formulating meaningfully effective policies and governance approaches to such risks. Of course, this is not to say that the field of existential risk studies has not sought to involve and engage with policy and governance approaches and solutions. Indeed, to its credit, research in the field of existential risks has actively sought to engage with these issues—given that, as Bostrom himself observes (2013:27), global co- operation is critical to mitigating a wide range of existential risks. Likewise, researchers within the ‘AI safety’ community are be- ginning to highlight fields such as policy and psychology, as under-represented but potentially promising approaches to addressing risks arising from AI (Brundage, 2017; Sotala, 2017b).

Accordingly, there has been research into the interaction effects between technologies and politics—such as the possibility that arms races might increase the risk that untested, powerful AI systems are deployed rashly or prematurely (Armstrong, Bostrom, & Shulman, 2013; Shulman, 2009). Other work has drawn on cognitive psychology, to study how people might structurally (mis)judge the probability of risks (Yudkowsky, 2008b). Likewise, work exploring policy- and governance approaches to mitigating existential risks has explored policy approaches that include insurance arrangements for large catastrophes (Taylor, 2008); technology taxes and subsidies (Posner, 2008); and work drawing on social (and organizational) psychology to assess ways to motivate AI researchers to choose beneficial AI designs (Baum, 2016). Yet, other work has examined the cost-effectiveness of biosecurity interventions (Millett & Snyder-Beattie, 2017); pricing externalities to balance public the risks and benefits of scientific research generally (Farquhar, Cotton- Barratt, & Snyder-Beattie, 2017); and proposing a general international regulatory regime to govern global catastrophic and ex- istential risks from emerging technologies (Wilson, 2013). At present, a majority of existential risk research centres3 have articulated law and policy research as areas of interest, and scholars in this space have begun to translate such work into concrete proposed policy interventions—notably the 2017 GPP report, which included proposals to develop governance for geoengineering research; establish international scenario plans and exercises for engineered pandemics, and build international attention for existential risk reduction (Farquhar, Halstead et al., 2017).

Such work is highly encouraging, and the existential risk research agenda has benefited from it. Nonetheless, the risk remains that a too-narrow conception of ‘existential risks’ prematurely closes down the space of law and governance solutions that are possible—or necessary—in assuring humanity a non-catastrophic future—for instance, a future that, in Bostrom’s framing, meaningfully ‘maximize[s] the probability of an ok outcome’ (Bostrom, 2013, p. 19). However, if human extinction and the persistent and pervasive truncation of technological potential are not completely homologous, then tailoring our portfolio of policy responses exclusively to closing off the pathways these risks could take—and then calling it a day—would be insufficient. In fact, this might only afford future policymakers with a false sense of security, even as the world continues to reside in an overall state of ‘super-risk’ (Bermudez & Pardo, 2015).

This is especially the case when there is a narrow ‘technological’ (re)solution on offer—such as ‘improve global vaccine synthesis and production capability’, or ‘subsidize international technical AI safety research’—which promise to address or prevent the risk at its root. While such direct technological solutions may certainly be indispensable to averting some existential risks, they may not suffice in actually ‘plugging all the holes’ in our risk space. In a disciplinary context, there is a risk (admittedly self-correcting, given publication incentives) of the research agenda ‘halting’ early. In a real-world context, the availability of simple, straightforward ‘fixes’ might even pose a ‘moral hazard’, if policymakers or global governance systems which lack political will or the attention to explore more complex or costly changes, seize upon the ‘symbolic action’ of the straightforward, first-order mitigation strategies. Even where this is not the case, certain policy recommendations to mitigate existential risks might depend on too-optimistic a view of institutional rationality or capability.

1.2. ‘Boring Apocalypses’: from existential hazards, to existential risks

While such efforts might mitigate specific existential risks, this might not translate into significantly lowering the overall probability of the ‘adverse outcome’, if only a part of the problem, or only one problem among many, is addressed. An alternative articulation is that only one path to the ‘adverse outcome’ is being explored by much research into existential risks: erecting obstacles along that path may indeed reduce the overall likelihood of manifesting these risks, but this might have little impact, or even no effect, upon the manifestation of the ‘adverse outcome’.

Thus, our view is that a materialised existential risk (what we call an ‘existential hazard’) is sufficient to lead to an (existentially) ‘adverse outcome’, but crucially, that this is unnecessary to reach that result. If the overarching objective is to lower the probability of human extinction or significant technological curtailment, adopting an array of approaches which complement the mitigation of direct existential risks are required. Within this broad spectrum of aligned approaches, we propose to introduce law, policy, regulatory and governance tools in this paper as an example. The choice of law and policy perspectives is two-fold: on one hand, they make it possible to take second-order considerations, which involve indirect and socially and culturally mediated paths towards ‘adverse outcomes’ into account; on the other hand, these recognise both the complexity of social organisation and the prospect that civilizational collapse may trigger or possibly instantiate existential outcomes.

In this sense, law and policy approaches offer the possibility of complementing and enhancing the narrower approach adopted by contemporary existential risk research, to take into consideration other paths to existentially adverse outcomes; and to better anticipate vulnerabilities, exposures and failure modes in societal efforts to address existential risks.

1.3. Exploring the implications of the existential risk framing: risks from AI

An example of this can be drawn from the prospect of super intelligent artificial intelligence (Bostrom, 2014; Yudkowsky, 2008a). Although the landmark research agenda articulated by Russell, Dewey, and Tegmark (2015) does call for research into ‘short-term’ policy issues, debates in this field of AI risk4 have—with some exceptions—identified the core problem as one of value alignment, where the divergence between the interests of humanity and those of the superintelligence would lead to the demise of humanity through mere processes of optimisation. Thus, the existential risk posed by the superintelligence lies in the fact that it will be more capable than we can ever be; human beings will be outmanoeuvred in attempts at convincing, controlling or coercing that super- intelligence to serve our interests. As a result of this framing, the research agenda on AI risk has put the emphasis on evaluating the technical feasibility of an ‘intelligence explosion’ (Chalmers, 2010; Good, 1964) through recursive self-improvement after reaching a critical threshold (Bostrom, 2014; Sotala, 2017a; Yudkowsky, 2008a, 2013)5; on formulating strategies to estimate timelines for the expected technological development of such ‘human-level’ or ‘general’ machine intelligence (Armstrong & Sotala, 2012, 2015; Baum, Goertzel, & Goertzel, 2011; Brundage, 2015; Grace, Salvatier, Dafoe, Zhang, & Evans, 2017; Müller & Bostrom, 2016); and on formulating technical proposals to guarantee that a superintelligence’s goals or values will remain aligned with those of humani- ty—the so-called superintelligence ‘Control Problem’ (Armstrong, Sandberg, & Bostrom, 2012; Bostrom, 2012, 2014; Goertzel & Pitt, 2014; Yudkowsky, 2008a).6

While this is worthwhile and necessary to address the potential risks of advanced AI, this framing of existential risks focuses on the most direct and causally connected existential risk posed by AI systems. Yet while super-human intelligence might surely suffice to trigger an existential outcome, it is not necessary to it. Cynically, mere human level intelligence appears to be more than sufficient to pose an array of existential risks (Martin, 2006; Rees, 2004).

Furthermore, some applications of ‘narrow’ AI which might help in mitigating against some existential risks, might pose their own existential risks when combined with other technologies or trends, or might simply lower barriers against other varieties of existential risks. To give one example; the deployment of advanced AI-enhanced surveillance capabilities7—including automatic hacking, geospatial sensing, advanced data analysis capabilities, and autonomous drone deployment—may greatly strengthen global efforts to protect against ‘rogue’ actors engineering a pandemic (“preventing existential risk”). It may also offer very accurate targeting and repression information to a totalitarian regimes,8 particularly those with separate access to nanotechnological weapons (“creating a new existential risk”). Finally, the increased strategic transparency of such AI systems might disrupt existing nuclear deterrence stability, by rendering vulnerable previously ‘secure’ strategic assets (“lowering the threshold to existential risk”) (Hambling, 2016; Holmes, 2016; Lieber & Press, 2017).

Finally, many ‘non-catastrophic’ trends engendered by AI—whether geopolitical disruption, unemployment through automation; widespread automated cyberattacks, or computational propaganda—might resonate to instil a deep technological anxiety or reg- ulatory distrust in global public. While these trends do not directly lead to catastrophe, they could well be understood as a meta-level existential threat, if they spur rushed and counter-productive regulation at the domestic level, or so degrade conditions for co- operation on the international level that they curtail our collective ability to address not just existential risks deriving from artificial intelligence, but those from other sources (e.g. synthetic biology and climate change), as well.

These brief examples sketch out the broader existential challenges latent within AI research and development at preceding stages or manifesting through different avenues than the signature risk posed by superintelligence. Thus, addressing the existential risk posed by superintelligence is both crucial to avoiding the ‘adverse outcome’, but simultaneously misses the mark in an important sense.

2. Re-examining existential risks: hazard, vulnerability, and exposure

While Bostrom’s leading typology identifies the general area inhabited by existential risks, it provides little guidance for how to differentiate among the diverse risks within that category (the box marked ‘X’), because these risks are not distinguished according to their source, characteristics, or complexity, but only their impact (“crushing”) and scope (“pan-generational”).9

However, given the range of distinct risks falling within the ‘X’ box—that is, risks that could cause or feed into an eventual terminal and crushing ‘adverse outcome’ for humanity—we suggest it relevant to deconstruct existential risks, and instead consider the broader category of ‘risks as a function of hazard, vulnerability and exposure’10,11:

Existential Risk = Hazard\* Vulnerability \* Exposure

Here, hazard denotes the external source of peril (which is captured within the prevailing agenda studying existential risks)—the ‘spark’ that threatens the pan-generational/crushing harm.

Vulnerability denotes propensities or weaknesses inherent within human social, political, economic or legal systems, that increase the likelihood of humanity succumbing to pressures or challenges that threaten existential outcomes.

Finally, exposure denotes the ‘reaction surface’—the number, scope and nature of the interface between the hazard and the vulnerability.

Thus, a hazard is what kills us, and a vulnerability is how we die. Exposure is the interface or medium between what kills us, and how we die. To take an example from disaster studies, a major earthquake only becomes a risk if the built, social or institutional environment can be destabilised during earthquakes of the threatened magnitude (“is vulnerable to”), and if such an environment is located in (“exposed to”) an earthquake zone. Thus, vulnerability and exposure refer to two different aspects of the affected system: how it breaks, and how it intersects with a given hazard’s operating space or pathways of impact (Fig. 1).

As a species of global catastrophic risks, the study of existential risks is often conflated with, and perhaps even collapsed into, the identification and mitigation of existential hazards. Where attention is paid to issues of vulnerability and exposure, these are often identified in light of an existential hazard. One of the leading sources and reference points in the field symptomatically organizes the field as a collection of existential hazards (Bostrom & Cirkovic, 2008). A caveat applies for a small subset of hazards of such enormous magnitude that it renders mitigation strategies focussing upon vulnerability and exposure less relevant, or perhaps even irrelevant. The paragon might be the scenarios of ‘simulation collapse’, or a high-energy physics experiment going awry, altering the astro- nomical vicinity and rendering life untenable (Ord et al., 2010). Such extreme hazards constitute the archetype of existential risks as a subset of global catastrophic risks and can only be addressed by managing the hazard head-on, with vulnerability and exposure components relegated to marginal roles:

Existential Risk = Existential Hazard \* Vulnerability \* Exposure

Thus, our claim is not that the field of existential risks research is looking in the wrong places—the emphasis on existential risks has enabled this field to identify a core group of existential hazards which would on their own suffice to bring about the ‘existentially adverse outcome’.

Nonetheless, there are also many other, slower and more intertwined ways in which the world might collapse, without being hit by spectacular hazards. To complement the study of existential risks we can draw upon lessons learnt through historical and anthropological studies of civilizational collapse. Thus, while existential risks concentrate upon clear-cut existential hazards, civilizational collapse research infers influential factors that were involved in trajectories of decline. These studies are beginning to challenge the traditional conceptual framework which set out a cyclical history, wherein a civilisations rise and fall, progressing through a predictable pattern of growth, zenith and decline in a gradual manner (Ferguson, 2011). In other words, historically civilizational collapses are boring. Diamond refined this model by recognising that civilizational collapse could be a slow and protracted process emerging from complex interactions (Diamond, 2006).

3. Beyond hazards: vulnerability and exposure

In this paper, we set out to foreground the other two variables involved in the existential risk equation.

Thus, as noted, ‘vulnerability’ denotes propensities or weaknesses inherent within human social, political, economic or legal systems that increase the likelihood of humanity succumbing to pressures or challenges that threaten existential outcomes.

‘Exposure’ indicates the nexus between external hazards and internal vulnerabilities: the interface at which the ‘adverse outcome’ precipitates from their interaction. Historical studies of civilizational collapses indicate that even small exogenous shocks can destabilise a vulnerable system (Diamond, 2006; Ferguson, 2011). Given this, studying ‘exposure’ is relevant in systematically analysing interaction effects: a cataclysmic hazard interacting with robust and resilient human systems may be survivable, but conversely, at the interstices at which our human technology, institutions or culture are most vulnerable, even minor (initially ‘non- catastrophic’) hazards can be the inflection point that tips these susceptible systems towards trajectories of collapse (Gladwell, 2001).12

In order to offset the tight coupling between existential risks and existential hazards, we will further dissect the vulnerability and exposure factors introduced in the existential risk calculus. Our proposed taxonomy distinguishes four general categories of vul- nerability and exposure (see Table 1).

Note that for vulnerability, the Passive, Active and Intentional categories correspond to the jurisprudential concepts of ‘omission’ (‘failure to act’), ‘negligence’ (action, but with failure to exercise the appropriate care to prevent foreseeable future harm) and ‘intention’ (action with the known purpose to bring about a consequence).

Drawing such distinctions offers the opportunity to be more precise about the features or characteristics which give rise to the existential dimension of the challenge, and thus suggest specific points for targeted intervention, as well as potential failure modes to caution against.

Below, we combine these categories and their sub-divisions, in twin taxonomies of existential ‘vulnerabilities’ and ‘exposure’. We also seek to give concrete examples. Obviously, not all of these examples are currently unstudied—indeed many feature prominently in the existing literature—though in other cases they remain understudied. While this list is naturally not comprehensive, we hope that such examples enable researchers in the field of existential risks to locate their research in an overarching framework, as well as facilitating links to established scholarly fields which have studied given issues, without considering their bearing on larger existential risks.

3.1. A taxonomy of ‘existential vulnerability’

Our proposed taxonomy for distinguishing between different manifestations of existential vulnerabilities is summarised in Table 2: note that the salience or tractability of these existential vulnerabilities to law and policy approaches increases as one goes down: ontological vulnerabilities appear (at present) highly intractable to mere law and policy—it would be a vain regulator indeed who would try to legislate against physical laws. However, as one proceeds to passive, active, or intended vulnerabilities, the salience of governance approaches increases (Table 3).

3.1.1. Ontological vulnerability

The category of ontological vulnerability denotes intrinsic vulnerabilities associated with human existence. These include the possibility that we inhabit a computer simulation (Bostrom, 2002), which might be terminated or altered at any time. More con- ceptual and basic vulnerabilities—so fundamental that we often would not even consider them as such—include our existence as biological beings that are dependent (potentially more so than other species such as tardigrades) on continuous or relatively unin- terrupted inputs of energy & resources (such as food, water, air, light, ...), which renders the human species one comparatively vulnerable to ‘extinction’ events such as a supervolcano- or meteor-induced global winter. On a deeper level yet, all biochemistry is dependent on the existing laws of physics within which it evolved, rendering us acutely and terminally vulnerable to any processes (e.g. vacuum decay) which would profoundly alter these processes. Biological deterioration due to aging processes, or exterior damages, might also rank amongst these, although that is conditional on whether or not there exists a physical ‘hard ceiling’ to how far medical senescence research might extend human lifespans and reduce other vulnerabilities.

As these are background conditions at the frontiers of epistemology, we are unlikely to be able to unveil more than a fraction of these vulnerabilities. Also, as inherent features of human existence we have limited abilities to act effectively in this category. Perhaps the most utility we can extract from delimiting ontological vulnerability is to restrict its reach: in other words to leave this as a residual class of vulnerabilities inherent in existence.

3.1.2. Vulnerabilities, passive and active; built, institutional and cultural

Passive vulnerabilities are characterised by inaction: the susceptibility to existential outcomes by virtue of failure to take appropriate measures. Conversely, active vulnerabilities arise in association with human activities, as by-products or unintended consequences.

Three cross-cutting sub-distinctions can also be made for both passive and active vulnerabilities: built, cultural, and institutional.

Built vulnerabilities are characterised by our (passive) failure to put into place relevant solutions or defences to existential challenges, or by our (active) failure to repair or correct the extant vulnerabilities in the legacy infrastructures we deploy, or the path- dependent ways we deploy them—even if we have such solutions or repairs at our disposal. Such solutions can in fact include some interventions proposed by the existential risk research agenda, such as an asteroid defence programme or the ability to systematically monitor for supervolcano eruptions (Denkenberger & Blair, 2018); they also cover the active existential risks posed by the tech- nologies which humanity has introduced, but which go unfixed—such as architectural deficiencies creating intractable cybersecurity vulnerabilities in universally used computing chips. Because of the technical nature of engineered vulnerabilities, some of these are perhaps closest to the existing (policy) research agenda of the existential risk community—and at present some may consider that law and policy tools have less of a role to play, other than to coordinate efforts aimed at addressing them.

In contrast, top-down vulnerabilities resulting from suboptimal direction and coordination are captured by our sub-category of institutional vulnerability. Here, the line between active and passive is admittedly thin, where recklessness can be the distinguishing feature. Active institutional vulnerability may be characterised by failure to coordinate to address a known risk, such as climate change, or cyclical global economic melt-down. Passive institutional vulnerability may then be understood as directional and co- ordination failures that limit the scope of knowledge related to existential risks—perhaps an implicit ‘unwillingness to know’, which translates in an unwillingness to fund blue-sky research into charting ‘unknown unknowns’ (Rumsfeld, 2002).

Cultural vulnerability encompass the bottom-up societal dimensions, reflecting how certain social practices may affect susceptibility to existential challenges. Active cultural vulnerabilities include customary practices that facilitate the spread of pathogens, increasing susceptibility to pandemics, for example integrated commercial travel networks and interpersonal greeting rituals which encourage physical proximity or contact. Passive cultural vulnerabilities include the exclusion or ridicule of existential risks from serious discussion in public forums (let alone the halls of power). This increases collective vulnerabilities insofar as the public and policymakers underrate the prospects for existential risks (cognitive biases exacerbate these effects, Kahneman, 2012) resulting in further marginalisation.

3.1.3. Intended vulnerabilities

Intended vulnerabilities are those which are created or retained specifically for that purpose, and within the existing research agenda are reflected in the premises of the ‘AI risk’ or ‘Apocalyptic AI’ movement (Geraci, 2010). Another salient example can, however, be found in nuclear force postures which (in the US context) features centralization of launch command authority along with a ‘launch-on-warning’ doctrine that relies on input from fallible early launch warning systems (Borrie, 2014; Sagan, 1993). Together, this gives rise to the catastrophic risk of an accidental nuclear war (Barrett, Baum, & Hostetler, 2013). Yet far from incidental, this is arguably by design. As the theorist Kenneth Boulding once observed: “if [deterrence] were really stable ... it would cease to deter. If the probability of nuclear weapons going off were zero, they would not deter anybody” (Boulding, 1986, p. 32).14 The nuclear force knowingly renders itself more vulnerable to catastrophic accidents—sacrificing a degree of safety for the sake of strengthening operational readiness and deterrence. While less dramatic, similar intentional vulnerabilities could emerge from a state intelligence service knowingly holding back-doors or ‘zero-day-exploits’ which it identifies in critical infrastructure software, in the hope that this may enable more effective cyberattacks against rival states at a later state.

3.1.4. Existential vulnerability: mitigation and adaptation strategies

This taxonomy of vulnerabilities can provide concrete suggestions for addressing existential risks. While the categories of ontological and intended vulnerabilities may seem superfluous, their treatment as additional classes allow limited resources to be concentrated into the most tractable areas. Perhaps the main contribution of this taxonomy is to highlight how existential risks need not be active and discernible, in the manner of the ‘hazards’ identified in the field. Instead, many of these risks can be latent, and slow-moving. Moreover, this taxonomy aids in understanding how human activities can impact paths towards ‘existential outcomes’ in several ways: (1) intent: by directly creating technologies which pose existential hazards (i.e. emerging technologies such as AI, nanotechnology and synthetic biology); (2) (negligence) by establishing complex systems for which failure is unavoidable (Perrow, 2011); (3) and by omission, the failure to take steps to confront existential risks.

Beyond merely refining the sources of existential risks, the contribution of this taxonomy lies in creating a roadmap for the study and integration of risks that have not yet received much or consistent attention in the field of existential risks. In doing so, we emphasise a number of existential vulnerabilities, such as global dependency upon a few species of staple crops, or certain types of globalised technologies (e.g. SCADA-based systems in critical infrastructure) that are not commonly recognised as sources or failure points of existential risks.

The study of existential ‘vulnerability’ may suggest that adaptation strategies are preferable to those of mitigation, both because of the inherent complexity underlying both forms of structural vulnerability and because adaptation can now occur simultaneously with mitigation. This is because the vulnerability analysis in effect opens up a parallel system where other trajectories of existential risks are at play. The rough equivalence drawn between traditional existential risks with existential hazards might have the effect of underselling adaptation strategies: it is illogical to conceive of robustness as a defence against the apocalypse, after all. Along with efforts to mitigate or avert existential hazards, however, we can now also plan for adaptation against vulnerabilities. Thus, adaptation strategies are not limited to actions undertaken after ‘the Fall’: instead they may become rational reactions towards limiting sus- ceptibility to existential risks. In order to explore this potential further, we proceed to examine a taxonomy of exposure.

3.2. A taxonomy of ‘Existential exposure’

As a parallel effort to our taxonomy on existential vulnerabilities, we set out a classification system to differentiate between different forms of exposure. It is worth recalling at this point that we use exposure to express the interface between hazards and vulnerabilities—between what kills us, and how we die. Both hazards and vulnerabilities in isolation remain as potentials: exposure is thus a means of actualising such potential into existential risks.

Such exposure can further be directed towards either the societal or the natural environment. This is about what is directly at risk: our (human) society and the common capabilities and support structures preventing existential risks; or nature and its carrying capacity and resilience to future shocks. Thus, we assert that devastating results for humankind can follow from the collapse of both the societal structures we have built, as well as the natural environments within which these constructed systems are embedded. Again, the distinction allows us to single out different examples and trajectories to build alternative strategies for human survival. As is clear from the examples above, it also draws out lessons for existential outcomes which might not be immediately evident from an analysis of existential hazards alone. For example, when ‘exposure’ is seen from the perspective of the natural environment on which mankind depends, pervasive over-fishing and deforestation, combined with trends in resource demands tracking population growth, may become potentially hazardous activities with the potential to curtail human development in the long run (Diamond, 2006), even if they do not affect most humans directly in the short run.

3.2.1. Ontological exposure

Some exposures are inherent in residing on Earth. Those falling in the category of natural exposure denote existence on earth itself as the exposure, and include our exposure to Near-Earth Objects (NEO) hitting earth or supervolcanoes triggering a protracted volcanic winter. The common denominator underlying this form of exposure is their requirement for measures beyond our present technological capacity to overcome (which admittedly, can be a moving threshold).

3.2.2. Indirect and direct exposure

As with the discussion of existential vulnerabilities set out above, the potential of our proposed taxonomy lies in the analysis of indirect and direct exposures. This distinction identifies the exposures that are a direct consequence of human activity, from those that are caused by more complex interactions with other systems.

The theoretical example of high-energy physics research going awry15 provides an example of societal exposure.16 A final example of direct exposures are private or unilateral attempts to undertake ‘Active SETI’—alternately called METI (‘Messaging to Extra- Terrestrial Intelligence’) (Zaitsev, 2006)—which might expose the rest of mankind to catastrophic risk, should any future contacted alien species prove hostile and capable of interstellar-scale interdiction. These examples illustrate how surfaces of direct exposure (and ways to reduce it) might be overlooked when concentrating upon the hazard alone.

Beyond direct exposures, an array of arrangements which jeopardise the human societies that have become dependent on them. This category includes any activity or arrangement which might expose the world to extinction through cascading effects. The development of critical common global infrastructures such as the internet, energy markets, and cultural and scientific harmonization might be classified as exposures, rather than vulnerabilities because these reveal new interfaces between hazards and vulnerabilities. Thus collapse of common infrastructures would trigger cascades which jeopardise civilizational sophistication at the global level (Wright, 2006), the edifice upon which humanity’s long-term potential has been built. Similarly, developments like urbanisation, intensification of agriculture, and even increasing global inequality () appear to be factors that create fault lines and further drive exposures to existential vulnerabilities. Here the exposure perspective shows us that only by certain actions or inactions do risks actually materialise fully against civilization.

3.2.3. Intentional exposure

Finally, some of these exposures appear to exist intentionally, or at least knowingly or recklessly. The city of New Orleans, Louisiana, provides a microcosm of how dysfunctional behaviour, seen from an existential risk perspective, might be driven by human incentives or rationales operating at different orders. The city is, in design and position, incredibly vulnerable to its natural environment—pinched in between the Mexican Gulf and Lake Pontchartrain and built on the banks of the Mississippi River. Accordingly, some have argued that the most reasonable strategy following hurricane Katrina would have been to abandon the city permanently (Richards, 2011). Instead, the affected populations were given incentives to return, with the US government investing billions in the reconstruction of the city, aware that even with improved defences, the city remains unsafe (Cutter et al., 2014).

Similarly, many populations worldwide, from Tehran and Kathmandu, to San Francisco and Port-au-Prince, persist in known disaster-prone zones, for (legitimate) reasons of culture, history, identity or economy. The purpose of these examples is not to warn the populations of these cities, nor to judge their decision to remain: rather the point is that individuals and societies often make decisions based upon entirely different rationales than a concern for survival. This is an insight that seems to scale to any level of government. In simpler terms, sometimes we choose exposure over safety because of competing considerations, and while this might be productive from a cultural heritage perspective, it remains problematic when seen through the lens of existential risks.

4. Are existential hazards necessary for existential risks?

Having set out taxonomies for differentiating between factors which influence existential risks the question remains whether all components are necessary to bring about an ‘adverse outcome’. Our initial claim was that existential hazards could be sufficient existential risks, but that they were not necessary to pose such risks.

Returning to the civilization collapse literature cited above, Ferguson provides a critical insight in contesting the traditional view of cyclical history itself. He posits an alternative conceptual framework by asking the question: ‘What if history is not cyclical and slow-moving, but arrhythmic?’ (Ferguson, 2011, p. 299). Continuing, he summarises the perspective we adopt succinctly:

Civilisations... are highly complex systems, made up of a very large number of interacting components that are asymmetrically organised, so that their construction more closely resembles a Namibian termite mound than an Egyptian pyramid. They operate somewhere between order and disorder − on ‘the edge of chaos’, in the phrase of computer scientist Christopher Langton. Such systems can appear to operate quite stably for some time, apparently in equilibrium, in reality constantly adapting. But there comes a moment when they “go critical”. A slight perturbation can set off a “phase transition” from a benign equilibrium to a crisis − a single grain of sand causes an apparently stable sandcastle to fall in on itself. (Ferguson, 2011, pp. 299–300).

Wright echoes this sentiment: ‘Civilisations often fall quite suddenly − the House of Cards effect − because as they reach full demand on their ecologies, they become highly vulnerable to natural fluctuations’ (Wright, 2006, p. 130). When combined with the observation that hitherto isolated civilizational experiments have now been merged (Harari, 2015), this raises the spectre that existential risks can coalesce from factors that historically brought about only limited civilizational collapses. Thus, the question we need to pose in this regard is whether vulnerabilities themselves contain the seeds of existential risks?

In this context, we should note that vulnerabilities have often been considered mostly as aggravating factors. As aggravators then, vulnerabilities are subsidiary considerations restricted to influencing borderline events: where a potential existential hazard impacts humanity, its susceptibility or resilience could determine whether or not that hazard was transmuted into an existential outcome.

In line with vulnerabilities being developed as a separate sphere where existential risks are at play, this section explores the possibility of removing the existential character of the hazard and thus plausibly reducing the calculus to:

Existential Risk = Hazard \* Existential Vulnerability \* Exposure

[and/or]

Existential Risk = Hazard \* Vulnerability \* Existential Exposure

An initial issue is that a catalyst of some sort is required to precipitate the existential risk, because even a system with well- exposed inherent susceptibilities will need something to set it motion. Removing the existential hazard component allows us to explore the possibility that relatively minor occurrences can trigger cascades that emerge as existential risks. But a vulnerability cannot by definition transmute into the existential risk itself absent external input: for this reason we diminish the stature of ‘hazard’ in the equation to represent our proposition that exogenous shocks need not be the spectacular existential hazards recognised by the study of existential risks. Instead, the external hazards in our revised equation can include insignificant events which go unnoticed (and quite probably involve a large number of minor occurrences).

5. Contributions and limitations of law and policy tools for existential risks

While our deconstruction of existential risks lead to fairly broad claims, it also provides a few concrete questions and insights. First and foremost, if existential risks can indeed be triggered by non-existential hazards, we need to broaden the scope of investigation in order to draw a more accurate roadmap of the existential risks field, one which can deal with questions of vulnerability and exposure explicitly.

Second, the type of perceived challenge channels the range of appropriate responses which can be developed. While existential hazards may appropriately be met by narrower forms of technical solutions and technologically-oriented mitigation strategies, our broader perspective of existential risks open up other toolboxes to confront existential risks. In particular, social vulnerability and human-driven (anthropogenic) exposure require improved governance and coordination for adaptation strategies. Thus, when we reconstruct existential hazards through the optics of the social systems’ inability to withstand them they, per definition, become social phenomena. As noted, many existential risk scholars have recently recognised the importance of reaching out to, and incorporating, law and governance approaches, even where the origin of the existential hazard itself is technological. The critical role of such law and governance approaches should be even more self-evident where the problems in question—the origins of existential vulnerability and exposure—are themselves social, not technological.

This opens up a field for law and governance scholars to work more productively and on an equal footing with technical experts and philosophers. Moreover, this allows for a different set of research questions to be posed as to how we might reduce the vulnerabilities underlying the existential risks against humanity, and our collective exposure to hazards leading to existential outcomes. In doing so, our taxonomy has the potential to elevate relevant aspects of otherwise mundane considerations within politics, economics and society to the plane of existential risks. In garnering this attention, we hope that law and policy tools might be more productively incorporated and deployed as a means to building resilience and robustness. Here, central legal institutions as rights, responsibility and societal relations might in fact contribute substantially to reducing both our vulnerability towards, and exposure to, existential risks.

The obvious limitations of this approach reside in the observation that many contemporary existential hazards, vulnerabilities and exposures are anthropogenic. This raises the spectre of either ‘iatrogenesis’ (‘[complications] caused by the healer’), where our attempts at treating a problem accidentally give rise to new, potentially worse ailments. Thus, in our attempt to curtail existential vulnerabilities and exposures, we may inadvertently generate new or different existential risks. Yet, the framing remains critical: the vantage points created in our proposed taxonomy encourages alternative ways of thinking about existential risks and provide dif- ferent accommodation strategies.

Finally, the perspective provided by existential vulnerabilities might also foster solutions that will be of more general benefit to humanity as tangential effects of efforts taken to reducing our collective vulnerability and exposure to existential risks. While this appears to be of a lower order of concern at first flush, our taxonomy appears to bind existential risks together with phenomena occurring at different levels. In this sense, existential vulnerabilities and exposures may possess fractal characteristics (Gleick, 1997; Johnson, 2002), reflecting the complexity of their constitution. Support for this claim might reside in the scalability of hazards and vulnerabilities in particular: if pedestrian threats can cascade into existential outcomes, for example, then mundane measures might feedback to reinforce humanity against existential risks. Pushing this to its limits, it is possible the seemingly oblique effects of improved governance undertaken to shore up existential vulnerabilities actually end up as one of the very sources of humanity’s resilience and robustness against existential outcomes.

6. Concluding thoughts

The lessons that we can draw from deconstructing existential risks into hazards, vulnerabilities and exposures can be divided into internal and external lessons for the field of existential risk research.

In terms of the lessons for existential risk research, our taxonomy suggests that we may presently reside in a situation of pervasive risk. In identifying the catalogue of existential hazards looming over humanity, and focussing attention to confronting these challenges, the perception is that the outcome of these efforts is a lowering of the overall probability of an actualised existential risk. If our efforts are not actually achieving this, however (because they do not address vulnerabilities or exposures, only direct hazards), we run the risk of achieving safety that is merely ‘symbolic’: we perceive that we are ‘all clear’—that we have successfully steered humanity past ‘existential outcomes’—when we are in fact all the more fragile. Defeating a global pandemic, or securing mankind from nuclear war, would be historic achievements; but they would be hollow ones if we were to succumb to social strife or ecosystem collapse decades later. By proposing alternative paths that lead to existential outcomes, our taxonomy can recalibrate the calculus and reduce the prospect of an existential outcome.

#### 2. Appeals to consensus and “policy relevance” surrender anti-nuclearism to the hegemonic rubric of the current nuclear order. Discourse and activism determine the terms of policy debates. The ALT must come first.

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Huge debates among activists ensued over the price paid for the CTBT. Some described the Stockpile Stewardship program as a “Faustian bargain.”68 Others put all of their efforts into supporting Senate ratification, arguing that any step forward is a good step. More than a decade later, many activists similarly supported New START. A minority opinion opposed it, arguing that because the treaty was inexorably tied to billions of dollars in funding for the modernization of nuclear weapons without including any disarmament provisions, it would be unconscionable for activists seeking the abolition of nuclear weapons to advocate for ratification. This minority was bitterly informed by the majority that they were “playing into the hands of those who oppose the treaty.” In the end, the U.S. Senate did approve ratification of New START, and nuclear weapon budgets in the United States—and elsewhere—have increased by billions of dollars.

ACCESS AND INFLUENCE

This is one example of the challenge facing activists, where anything critical of alleged “positive steps” is seen as undermining progress, even if those steps create serious challenges for ultimately achieving the goals of activist campaigns. This is also in keeping with the finding of social movement theorists that opportunities for resistance and protest are closely tied to institutional politics.69 David Meyer, who specifically analyzed nuclear disarmament movements in this context, notes that such movements are most likely to succeed when government policy appears hostile and when “institutional routes for political influence appear foreclosed—precisely those times when they are unlikely to get what they want in terms of policy.”70

Access is not influence. Political institutions may become accessible, but then they can represent a barrier between citizen pressure and public policy. The turn to institutional channels tends to cede ground to ideas and goals that are more moderate and centrist, whereas the center itself is being continuously redefined by more conservative elements.71 In The Authority Trap, Sarah S. Stroup and Wendy H. Wong outline how what are considered “leading” nongovernmental organizations may seem to have both access and authority—“their reports make interna- tional newspapers, they partner with powerful states, and corporations take their calls”—in reality, “their authority constrains their choices and activities.”72 This theory argues that activists working outside of the institutions from which they are demanding change are better positioned both to make these demands and to make sure that the demands are far- reaching. Those working “on the inside” need to appear moderate to maintain their relationships with elites within the system. The authority trap Stroup and Wong describe “pressures them to advance incrementalist proposals and prioritize organizational imperatives over larger—potentially unpalatable—demands to change the status quo.”73 In contrast, those operating outside the halls of power can “hold the line”—they can highlight hypocrisy, agitate and challenge the institutions and structures upholding the status quo, and, in effect, widen the debate and push for broader change than can those working on the inside.

In turn, theorists such as Meyer argue, this gives those working on the inside—those sympathetic to the changes being demanded—more leverage than they might otherwise have, by providing them with a “mass base” of support. It also allows those on the inside more space to push the envelope in terms of their asks for policy change—they can point to the more “radical” demands of those outside as evidence that their own positions are quite “reasonable.” At the same time, those outside can help redefine what is “reasonable” by making it clear what they really want rather than making compromises; this can pull the debate in their direction, shifting the middle ground.

This is not just the perspective of activists or academics working on the outside. This phenomenon has been noted and described by politicians and others working inside institutions with authority. “The work that gets done on the outside largely sets the boundary conditions for what happens on the inside,” explained Scott Ludlam, a former senator for the Australian Greens, after his tenure in office from 2008 to 2017. Consistent with the social movement theory articulated here, he argued that the “driving force” for change comes from outside of institutions.74 Similarly, some international development NGOs have started to recognize what they have lost by becoming too institutional. “With money and access to the corridors of places from Westminster to the World Trade Organisation,” remarked the Institute of Development Studies in an inter- view with The Guardian, these organizations have “failed to take risks and instead simply pacified everyone at the expense of seeking real change.” A former director of one of these NGOs agreed: “We’ve become used to being in business, so we’ve become less and less courageous.”75

Unfortunately, by the end of the nuclear freeze movement in the 1980s, Meyer found that the leaders of some of the biggest antinuclear organizations had abandoned their greatest resource—public support— and turned toward elites. “Intending to maintain good relationships with mainstream elite supporters, arms control and disarmament groups readily narrowed their agendas, winnowing out potentially controversial aspects from their programs.”76 By adopting an institutional focus, Meyer argues, antinuclear weapon groups abdicated their role of imagining, articulating, and advocating for a different future in favor of making politicians feel more comfortable.

This meant that no mass protests occurred in opposition to the nuclear-armed states’ commitment to nuclear weapon modernization in the post–Cold War period, because the groups previously capable of mobilizing action from their constituents had been effectively hobbled by their own buy-in to institutional access and monetary security. Trying to do any antinuclear activism under Obama was difficult—as noted above, some activists felt anyone critical of his policies or actions was being too aggressive toward “the best president we’ve ever had for nuclear disarmament.” I even once had a high-level Obama official angrily tell me that by criticizing the U.S. nuclear weapon modernization program, I was undermining the president’s efforts to achieve nuclear disarmament.

This challenging context of inside-outside strategies for change also shows the problem of taking a piecemeal approach to nuclear disarmament rather a comprehensive one. Over many, many years, antinuclear activists collectively accepted and celebrated treaties negotiated principally by the nuclear-armed states. These treaties have, time and again, done more to reinforce and institutionalize their nuclear weapon programs and policies than to disarm them. We have also worked primarily within forums, such as the Non-Proliferation Treaty and the perpetually stalemated Conference on Disarmament, that privilege the power of the nuclear-armed states and their nuclear-supportive allies over the majority of the world’s governments that have already rejected nuclear weapons. Continuing to cajole and appeal to the nuclear-armed states to pursue negotiations to eliminate their nuclear weapons has been necessary but insufficient.

#### 3. Empirics prove – incremental “steps” simply repackage nuclear violence in palatable forms while confining the horizon of political possibility to the hegemonic nuclear order.

Acheson, '22 – Visiting researcher from the Women’s International League for Peace and Freedom, where they lead the disarmament program Reaching Critical Will (Ray Acheson; "Abolition, not arms control: against reinforcing nuclear weapons through ‘reform’"; Springer; https://link.springer.c/om/article/10.1007/s42597-022-00080-w; 12-1-2022; NC)

Arms control as reform

In Thomas Schelling (1961, p. 723)’s formulation, arms control is an attempt to “reduce the risk of war, its scope and violence if it occurs, or the costs of being prepared for it.” Some see arms control as a step towards full disarmament. But arms control measures do not in themselves delegitimize nuclear weapons or compel divestment from them; nor does arms control reduce the impacts of the use of nuclear weapons, which will be devastating even if a single nuclear bomb is detonated again. Instead, arms control has, over decades, left both the dominant ideological and financial support for nuclear weapons intact. It has taken us further from, rather than closer to, abolition.

Arms control can be considered a system of reform, through which modifications to nuclear weapon policies and practices are undertaken without getting us closer to their elimination. In this way, arms control can arguably help to sustain nuclear weapons. Schelling (1960, p. 104) argued that arms control was “designed to preserve a nuclear striking power;” today, arms control is even used to justify building new nuclear weapons. US Secretary of Defense James Mattis told Congress in February 2018 that he supported plans for new US nuclear-armed submarine-launched cruise missiles because, “I want to make sure that our negotiators have something to negotiate with” in talks with Russia on the Intermediate-range Nuclear Forces Treaty (Sonne 2018, para 6).

Thinking about arms control as reform allows comparisons to be drawn to other structures of state violence, such as police, prisons, and borders. Just as police reform, prison reform, or immigration reform work to make these institutions seem more palatable while ensuring their maintenance and perpetuation, arms control can be seen as being a process by which to reform nuclear weapon policy and practice, while upholding the alleged political power and the economic profiteering of weapons of mass destruction.

Reformism is counterinsurgency, argues prison abolitionist Dylan Rodríguez (2020, para. 2). Adjusting isolated aspects of a system’s operation to protect that system from total collapse is “bad faith incrementalism” that rests “on the fundamental assumption that these systems must remain intact—even as they consistently produce asymmetrical misery, suffering, premature death, and violent life conditions for certain people and places.”

For example, a reformist approach to prison seeks to make incarceration “more humane”—which invariably involves more investments in the structures of incarceration: new jails or prisons, hiring more staff and providing “training,” more equipment, etc. Rather than addressing the root causes of incarceration—which are primarily poverty, structural inequalities, and racism—prison reform upholds and even expands the institution of the prison.

Rodríguez (2020, para. 1) explains, “reform is best understood as a logic rather than an outcome: an approach to institutional change that sustains existing social, economic, political, and/or legal systems.” In essence, “Reformism limits the horizon of political possibility to what is seen as achievable within the limits of existing institutional structures” (Rodríguez 2020, para 10). Reformism makes it more difficult to achieve the real transformations we need in our societies—both because the act of reform legitimizes the overall system, but also because it takes away energy, resources, and people power from more meaningful changes.

For example, amid growing pressure from a grassroots feminist abolitionist movement to close Rikers Island Correctional Facility in New York City because of horrific conditions and human rights abuses, the NYC mayor’s office finally proposed closing the facility—and opening in its place four new jails at the estimated price of 11 billion USD. This plan “would clearly expand, not shrink, the footprint of incarceration in the city of New York,” note Davis et al. (2022, p. 73). In addition, it will siphon public money to for-profit corporations. Instead, abolitionists argue, this money should be used to address the conditions that lead to incarceration in the first place: housing for all, mental health services, harm reduction programs, education, and ending extreme poverty and food insecurity. This is just one example, but it provides a clear picture of how reform reinvests in institutions of violence, rather than helping to dismantle them, rather than preventing harm to human beings.

2 Nuclear reformism

The same reformist instinct is embedded within nuclear arms control. A look at the suggested “reforms” to nuclear weapon possession suggested by arms control provides a clear picture. Considered to be the only “practical,” “feasible,” and “realistic” approach to nuclear disarmament, for decade after decade the same arms control “steps” have been put forward by nuclear-armed states and their allies: ban nuclear testing, stop production of fissile material for nuclear bombs, be more transparent about nuclear arsenals, reduce the context in which governments would consider the use of nuclear weapons, etc. These all sound like reasonable steps—until you learn that the same measures have been talked about by governments since the 1950s without effective action. Or until you realize that during these decades of discussions, the nuclear-armed states have been investing billions of dollars into the modernization and expansion of their arsenals. Or until you understand that many “nuclear force reductions” are actually “nuclear force restructurings”—for example, as nuclear forces expert Hans Kristensen (2010, para 3) points out, the 2010 New Strategic Arms Control Treaty “does not require destruction of a single nuclear warhead and actually permits the United States and Russia to deploy almost the same number of strategic warheads” that they already de

ployed.

The process of reform does not advance disarmament; it stalls it indefinitely by constantly repackaging adjustments that are never actually taken up by any of the governments proposing them. The endless discussions about possible reforms provide an illusion of serious efforts. But the reality falls far short of the rhetoric. While governments hold countless meetings about their latest “progressive agendas,” nuclear weapons continue to put everyone in peril. Portraying themselves as being committed to nuclear disarmament, the nuclear-armed states and their allies deny harms, defer action, avoid responsibility, and try to repress confrontation. On the one hand they assert that they desire nuclear abolition, yet simultaneously prevent any meaningful action that could achieve it—and invest in nuclear armament instead. In short, arms control enables a performance of responsibility and statesmanship and misdirection. It allows for management of episodic public concerns about nuclear dangers—as Joseph Nye (1991, p. x) has argued, “Arms control has crucial political roles. The first is to reassure the publics in democracies.”

Yet even those arms control measures that have been adopted are coming apart at the seams. The nuclear Non-Proliferation Treaty (NPT), adopted in 1968, has been mostly successful in stopping the spread of nuclear weapons around the world. However, the nuclear-armed states that are party to that treaty have not complied with the legal obligation contained in the treaty to eliminate their nuclear weapons—which was part of the “grand bargain” in exchange for other countries never acquiring atomic bombs. Article VI of the NPT requires the five NPT nuclear-armed states “to pursue in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament.” But not only have they not complied with this legal obligation, they also have refused to accept responsibility for failing to comply with the Treaty or with commitments made in 1995, 2000, and 2010 to implement the nuclear disarmament provisions, or to accept new commitments to do so in 2015 or 2022.

Other piecemeal efforts for nuclear arms control, including the call by several think tanks and non-governmental organizations for the US government to adopt a “no-first-use” policy, have also not only stalemated, but have arguably detracted from disarmament. No-first-use is essentially a declaration that a government will not use nuclear weapons in a first strike, but only in “defense” in the case of a nuclear attack. But again, such a policy does not affect the material reality of nuclear weapons—it leaves nuclear forces and deployments intact, while relying on the commitment of the president to refrain from a first strike. It also discounts the fact that the catastrophic impacts of a nuclear weapon detonation are the same whether they are part of a first or second strike—hundreds of thousands of people will still be murdered instantly, turned to shadows and smudges amidst the radioactive firestorm. Millions more will die in a wider nuclear exchange; most of humanity may perish from the resulting global famine.

The performativity of arms control, whether considered counterinsurgency or not, has meant that operational policies related to “nuclear deterrence” have become twinned with arms control, just like prisons are twinned with parole and probation. This is why abolition is the only answer. Until nuclear weapons are eliminated, any arms control measures are akin to moving around ticking time bombs on a chessboard. Reformism reifies rather than liberates us from the inherent violence, discrimination, exclusion, and inequality generated by nuclear weapons. Yet another insidious counterinsurgency tactic of reformism is to co-opt the language of inclusion and equality in an attempt to negate or deflect critique.

#### 4. Hegemonic nuclearism and environmental sustainability are fundamentally unbridgeable discourses. The perm “greens the military,” which conceals the environmental degradation inherent to its function.

Parr, ‘09 – Visiting Associate Professor at the University of Cincinnati's College of Design, Architecture, Art, and Planning (Adrian Parr; “Hijacking Sustainability*”*; p. 79-87; MIT Press; 2009; NC)

The Cold War left behind a toxic legacy that, depending on which standards were used, was estimated to "cost the U.S. taxpayers between $330 and $430 billion to clean up." The initiative to green the U.S. military that President Clinton inaugurated aspired to make a serious dent in a massive task and change the military's attitudes toward the environment. Largely this entailed, and still does, modifying the culture of the military. Primarily, this is achieved by integrating environmental issues and concerns into the military's regular activities, the services it provides, and the products it uses. This translates as managing training ranges and lands with a view to long-term availability, procuring environmentally friendly products that reduce resource consumption, reducing the amount of solid waste and the military's consumption of energy and natural resources, as well as introducing pollution-prevention initiatives (these include recyCling of batteries, solvents, fluorescent lights, and nonhazardous wastes).

However, the goal of greening the military fails to distinguish properly between integrating environmental policies into its management systems and the function of the military profession, which Samuel Huntington chillingly described as the "direction, operation, and control of a human organization whose primary function is the application of violence."3 Exploiting principles of sustainability as part of the military arsenal in effect distorts the fundamental premise of sustainability-working to meet the needs of the present generation without undermining future generations' ability to meet their own needs-if not because the military is ultimately a regressive structure, the very nemesis of civil society and democratic life. If we briefly look to Naomi Klein's "Disaster Capitalism" thesis that demonstrates the complicity between U.S. democracy-building, waging war, and capitalism, then the political goals that the military sets out to realize are ultimately unsustainable at their core. If the capitalist economic engine feeds off of the reconstruction industry in war-torn parts of the world, then any army sustainability goal is a paradox in terms.4 Clearly, the proposition to transform the culture of the military to be more environmentally friendly and focused on advancing and using principles of sustain ability is a cynical exercise and, as argued below, it is used to conceal the fact that the effects of military power are fundamentally unsustainable.

If one rejects that there exists a common ground between the military and sustainable development and recognizes that it is derisive that the military-an organization committed to waging war-is worried about its ecological footprint, then the reality of environmental degradation and human well-being seems very different from the ecogeopolitical conception of environmental security that Braden Allenby defines as lithe intersection of environmental and national security considerations at a national policy level."5 The shuffling of environmental concerns and military values to bring the organization closer to civil society is surprisingly, in many ways, the effect of Left, liberal politics. Bacevich explains, and I would agree with him, that "liberals have grown comfortable with seeing the military establishment itself not as an obstacle to social change but as a venue in which to promote it, pointing the way for the rest of society on matters such as race, gender and sexual orientation."6 And I would add to the mix of progressive causes Bacevich lists the issue of sustainability.

Contemporary ecogeopolitical discourse combines discourses of ecopolitics and geopolitics. Its arguments primarily fall into two main categories. The first argument wrongfully puts forward a utilitarian line of reasoning: the environment must be protected in order to enhance national and individual security. This position assumes that a sustainable approach to the culture of the military will maximize environmental benefits and hence the security of everyone. The second argument relates to the preservation of U.S. sociopolitical ideals-life, liberty, and the pursuit of happiness-in which the military has mistakenly become the theater in which these are played out. Both positions, which underpin the Clinton military greening initiative that sought to turn environmental issues into a national security concern, overlook the serious implications of applying military-based mechanisms to assess the value of life. For instance, it is wrong to ask the soldier in Guantanamo Bay who is beating a semiconscious prisoner what the value of his victim's life is. The only person who can answer that question is the victim. The same logic applies to how we evaluate the relationship between the military and environmental and social justice issues, for militaristic uses of power are not premised upon a model of collaboration and cooperation; they are oppressive structures of domination. In short, military power does not empower the subject of violence to assert agency in the way that sustainability culture attempts to-in fact, quite the opposite.

The discourse of military power cannot translate seamlessly into a discourse of sustain ability. Ultimately, an unbridgeable chasm exists between the fragile truth of civil society and its values, and the military, which is not the same as saying that the military is unnecessary; rather, my point is that the policy to green the military is insincere at best because it conceals the fact that the military's function is to conduct war. And, if anything, the work of the environmental activist or those involved with sustainable development cannot be equated with military systems. This chapter traces how a common ground between the discourse of a U.S. military ethic and that of a sustainable ethic has been constructed, going on to argue that one of the biggest challenges facing sustainability culture is how to reassert their separation.

The military uses the popularity of the discourse and practice of sustainability as a "tool for mission accomplishment" and the maintenance of an asymmetric advantage in respect to perceived threats'? My first premise, then, is that the policy to green the U.S. military in an effort to maximize security is merely a smokescreen for U.S. militarism. In 1989, when the Cold War came to a close, the bipolar balance of power set by the standoff between the Soviets and the United States dramatically ended. Accordingly, the Singular threat to U.S. security grew elusive. Over time it became apparent that threats to national security were no longer restricted to state actors. Drug traffickers, insurgents, terrorists, organized crime, and environmental degradation all were perceived to pose serious challenges to U.S. national security. Without one dominant threat in place, the meaning of national security became harder to define; meanwhile, the definition of America as the dominant global power went unchallenged.s As Clinton's first secretary of state, Warren Christopher declared the world after the faU of the Soviet Union was "a world transformed."9 The effect of this transformation was the evaporation of politics. As the line between domestic and foreign policy dissolved so too did the political lines delimiting different ideological positions (communism and liberal democracy). In this manner, a limitless principle was anxiously inaugurated as the new mode of political life.

After the Cold War era the crucial question on the minds of those both in the presidential administration and at the Pentagon was: How can the military enhance the security of state when the threat to national security is indiscernible? As Clinton exclaimed in his First Inaugural Address: "Today, a generation raised in the shadows of the Cold War assumes new responsibilities in a world warmed by the sunshine of freedom but threatened still by ancient hatreds and new plagues."lo One possible answer to the question of who, or what, constituted a threat was presented to Congress in 1995 by the U.S. secretary of defense: "environmental security is now an essential part of the U.S. defense mission and a high priority for the Department of Defense (000)."11 Just five years earlier Gore had published his "Strategic Environment Initiative" (SEI), an ironic reference to Reagan's arms-development program termed the "Strategic Defense Initiative."lz The proposition was to create and develop environmentally friendly technologies for energy, transportation, manufacturing, construction, agriculture, waste reduction, and recycling. The plan also required wealthy nations to transfer environmentally friendly technologies to economically disadvantaged nations. Although at the time Gore's SEI plan was released, the United States devoted just one-fifth of its budget to energy research and development and two-thirds of it to defense-related spending, strangely Gore was unwilling to finance his environmental policies with defen~e funds. For this reason, Jon Barnett argues Gore's otherwise reasonable and practical suggestions ended up being reduced to a "set of narrow military and foreign policy responses."l3 As the budget for energy research and development turned into a component of defense spending, the gap between the military and civil life began to close.

Robert Durant provides a detailed narrative of the historical struggle to create a corporate sense of responsibility within the U.S. military toward the health and safety of the public and the environment. The key problem he identifies was how to achieve this without compromising military readiness and, more significantly, how large-scale change could come into effect in a public organization whose culture throughout the Cold War had been defined by sovereignty, secrecy, and sinecure. During this time the Pentagon had argued it was in a better position than national or state regulators to assess and resolve the need for environmental protection within their organization. This position of sovereignty seriously undermined the work of national and state regulators to hold the military accountable to environmental and national resource (ENR) laws. The military decided for reasons of preserving national security which information could be released concerning how it conducted its affairs. Durant tells that the Pentagon went so far as to hire public relations firms to gather statistical evidence to support the claim that environmental stewardship goals were being met. From 1985 to 1995, the DoD claimed it had reduced fuel consumption by 20 percent and the average facility usage by 13.9 percent. In 1998, after having reduced its pesticide use by 50 percent, the EPA awarded the 000 an environmental excellence award.14

Under the Clinton administration, the main person responsible for instilling into the culture of the military a strong ethic for environmental stewardship was Sherrie Wasserman Goodman, the deputy undersecretary of defense for environmental security. However, she found serious inaccuracies in how the military reported environmental data and "changes in the definition of what constitutes a site investigation" that together compromised the positive assessment of the military's new environmental record. IS For all these reasons, Durant states that before military activities could be made to comply with ENR laws, the culture of the organization had to become more transparent and accountable. All this is fine. But it also meant that not only the internal culture underwent a radical overhaul; the role of the military also changed. In other words, the clear and distinct boundary between a civilian organization and the military was blurred as the category of environmental security took center stage.

Over and above the need to introduce environmental and natural resource values into the daily operation of the culture of the military was the more urgent concern of realigning the meaning of sustainable development as part of national security. Clinton's national security advisor, Anthony Lake (1993-1997), claimed the prevailing policy of containment during the Cold War had become redundant. He advocated a new policy of enlargement, which he understood as expanding democracy and market economics throughout the world. In his "From Containment to Enlargement" speech on September 21, 1993, Lake stressed that America's choices concerning foreign policy would help determine the following:

Whether Americans' real incomes double every 26 years, as they did in the 1960s, Or every 36 years, as they did during the late '70s and '80s.

Whether the 2S nations with weapons or mass destruction grow in number or decline. Whether the next quarter century will see terrorism, which injured or killed more than 2000 Americans during the last quarter century, expand or recede as a threat. Whether the nations or the world will be more able or less able to address regional disputes, humanitarian needs and the threat of environmental degradation.16 Within this picture, environmental and social justice advocates would not only help promote the goals of civil society and strengthen democracy, their work also would contribute to the overall policy of enlargement.

As the fourth part in the strategy of enlargement, sustainable development was seen as key to expanding democracy to the developing world and helping move the planned economies of these countries toward the free market. I? This narrow version of state-centric environmentalism, working under the umbrella of ecogeopolitical strategizing, was co-opted by the Administration to advance its own economic and military agenda. As Goodman clearly expressed in mid-1993, her commitment to environmental security was to: ensure "responsible environmental performance in defense operations" and to "deter or mitigate impacts of adverse environmental actions [on] international security."18

Conflating geopolitical military aspirations with environmental and social justice issues is problematic because it fails to adequately grapple with the shared realities of global environmental degradation and t1!.e other issues such as poverty, war, and inequality into which this feeds. Put differently, pollution, stratospheric ozone depletion, clean water, and climate change are a collective problem affecting all forms of life on earth. They are not a selective problem of security, exclusive to any one particular nation. This conundrum at the core of state-centric environmentalism helps explain the nonsensical position of President Bush Junior when he gave his support for international environmental regulations, such as the Kyoto Protocol, and yet refused to ratify the agreement for reasons that it would compromis.e U.S. business and security interests. Here he clearly refused to act in the best interests of long-term sustainability goals that would benefit the entire planet in favor of short-term national preferences and interests. This position is a direct result of bringing what are otherwise two irreconcilable discourses-national security and sustainability together. Namely, if we reduce the issue of sustainability to a problem of national security, then any multilateral international agreement will be assessed on the basis of how it complies with the preferences and interests specific to one particular nation, instead of cooperating to devise pragmatic solutions to a problem collectively shared for the common good of the global community.

Of course, the ecogeopolitical language used in the discussion of defense and international policy is partial. The manner in which ecological degradation is described in militaristic terms is not an objective category separate from the deeper issue of a U.S. culture of militarism. Nor is the political meaning of environmental security constant; the word sustainability often used in reference to environmental security is a classic case in point. In the Road Map to National Security, a report that set out to define the state of U.S. national security after the collapse of the Soviet Union, the word sustainability is invoked twenty-five times in 156 pages.19 As the meaning of the term is rearranged, it is offered in support of any number of political agendas: America's position as a world leader in science and technology, public interest in biotechnology, overseas combat, U.S. needs, the growth of the U.S. economy, and Democratic Peace.20 After using sustainability in reference to such a broad array of issues, the report suggests broadening the definition of national security as defense: lito include economiCS, technOlogy, and education for a new age in which novel opportunities and challenges coexist uncertainly with familiar ones."21 As a result, social justice issues were militarized under the rubric of national defense. Meanwhile, the threat to national security remained elusive.

#### Turns case and causes extinction – instability is a symptom of deterrence’s structural contradictions. Their short-term managerial tactic kicks the can down the road. Nuclear strategy collapses upon itself because deterrence requires raising the risks of escalation. Nuclear threats cannot be made credible, rational, and simultaneously stabilizing. We should not gamble with nuclear genocide. Cuba and Able Archer prove failure is statistically inevitable, it’s only a question of when.

Benoît Pelopidas Chair of excellence in security studies at CERI (Sciences Po) ’15 “A Bet Portrayed as a Certainty: Reassessing the Added Deterrent Value of Nuclear Weapons” in *The War That Must Never Be Fought. Dilemmas of Nuclear Deterrence* eds. James Goodby; George Shultz., Hoover Press, p. 13-20

Critics of abolition portray a world without nuclear weapons as war- prone and believe that nuclear weapons are a necessary and sufficient cause for great-power peace. This is only the latest instance of an idea that has repeatedly been proven wrong, since at least 1860: the expectation that the unprecedented destructiveness of a new weapon system and the threat of its use will put an end to war. This was wrong for dynamite, submarines, artillery, smokeless powder, the machine gun, and poison gas.24 Was nuclear deterrence a necessary and sufficient cause for peace among great powers? Most critics of the idea of a world without nuclear weapons maintain that it was. They argue that the nuclear-armed states never fought a war against each other.25 This can now be proven wrong. The 1969 border clash between China and Russia26 and, more recently, the 1999 Kargil crisis between India and Pakistan show that the conventional wisdom that a nuclear-armed state cannot be attacked is historically inaccurate. Moreover, nuclear-armed states have been attacked by non-nuclear-weapon states on multiple occasions. US troops were attacked by Chinese forces in 1950 in Korea and by Vietnamese forces in the 1960s and 1970s; Israel was attacked by Syria and Egypt in 1973 and by Iraq in 1991; and in 1982, Argentina invaded the British Falkland Islands.27 This narrows down the claims for nuclear weapons as peacemakers. More importantly, even this narrower claim needs to be reexamined taking into account two facts: (1) avoidance of several nuclear disasters was due to luck and cannot be explained by nuclear deterrence; and (2) deterrence as a strategy has favored more risk-prone strategies and in some cases made war possible instead of preventing it.

Luck is too often taken as a confirmation that nuclear deterrence kept the peace.28 But luck should not be misread as successful deterrence.29 More accurately, as Thomas Schelling noted, leaders of nuclear- weapon states can make threats that “leave something to chance”30— recognizing that things could spiral out of control and nuclear weapons could be used even if they do not intend to use them—to make those threats more credible. But including luck in a successful deterrence strategy, as if you could control it, is both a conceptual confusion and a retrospective illusion.31 Luck was on our side this time, but this is not a consequence of purposeful action. For example, during the night of October 26–27, 1962, at the height of the Cuban missile crisis, an American U-2 spy plane strayed into Soviet airspace over the Arctic. Soviet fighter jets scrambled to intercept the U-2 while F-102 interceptors were sent to escort it home and prevent Soviet MIGs from freely entering US airspace. Given the circumstances, the F-102s conventional air-to-air missiles had been replaced with nuclear-tipped ones and their pilots could decide to use nuclear weapons. According to Scott Sagan in The Limits of Safety, “the interceptors at Galena were armed with the nuclear Falcon air-to-air missiles and, under existing safety rules, were authorized to carry the weapons in full readiness condition in any ‘active air defense’ mission.”32 Fortunately, the spy plane turned back and the Soviet jets held their fire.33 There are many other instances in which deterrence cannot account for favorable outcomes.34 Robert McNamara was direct about the role of luck during the Cuban missile crisis:

According to former Soviet military leaders, at the height of the crisis, Soviet forces in Cuba possessed 162 nuclear warheads, including at least 90 tactical warheads. [And the United States. was not aware of that at the time.] At about the same time, Cuban President Fidel Castro asked the Soviet ambassador to Cuba to send a cable to Soviet Premier Nikita Khrushchev stating that Castro urged him to counter a U.S. attack with a nuclear response. Clearly, there was a high risk that in the face of a U.S. attack, which many in the U.S. government were prepared to recommend to President Kennedy, the Soviet forces in Cuba would have decided to use their nuclear weapons rather than lose them. Only a few years ago did we learn that the four Soviet submarines trailing the U.S. Naval vessels near Cuba each carried torpedoes with nuclear warheads. Each of the sub commanders had the authority to launch his torpedoes. The situation was even more frightening because, as the lead commander recounted to me, the subs were out of communication with their Soviet bases, and they continued their patrols for four days after Khrushchev announced the withdrawal of the missiles from Cuba. The lesson, if it had not been clear before, was made so at a conference on the crisis held in Havana in 1992. . . . Near the end of that meeting, I asked Castro whether he would have recommended that Khrushchev use the weapons in the face of a U.S. invasion, and if so, how he thought the United States would respond. “We started from the assumption that if there was an invasion of Cuba, nuclear war would erupt,” Castro replied. “We were certain of that. . . . [W]e would be forced to pay the price that we would disappear.” He continued, “Would I have been ready to use nuclear weapons? Yes, I would have agreed to the use of nuclear weapons.” And he added, “If Mr. McNamara or Mr. Kennedy had been in our place, and had their country been invaded, or their country was going to be occupied . . . I believe they would have used tactical nuclear weapons.” I hope that President Kennedy and I would not have behaved as Castro suggested we would have. . . . Had we responded in a similar way the damage to the United States would have been unthinkable. But human beings are fallible [emphasis added].35

This fascinating account shows how lack of information, misperception, and ideology could have led to disaster if we had not been lucky. But false information, lack of information, and misperceptions were not the only reason why luck was the decisive cause of the positive outcome of the Cuban missile crisis. Limits of safety, limits of command and control, and organizational problems also have to be taken into account. As Scott Sagan wrote:

Many serious safety problems, which could have resulted in an accidental or unauthorized detonation or a serious provocation to the Soviet government, occurred during the crisis. None of these incidents led to inadvertent escalation or an accidental war. All of them, however, had the potential to do so. President Kennedy may well have been prudent. He did not, however, have unchallenged final control over U.S. nuclear weapons.36

#### Rejecting strategic reason for cosmopolitan concern denounces conventional shift.

Anthony BURKE Prf. Environmental Politics and International Relations @ University of New South Wales ‘9 “Nuclear Reason: At the Limits of Strategy” *International Relations* 23(4) p. 508-513

Like post-Renaissance military strategy, nuclear strategy is certainly a modern phenomenon – an extreme (if not the only) culmination of a modern desire to use science, technology and political science to control and make use of human and natural material for instrumental ends.24 As such it bears the marks of the darker, more mechanistic qualities of the Enlightenment (what Horkheimer and Adorno25 called ‘rationality in domination’) and challenges its more hopeful, critical qualities, which sought to place reason under critique and enhance human dignity. However, this article’s ambition is more limited than Walker’s – not to see nuclear politics and policy as a grand teleological project, but to locate its perseverance in a powerful, self-enclosed form of strategic reason that encompasses both conventional and mass destruction weapons, and runs along lines of logic that are self-defeating and dangerous. Laid out in this form, the analysis is meant as a contribution to Marianne Hanson’s call for ‘an informed critical security studies project that explicitly tackles the question of nuclear weapons at a global level’.26 The practical and ethical test, in this perspective, is whether the system will enable a profound and enduring security for all human beings. While we can appreciate that governments have important responsibilities to their own citizens, merely national policy or security imperatives, especially those that place others at grave risk, are inadequate.

#### 4. Proliferationism link – they naturalize nuclear weapons as an intrinsically desirable good when really the Global South has de-proliferated, 93 countries have signed the TPNW, and it is only Western states clinging to hegemonic control. Positing rogue states as dangerous deviants legitimizes Western nuclear threat-making and ontologizes nuclear possession as an element of truth.

Ritchie, '19 – Senior Lecturer Department of Politics and International Relations University of York Heslington, PhD, University of Bradford (Nick Ritchie; "A hegemonic nuclear order: Understanding the Ban Treaty and the power politics of nuclear weapons"; Contemporary Security Policy, 1–26. doi:10.1080/13523260.2019.1571852; 09-2022; NC)

Proliferationism is a discourse that treats the spread of nuclear weapons as inevitable and thereby justifies or naturalizes both nuclearism and a range of disciplinary non-proliferation practices, often captured in the idea of a linear proliferation chain (see Dunn & Overholt, 1976 for the original argument; see Reed & Stillman, 2009 for a contemporary linear analysis). Pelopidas (2011) exposes and critiques this “proliferation paradigm” as a politicized reading of nuclear history that imagines the deterministic spread of nuclear weapons as a metaphorical “contagion” in international society driven by shared ideas about innate and positive qualities of nuclear weapons. He shows how this generates “requirements” for control, surveillance, punishment and nuclear threat-making to establish obstacles in the way of the weapons’ “inevitable” spread that must be actively contained. It is based on a view of nuclear proliferation as a natural and linear “chain reaction” or “domino effect” that takes on a momentum of its own, ignoring what Muller and Schmidt (2010) identify as the “phenomenon of deproliferation.” Proliferationism, in turn, reflects a broadly Western form of nuclear exceptionalism in which the liberal values underpinning Western polities justify selective possession of nuclear weapons. This view suggests that nuclear weapons are not morally equivalent: Western nuclear weapons are inherently legitimate and good for international peace and security; those in the hands of authoritarian states or states beyond the West’s sphere of influence are illegitimate and undermine a Western understanding of international order (Cooper, 2006, pp. 370–374). More broadly, the suppliers of nuclear technology by whom control is exerted are the “states of the advanced industrialized world” and their allies, recipients are those outside this privileged group, with rogues cast as deviants who challenge this hierarchy (Mutimer, 2000, p. 157). This view frames the spread of nuclear weapons as “the greatest single threat to world security for the rest of our lives” in the words of Krauthammer (1990), who urges the West “to police these weapons and those who brandish them” (p. 32) and insists there is no one to do that but the United States.

These ordering ideas produce shared nuclear “regimes of truth” about what nuclear weapons mean, what they can do in terms of security, stability, and deterrence, why they are valued, and what and who count as legitimate or illegitimate nuclear actions and actors (Ritchie, 2013b). First, they naturalize and exceptionalize nuclear weapons and nuclear power programs in specific ways that imbue them with extraordinary symbolic power (Abraham, 2010). Second, they establish (or “produce”) nuclear actors in specific ways as “rogue,” dangerous, and unstable or alternatively civilized, Western, developed, or responsible, including the category of “superpower” that, for the United States, “is inexorably tied – not only militarily and politically but also psychologically – to its nuclear domination” (Lifton, 2001, p. 29). Third, they naturalize nuclear deterrence and proliferation in ways that produce particular versions of the nuclear past and the nuclear future that restrict the ways in which we can understand and address the challenges that stem from the existence nuclear weapons in fallible human hands (Pelopidas, 2016). These discourses are contested, not least by the less powerful discourse of nuclear disarmament. But nuclearism and proliferationism remain deeply embedded in the global politics of nuclear weapons as shared understandings of “nuclear truth” amongst the world’s most powerful states with significant buy-in from many less powerful states, including through the NPT.

#### That denies a historical trend of state de-proliferation even with the capability and motive to acquire nukes.

Pelopidas, ‘11 – Chair of excellence in security studies at CERI (Sciences Po) (Benoît Pelopida; “The Oracles of Proliferation How experts maintain a biased historical Reading that limits policy innovation”; *Nonproliferation Review* 18 (1), p. 303-307; 03-2011)

The Proliferation Paradigm in Light of Nuclear History

Before examining the implications of the proliferation paradigm, it is useful to address the deductions arising from the metaphor that leads to that approach. Let me briefly list them: the pathological connotation related to the phenomenon of proliferation and transposed to those entities that represent it; the self-begetting nature of the phenomenon, which ultimately leads to capacity determinism; and, finally, the logic of a chain reaction, which suggests that the bomb represents the most appropriate response to a security threat posed by proliferation on the part of a neighbor.

First, proliferating regimes can alter their strategic approach before and after they have crossed the nuclear threshold. This argument throws into relief the limitations of the pathological aspect that the metaphor attributes to the bomb, whereby the proliferators are the hotbed that allows the disease to spread. The illness, then, can regress. Furthermore, most proliferating states have not succeeded in crossing the nuclear threshold, and South Africa dismantled its entire nuclear arsenal after having built six nuclear bombs and having had a fully operational nuclear weapon at its disposal for ten years.41 Similarly, three states\*Ukraine, Belarus, and Kazakhstan\*came into existence with considerable portions of the Soviet arsenal within their borders, and all returned those arsenals to Russia under the Lisbon Protocol, which was signed on May 23, 1992; the arsenals were dismantled by 1996.42 Even Libya, which supported terrorist groups until the late 1980s and tried to acquire weapons after Muammar Qaddafi came to power in 1969, completely reconsidered its strategy from 1992 onward, when it included its weapons of mass destruction programs in negotiations with Washington and London. After lengthy talks, Libya officially announced that it was renouncing nuclear weapons in December 2003 and that it would dismantle its existing facilities under IAEA control and within a very tight deadline.43

Second, the self-begetting nature of proliferation (which is tantamount to the general principle of capacity determinism) maintains that any state able to acquire nuclear weapons will do so. There are at least two versions of this idea. One posits that there is a constant desire to go for the bomb, but that this desire can be tempered by technological barriers. The other agrees that this desire exists, but maintains that the networking of proliferation channels as confirmed by the discovery of the illicit A.Q. Khan nuclear ring considerably reduces the number of technological barriers in existence, so that countries that want to acquire the bomb will always find the financial and human means to take whatever steps will lead them to nuclear technology. In other words, where there is a will, there is a way. The desire for the bomb is present in both of these variants; they diverge only in their stances on the possibility of taking action and limiting it. Yet this pseudo- principle is increasingly undermined by the historical record.A graph of the number of states with the number of states that have been measured

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If internal political debate sometimes sees the argument of capacity as a means of persuasion for crossing the nuclear threshold, as was the case in India, this does not always have to be the case.44 Technologically advanced states such as Switzerland and Sweden have engaged in military nuclear activities yet have never crossed the threshold. Japan and Germany also fit into this category, and are even more relevant to this discussion because eminent nuclear experts have predicted that they would go nuclear.45 Furthermore, if the general principle in question were valid, no nuclear weapon state would have relinquished the bomb, including South Africa. As time goes by, nuclear technology spreads, but contrary to what technological determinism would expect, nuclear weapons projects have increasingly been failing to achieve their ultimate objective, and those that have succeeded in recent years have needed more time than those undertaken in previous decades (see Figure 2).46 One final argument to submit here is that, of all the states that have engaged in nuclear activity, those that put an end to their nuclear activities after acquiring a research reactor are more numerous than those that did so before acquiring such a facility. In other words, such a considerable technological advance does not make it more likely that a state will cross the nuclear threshold.47

Third, the bomb has not necessarily been seen as the most effective security guarantee against a proliferator, which casts the image of the chain reaction in a considerably different light. Egypt serves as a telling example here. In the 1950s, Cairo launched a military nuclear program in order to fend off any potential trouble from Tel Aviv and to establish Egypt as a regional leader.48 The existence of an Israeli program was not well known at the time, and Egypt’s conventional capacity was significantly higher than that of Israel.49 When, at the beginning of the 1970s, Egypt abandoned its nuclear ambitions, the Israeli program was better known than when Egypt’s program had begun, and the balance of conventional capacity had tipped against Egypt: Iran, Iraq, and Libya\* all racing against one another for regional leadership\*were suspected of proliferation.50 Finally, Cairo had no security guarantees from Moscow. Some Egyptians believed that the Soviet Union would commit to protecting their country if Israel acquired a deterrent, but other sources flatly deny that such an agreement was in place. In addition, President Gamal Abdel Nasser publicly rejected its existence.51 If the general principle discussed above held true, the significant degeneration of Egyptian security between the mid-1950s and the 1970s, including its defeat in 1967, should have led Egypt to take steps toward proliferation, had a response to proliferation been necessary at the time. But it did not. Scientifically, however, Egypt was the best equipped of all Arab nations: the desert would have proved an excellent site for testing, and in the 1960s, Egypt’s resources were equal or superior to those of Israel or Pakistan when those states began their nuclear programs.52 The nuclear chain reaction, a recurring tool of the alarmist camp inside the proliferation paradigm since the 1960s, is therefore not supported by much empirical eviden

ce.

The three deductions that can be drawn from the metaphor of proliferation are therefore excessive when one consults nuclear history. Having established above that this metaphor was a cornerstone of the proliferation paradigm, I can now turn to the biases that it introduced in the general understanding of nuclear history.

In general terms, the proliferation paradigm has inspired excessively pessimistic predictions that have not come true. Moreover, the minute hand of the ‘‘Doomsday Clock’’ has had to be turned back on several occasions\*in 1960, 1963, 1969, 1972, 1988, 1990, 1991, and 2010.53 If one examines horizontal proliferation, the proliferation paradigm obscures two crucial phenomena in nuclear history.

First, the vast majority of states simply have not tried to acquire nuclear weapons. The most pessimistic studies show that only thirty-nine states have engaged in nuclear activities at one time or another, regardless of any decisions to pursue the bomb.54 This statistic does little to corroborate any belief in the intrinsic appeal of the bomb. Of the 192 states currently recognized by the United Nations, the most pessimistic figure for the number of states that at one time or another have engaged in nuclear activity stands at 20.3 percent. Naturally, the number of states having crossed the threshold is even lower: 4.7 percent, including North Korea (see Table 1).

Second, the general principle of a linear rise in the number of nuclear weapon states is undermined by the period from 1991 until 1998. During this time, not one state crossed the nuclear threshold, and no new proliferating state came on the scene.55 This was not merely a period of status quo or nonproliferation, but rather the golden age of deproliferation, if viewed objectively rather than focusing exclusively on states that were acknowledged as having nuclear weapons. From this perspective, South Africa dismantled its nuclear arsenal fully between 1990 and 1991. The new government of Nelson Mandela, which was elected in 1994, chose not to reverse that decision.56 Similarly, it is worth repeating that Ukraine, Belarus, and Kazakhstan all returned their inherited arsenals to Russia. The fact remains that between 1991 and 1996, when the dismantlement of the arsenals was complete, those three states were, objectively speaking, nuclear; at the time, Ukraine and Kazakhstan had (in purely quantitative terms) the third- and fourth- largest arsenals in the world.57 In this sense, ten states were effectively said to have nuclear weapons in 1991\*the five official states plus Israel, South Africa, and the three former Soviet republics\*whereas five years later, that figure had fallen to six. If India is included by virtue of its peaceful test in 1974, the figures are eleven and seven, respectively. Horizontal deproliferation does exist, then, in spite of the efforts of the proliferation metaphor to obscure it, although we must avoid extrapolating it into an irreversible trend, lest we find ourselves embracing a belief that directly counters that which I am examining here.A table with text and numbers

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Both of these factors lead to the acknowledgement that proliferation and abandonment of nuclear activity are twin exceptions in nuclear history. What is more, successful proliferation is less common than abandonment. Indeed, of all the states that have, at one time or another, harbored ambitions to acquire a nuclear weapon, the majority have abandoned them (twenty-eight states)\*and very few (only ten) have succeeded in crossing the threshold.

#### 5. Pushing the window of possibility works and is better than incrementalism.

Kjølv EGELAND Marie Skłodowska Curie postdoctoral fellow in security studies @ Center for International Studies (CERI), Sciences Po (Paris) ’22 “A theory of nuclear disarmament: Cases, analogies, and the role of the non-proliferation regime” *Contemporary Security Policy* 43: 1 p. 122-123

What, if anything, can be generalized from the various events and processes discussed in this article? First, in each case, change was precipitated by the stigmatization of the practice or object in question and emergence of new conceptions of appropriate action. Second, in some cases, such as the processes of nuclear relinquishment by South Africa and the three post-Soviet republics, and arguably a number of nonnuclear disarmament processes such as the renunciation of biological weapons by the United States in the context of the turmoil of the Vietnam War, change appears to have been aided by wider political commotion or exogenous shocks. In other cases, perhaps most notably the British abolition of the slave trade and multiple instances of nuclear rollback and nonnuclear disarmament, change occurred during periods of relative political stability. Third, security circumstances varied significantly across the cases discussed. While improved security conditions undoubtedly helped foster or allow for change in many cases, improved security conditions were often facilitated by the very processes under discussion. In some cases, such as the Swedish nuclear reversal, and arguably the cases of disarmament by the three post- Soviet states, renunciation was pushed through in spite of what seemed a threatening or at the very least uncertain security environment. A final observation is that, while diplomacy was of great importance in many cases, change invariably took place through unilateral, domestic action. The only exception is the U.S.–Russian arms control process, through which agreements have been based on formal reciprocity and a logic of incrementalism. As established above, however, the history of arms control arguably holds low evidentiary value for theorizing about nuclear renunciation.

A close-up of a chart

Description automatically generated

Table 1 summarizes basic information about the various cases’ score on key variables and resemblance to a hard case of nuclear disarmament. The evidence discussed in this paper suggests that stigmatization is a necessary condition for nuclear disarmament, and that exogenous shocks, political turmoil, or the disappearance of a perceived threat can increase the prospects for change.

The general findings articulated above conflict with at least three common assumptions in the field of nuclear policy analysis. First, the NPT is widely presented as a vehicle not only for nonproliferation but also a future nuclear weapons elimination process (see Egeland, 2021). The analysis above, however, suggests that the treaty functions as a break on change by legitimating the status quo and shielding the permanent members of the UN Security Council from normative pressure (see also Hanson, 2022; Noda, 2022; Pretorius & Sauer, 2022). In particular, the treaty’s legal recognition of the established great powers as “nuclear-weapon states” appears to have provided the actor-networks favoring the retention of nuclear weapons within those states with rhetorical resources to justify their countries’ continuous rebuilding of nuclear forces as natural, legal, and legitimate. In the words of Tannenwald (2020, p. 125), the NPT “effectively legitimizes deterrence” for the traditional major powers. The findings support the argument advanced by proponents of the Treaty on the Prohibition of Nuclear Weapons that nuclear disarmament requires the extension of a prohibitory norm against nuclear possession as a precursor to policy change (Ritchie, 2019; see also Gibbons & Herzog, 2022).

### Adv 1

#### Investing in deterrence turns their impact – deterrence breakdown is uniquely terrible in the Arctic & Deterrence theory can’t explain it.

Rempe ’23 [Rebecca; May 9; BA Honors Specialization in Political Science from the University of Western Ontario; Security Distillery, “The Meltdown: Nuclear Relations in the Arctic,” https://thesecuritydistillery.org/all-articles/the-meltdown-nuclear-relations-in-the-arctic]

Arctic security can be characterised as a nexus between multipolar nuclear conflict and climate change. Multipolarity is defined as a global balance of power between multiple actors [3]. Climate Change is making seaways and resources more accessible, which is leading to a thawing of territorial conflicts which were formerly frozen [4]. China’s increasing economic interests in the Arctic means it must be considered as a regional actor despite its near-regional status [5]. Russia has recently threatened to use nuclear weapons against the United States (U.S.) due to its objections to Russia’s invasion of Ukraine; this sets a precedent for heightened nuclear tension in the Arctic, which is the most nuclearized area in the world and has seen a steady buildup of nuclear and conventional forces by regional actors [6]. These factors have led to direct tensions between three major nuclear actors (namely, NATO, China, and Russia) in a region that is becoming increasingly competitive [7]. These tensions cannot be adequately explained by existing deterrence models, which rely on Cold War-era bipolar game theory [8]. Due to climate change, geopolitical tension, and the Russian invasion of Ukraine, nuclear relations in the Arctic are unstable and present serious security risks that cannot be contended with through the use of classic deterrence theory [9].

ARCTIC GOVERNANCE AND CLIMATE CHANGE

The Arctic region is 66.5° north of the equator and encompasses the United States, Canada, Finland, Sweden, Denmark, Norway, Russia, and Iceland, all of whom are members of the region’s governing body, the Arctic Council [10]. The region’s international legal status currently lies under the United Nations Convention for the Law of the Sea, however, due to climate change, polar ice is melting, making the region more accessible by sea and opening up its vast oil and gas deposits for extraction by regional actors [11].

Sino-Russian cooperation along sea routes has given China significant influence in the region, which it wants to develop into a “Polar Silk Road” as outlined in its 2018 Arctic White Paper [12]. Chinese development interests do not align with Russia’s geopolitical goals in the Arctic, and China’s ownership over Arctic infrastructure represents an economic threat to Russian interests [13]. There is growing competition between these regional actors which is exacerbated by overlapping territorial boundary claims by Denmark, Canada, and Russia. In addition, the Arctic Council has suspended cooperation due to its chairmanship by Russia until the end of 2023 [14].

DETERRENCE AND ARCTIC NUCLEAR RELATIONS

Classic nuclear deterrence is steeped in Cold War bipolarity and relies on two rational actors basing their decisions on what they believe their opponents' actions will be [15]. Classic deterrence is expressed through the Chicken Game [16]. As seen in the figure below, a player’s options are to defect and pursue a foreign policy objective or to cooperate and maintain the status quo [17]. The best outcome for an actor is to defect against a cooperating partner; however, this runs the risk of both players defecting, leading to nuclear annihilation [18].

This classic deterrence game does not contend with the possibility of conflict between multiple nuclear actors, which is a key feature of Arctic security [19]. Though a three-player chicken game has been applied to theoretical problems, such as two out of three players needing to complete a task that all would rather not complete, this model has yet to be applied to nuclear relations [20]. China, NATO, the U.S., and Russia’s nuclear doctrines are informed by deterrence theory, which is problematic due to the theory’s assumption of a bipolar world order [21].

Nuclear multipolarity in the Arctic is unstable because it no longer falls within the traditional game theory matrix, and there is an increased risk of nuclear action due to a larger number of nuclear actors and significant regional tension [22]. Preemptive nuclear strikes are more prevalent in multipolar nuclear politics due to a greater perception of threat from other actors [23]. Though China promotes itself as a No First Use (NFU) state, meaning that it will not strike unless struck upon in a nuclear capacity, Russia has threatened to strike first, and America’s position on NFU is vague [24]. NATO is a nuclear deterrent organisation in the Arctic region, only Sweden is not yet a full NATO member and Finland has just recently gained NATO membership [25]. In multipolar deterrence, regional conflicts are more likely to escalate into total nuclear warfare, and de-escalation relies on political bargaining as opposed to rationality modelling. Thus, it is unclear how political bargaining will take place in an increasingly polarised Arctic [26].

Though the U.S., China, and Russia have all acceded to or ratified the Treaty of the Non-Proliferation of Nuclear Weapons (NNPT), both Russia and the U.S. have backed out of data-sharing obligations under the New START treaty [27]. This breakdown in communication between Arctic actors due to Russia’s invasion of Ukraine, and Russia’s recent threat to use nuclear weapons against the U.S. indicates that future regional disputes over Arctic resources, navigation, and territory may give rise to nuclear crises [28].

CONCLUSION

Climate change in the Arctic has rendered the region more accessible to its actors; this has inflamed tensions between the NATO bloc and Russia over territorial disputes and Russia’s war in Ukraine and between China and Russia due to diverging economic development goals [29]. As temperatures warm, the region may become a nuclear flashpoint that cannot be analysed using classic deterrent models [30].

## 1NR – Round 4

### advantage CP

#### Perm – tests competition.

#### 1. ZEROES the case. Proves say no because they have intent to REVISE the liberal order.

#### 2. AFF not solve. That’s the case.

#### 3. No impact.

John Mueller 21, Adjunct Professor of Political Science and Senior Research Scientist at the Mershon Center for International Security Studies, “The Rise of China, the Assertiveness of Russia, and the Antics of Iran,” The Stupidity of War: American Foreign Policy and the Case for Complacency, 2/17/21, Ch. 6

Complacency, Appeasement, Self-destruction, and the New Cold War

It could be argued that the policies proposed here to deal with the international problems, whether real or imagined, presented by China, Russia, and Iran constitute exercises not only in complacency, but also in appeasement. That argument would be correct. As discussed in the Prologue to this book, appeasement can work to avoid military conflict as can be seen in the case of the Cuban missile crisis of 1962. As also discussed there, appeasement has been given a bad name by the experience with Hitler in 1938.

Hitlers are very rare, but there are some resonances today in Russia’s Vladimir Putin and China’s Xi Jinping. Both are shrewd, determined, authoritarian, and seem to be quite intelligent, and both are fully in charge, are surrounded by sychophants, and appear to have essentially unlimited tenure in office. Moreover, both, like Hitler in the 1930s, are appreciated domestically for maintaining a stable political and economic environment. However, unlike Hitler, both run trading states and need a stable and essentially congenial international environment to flourish.128 Most importantly, except for China’s claim to Taiwan, neither seems to harbor Hitler-like dreams of extensive expansion by military means. Both are leading their countries in an illiberal direction which will hamper economic growth while maintaining a kleptocratic system. But this may be acceptable to populations enjoying historically high living standards and fearful of less stable alternatives. Both do seem to want to overcome what they view as past humiliations – ones going back to the opium war of 1839 in the case of China and to the collapse of the Soviet empire and then of the Soviet Union in 1989–91 in the case of Russia. Primarily, both seem to want to be treated with respect and deference. Unlike Hitler’s Germany, however, both seem to be entirely appeasable. That scarcely seems to present or represent a threat. The United States, after all, continually declares itself to be the indispensable nation. If the United States is allowed to wallow in such self-important, childish, essentially meaningless, and decidedly fatuous proclamations, why should other nations be denied the opportunity to emit similar inconsequential rattlings? If that constitutes appeasement, so be it. If the two countries want to be able to say they now preside over a “sphere of influence,” it scarcely seems worth risking world war to somehow keep them from doing so – and if the United States were substantially disarmed, it would not have the capacity to even try.

If China and Russia get off on self-absorbed pretensions about being big players, that should be of little concern – and their success rate is unlikely to be any better than that of the United States. Charap and Colton observe that “The Kremlin’s idee fixe that Russia needs to be the leader of a pack of post-Soviet states in order to be taken seriously as a global power broker is more of a feel-good mantra than a fact-based strategy, and it irks even the closest of allies.” And they further suggest that

The towel should also be thrown in on the geo-ideational shadow-boxing over the Russian assertion of a sphere of influence in post-Soviet Eurasia and the Western opposition to it. Would either side be able to specify what precisely they mean by a regional sphere of influence? How would it differ from, say, US relations with the western-hemisphere states or from Germany’s with its EU neighbors?129

Applying the Gingrich gospel, then, it certainly seems that, although China, Russia, and Iran may present some “challenges” to US policy, there is little or nothing to suggest a need to maintain a large US military force-in-being to keep these countries in line. Indeed, all three monsters seem to be in some stage of self-destruction or descent into stagnation – not, perhaps, unlike the Communist “threat” during the Cold War. Complacency thus seems to be a viable policy.

However, it may be useful to look specifically at a couple of worst-case scenarios: an invasion of Taiwan by China (after it builds up its navy more) and an invasion o

f the Baltic states of Estonia, Lithuania, and Latvia by Russia. It is wildly unlikely that China or Russia would carry out such economically self-destructive acts: the economic lessons from Putin’s comparatively minor Ukraine gambit are clear, and these are unlikely to be lost on the Chinese. Moreover, the analyses of Michael Beckley certainly suggest that Taiwan has the conventional military capacity to concentrate the mind of, if not necessarily fully to deter, any Chinese attackers. It has “spent decades preparing for this exact contingency,” has an advanced early warning system, can call into action massed forces to defend “fortified positions on home soil with precision-guided munitions,” and has supply dumps, booby traps, an wide array of mobile missile launchers, artillery, and minelayers. In addition, there are only 14 locations that can support amphibious landing and these are, not surprisingly, well-fortified by the defenders.130

The United States may not necessarily be able to deter or stop military attacks on Taiwan or on the Baltics under its current force levels.131 And if it cannot credibly do so with military forces currently in being, it would not be able to do so, obviously, if its forces were much reduced. However, the most likely response in either eventuality would be for the United States to wage a campaign of economic and military (including naval) harassment and to support local – or partisan – resistance as it did in Afghanistan after the Soviet invasion there in 1979. 132 Such a response does not require the United States to have, and perpetually to maintain, huge forces in place and at the ready to deal with such improbable eventualities.

The current wariness about, and hostility toward, Russia and China is sometimes said to constitute “a new Cold War.”133 There are, of course, considerable differences. In particular, during the Cold War, the Soviet Union – indeed the whole international Communist movement – was under the sway of a Marxist theory that explicitly and determinedly advocated the destruction of capitalism and probably of democracy, and by violence to the degree required. Neither Russia nor China today sports such cosmic goals or is enamored of such destructive methods. However, as discussed in Chapters 1 and 2, the United States was strongly inclined during the Cold War massively to inflate the threat that it imagined the Communist adversary to present. The current “new Cold War” is thus in an important respect quite a bit like the old one: it is an expensive, substantially militarized, and often hysterical campaign to deal with threats that do not exist or are likely to selfdestruct.134

It may also be useful to evaluate terms that are often bandied about in considerations within foreign policy circles about the rise of China, the assertiveness of Russia, and the antics of Iran. High among these is “hegemony.” Sorting through various definitions, Simon Reich and Richard Ned Lebow array several that seem to capture the essence of the concept: domination, controlling leadership, or the ability to shape international rules according to the hegemon’s own interests. Hegemony, then, is an extreme word suggesting supremacy, mastery, preponderant influence, and full control. Hegemons force others to bend to their will whether they like it or not. Reich and Lebow also include a mellower designation applied by John Ikenberry and Charles Kupchan in which a hegemon is defined as an entity that has the ability to establish a set of norms that others willingly embrace.135 But this really seems to constitute an extreme watering-down of the word and suggests opinion leadership or entrepreneurship and success at persuasion, not hegemony.

Moreover, insofar as they carry meaning, the militarized application of American primacy and hegemony to order the world has often been a fiasco.136 Indeed, it is impressive that the hegemon, endowed by definition by what Reich and Lebow aptly call a grossly disproportionate military capacity, has had such a miserable record of military achievement since 1945 – an issue discussed frequently in this book.137 Reich and Lebow argue that it is incumbent on IR scholars to cut themselves loose from the concept of hegemony.138 It seems even more important for the foreign policy establishment to do so.

There is also absurdity in getting up tight over something as vacuous as the venerable “sphere of influence” concept (or conceit). The notion that world affairs are a process in which countries scamper around the world seeking to establish spheres of influence is at best decidedly unhelpful and at worst utterly misguided. But the concept continues to be embraced in some quarters as if it had some palpable meaning. For example, in early 2017, the august National Intelligence Council opined that “Geopolitical competition is on the rise as China and Russia seek to exert more sway over their neighboring regions and promote an order in which US influence does not dominate.”139 Setting aside the issue of the degree to which American “influence” could be said to “dominate” anywhere (we still wait, for example, for dominated Mexico supinely to pay for a wall to seal off its self-infatuated neighbor’s southern border), it doesn’t bloody well matter whether China or Russia has, or seems to have, a “sphere of influence” someplace or other.

More importantly, the whole notion is vapid and essentially meaningless. Except perhaps in Gilbert and Sullivan’s Iolanthe. When members of the House of Lords fail to pay sufficient respect to a group of women they take to be members of a ladies’ seminary who are actually fairies, their queen, outraged at the Lords’ collected effrontery, steps forward, proclaims that she happens to be an “influential fairy,” and then, with a few passes of her wand, brushes past the Lords’ pleas (“no!” “mercy!” “spare us!” and “horror!”), and summarily issues several edicts: a young man of her acquaintance shall be inducted into their House, every bill that gratifies his pleasure shall be passed, members shall be required to sit through the grouse and salmon season, and high office shall be obtainable by competitive examination. Now, that’s influence. In contrast, on December 21, 2017, when the United States sought to alter the status of Jerusalem, the United Nations General Assembly voted to repudiate the US stand in a nearly unanimous vote that included many US allies. Now, that’s not influence.

In fact, to push this point perhaps to an extreme, if we are entering an era in which economic motivations became paramount and in which military force is not deemed a sensible method for pursuing wealth, the idea of “influence” would become obsolete because, in principle, pure economic actors do not care much about influence. They care about getting rich. (As Japan and Germany have found, however, influence, status, and prestige tend to accompany the accumulation of wealth, but this is just an ancillary effect.) Suppose the president of a company could choose between two stories to tell the stockholders. One message would be, “We enjoy great influence in the industry. When we talk everybody listens. Our profits are nil.” The other would be, “No one in the industry pays the slightest attention to us or ever asks our advice. We are, in fact, the butt of jokes in the trade. We are making money hand over fist.” There is no doubt about which story would most thoroughly warm the stockholders’ hearts.

### T

#### The ‘NFU except’ formulation is deliberately designed to circumvent deterrence objections.

Alex Wellerstein 19, historian of science at the Stevens Institute of Technology who studies the history of nuclear weapons, author of Restricted Data: The History of Nuclear Secrecy in the United States, creator of NUKEMAP, “NC3 Decision Making: Individual Versus Group Process,” Nautilus Institute for Security and Sustainability, 8/8/19, https://nautilus.org/napsnet/napsnet-special-reports/nc3-decision-making-individual-versus-group-process/

Possible Sources for Veto Power

Nuclear use authority has been most commonly framed in terms of positive and negative control. Positive control means that the use authority (e.g., the President) is the only one with the ability to issue an assertive use order; negative control means that nobody else can use such weapons on their own authority. The question of a “veto” sits somewhere in between these concepts, as I see it. If we imagine another entity (let us say, the Secretary of Defense) who is required to give an additional positive assent to a use order, and can either withhold it or completely prevent it from percolating, then this in practice is a form of negative control as well. There have been several proposals over the years, most in the last three years, about what kind of entity should or could hold that relationship in the United States in particular. To be brief, I will not describe these proposals in any depth, and, as a result, am stripping them of much of their nuance.

Several can be put into the category of “no first use except,” where the except involves approval from some kind of additional authority with veto power. This construction appears to be quite deliberately an attempt to disarm any objection that this would erode deterrence posture. For example, in 1972, US Representative Ron Dellums introduced a simple act that decreed that, “The President shall not order the first use of nuclear weapons anywhere in the world, except in response to the use of nuclear weapons by others, without prior authorization by Congress.”[17] Jeremy Stone, then President of the Federation of American Scientists, proposed in 1975 that a President could not use nuclear weapons first “without consulting with, and securing the assent of a majority of, a committee composed of the speaker and minority leader of the House of Representatives, the majority and minority leaders of the Senate, and the chair and ranking member of the Senate and House Committees on Armed Services, the Senate Committee on Foreign Relations, the House Committee on International Relations, and the Joint Committee on Atomic Energy.”[18] The present Markey-Lieu bill (2017) would require a “declaration of war by Congress that expressly authorizes such strike” for first use to be available to a President.[19]

#### Affs would caveat the NFU until exceptions swallow the rule!

Ryan Chang 20, J.D., Southwestern Law School, 2019; B.A. Political Science, University of California, San Diego, 2012, “Nuclear Weapons and the Need for a No-First-Use Agreement between the United States and South Korea for North Korea Notes & Comments,” Southwestern Journal of International Law, vol. 26, no. 1, 2020, pp. 171–202

The United States' no-first-use agreement with South Korea must differ from China's Sole Doctrine policy in order to prevent allies from producing their own nuclear weapons, in fear of weakened nuclear protections in the East under the United States' Nuclear Umbrella program. In 1964, China became the first country with nuclear weapons to adopt the Sole Purpose doctrine, a policy under which China pledged to never be the first to use nuclear weapons under any circumstance, even in response to an initial biological or chemical weapons attack on its territories. 135 As part of the policy, China promised to maintain its small nuclear arsenal solely for defensive purposes. 136 However, if the United States adopts the Sole Purpose doctrine, it effectively weakens the Nuclear Umbrella program, which implicitly authorizes the first use of nuclear weapons as a deterrence strategy. 137 In effect, countries such as South Korea and Japan would be inclined to produce nuclear weapons of their own, just as they threatened to produce nuclear weapons in the past in response to United States' actions that weakened United States' protections in the East. For example, in the 1970s, President Park Chung Hee initiated a program to develop nuclear weapons in response to a proposal by the United States to withdraw troops from South Korea. 138 Under immense pressure, the United States withdrew from the plan and thereafter, South Korea ceased to pursue its own nuclear deterrents. 139

The United States' relationship with Japan is similar. Under the Japan-United States Security Treaty established in 1967, the United States promised to maintain its Nuclear Umbrella in exchange for Japanese agreement to not possess, produce, or permit entry of nuclear weapons into its country. As noted, United States' allies in the East rely heavily on the protections that the Nuclear Umbrella provides. If the United States wishes to keep nuclear weapons out of the hands of its allies, the United States must maintain the strength of the Nuclear Umbrella program. As such, the United States should formulate a no-first-use policy that differs from the Sole Purpose Doctrine adopted by China since it needs the ability to protect its allies even though the United States itself might not have suffered the nuclear attack.

The United States would be able to maintain its alliances in the East and preserve its Nuclear Umbrella program by amending, adjusting, or qualifying its no-first-use agreement with South Korea as necessary. On its face, the Sole Purpose Doctrine adopted by China only addresses nuclear attacks directed at the policy holder's domestic territory.14 ° To that effect, South Korea and Japan should rightfully be concerned if the United States adopts the same policy. However, the United States is not required to take the same approach as China. The United States may condition a nuclear response if North Korea attacks a particular United States ally. The condition would merely provide reassurance on a topic the United States already addressed in its' 2010 Nuclear Posture Review, in which the United States asserts that it will continue to use nuclear weapons as a deterrent against attacks on the United States and its allies. 141 Similar positions are taken by Russia, the United Kingdom, and France, as they leave open the possibility of using nuclear weapons in response to invasion or attacks on their territories or their allies. 142 Moreover, the conditions of the no-first-use agreement can be amended in the future to accommodate for new allies or to adjust to the ever- changing geopolitical climate. Most importantly, the United States would be able to maintain its nuclear stockpile, which would not only reinforce protections provided under the Nuclear Umbrella, but also help the United States maintain relationships with its allies in the East.

#### 2. It means that ‘under no circumstances’ can nukes be used first.

Yuki Kobayashi 22, Research Fellow, Sasakawa Peace Foundation, “The dysfunctional NPT and Japan’s role in rebuilding a nuclear disarmament regime,” 9/27/22, https://www.spf.org/iina/en/articles/yuki\_kobayashi\_04.html

However, other nuclear states were also backward-looking in their proposals for nuclear disarmament. The adoption of a "no first use[4]" [FOOTNOTE 4 BEGINS] 4 No First Use (NFU) is a policy of not using nuclear weapons before an opponent in an armed conflict while retaining the option to use them in a counterattack if the opponent uses them first. The concept of NFU has the effect of encouraging disarmament. If all nuclear-armed states, including the parties to the NPT (the U.S., Russia, China, the U.K. and France) create a global NFU regime, the role of nuclear weapons would be limited to deterring their use by other nuclear powers. Since its successful nuclear test in October 1964, China has consistently declared an unconditional NFU policy, maintaining that it would under no circumstances be the first to use nuclear weapons. See Japan Association of Disarmament Studies, Disarmament Dictionary (Shinzansha Publisher Co., 2015; Japanese), etc. [FOOTNOTE 4 ENDS] policy, which limits the role of nuclear weapons to retaliation against nuclear attack and encourages reductions in the number of nuclear warheads, was initially included in the draft document, but was removed after the U.S. and others demanded its deletion. A proposal to temporarily halt the production of fissile material, which is expected to help halt nuclear arms proliferation beyond the current level, was not included due to opposition from China[5], which is thought to be expanding its nuclear arsenal to balance its forces with those of the U.S.

#### 1. Non-first use

**Axworthy ’10** [Thomas and Sara French; April 1; Canadian civil servant, political strategist, writer and professor, currently the Secretary General of the InterAction Council; Journalist; Interaction Council Expert Meeting, “A Proposal for an Arctic Nuclear-Weapon-Free Zone,” http://tinyurl.com/arcticistopical]

A Policy of Non-First Use of Nuclear Weapons

A non-first use **policy** is an essential component of an **Arctic NWFZ Treaty**, as the doctrine of first use does not fit with a policy of increasing partnership between NATO and Russia, even if nuclear weapons are not used115 . This will require changes to **American**, Russian, and NATO **policies**, but it should be recognized that it does not prohibit NATO military cooperation in the region. Moscow has sent somewhat unclear messages on its policy of first use of nuclear weapons. The Soviet Union had a policy of non-first use, but the Russian Federation that followed renounced this pledge in 1993. Since that time, Moscow has both said that it would not use nuclear weapons against states that do not posses them, but at the same time they have warned that they remain open to using nuclear weapons if other means fail to “repulse armed aggression”116 . Similarly, the **U**nited **S**tates also has a policy of **first use** and has threatened to **use nuc**lear weapon**s** to retaliate against adversaries who attack US troops abroad, or US allies, with WMDs117 . Due to the fact that **only parts** of the **Nuclear-Weapon States** will be **covered** by the ANWFZ Treaty, both Russia and the **U**nited **S**tates should declare that the sole purpose of their **remaining nuc**lear weapon**s** (as long as they exist) is to deter the use of nuclear weapons against itself 118.

#### Core advocates agree.

UCS 20, Union of Concerned Scientists, "No-First-Use Policy Explained," 5/7/2020, https://www.ucsusa.org/resources/no-first-use-explained

A no-first-use nuclear policy means that the United States would commit to never being the first nation to use nuclear weapons in any conflict, a change from its current policy.

#### It has to cover all adversaries.

Gareth Evans 21, Distinguished Honorary Professor at the Australian National University, former Foreign Minister of Australia and President Emeritus of the International Crisis Group, 5/5/21, “Revisiting the case for no first use of nuclear weapons,” https://thebulletin.org/2021/05/revisiting-the-case-for-no-first-use-of-nuclear-weapons/#:~:text=A%20nuclear%2Darmed%20state%20is,retaliation%20following%20a%20nuclear%20strike

A nuclear-armed state is said to have a no-first-use policy when it makes an explicit declaration that it will not use nuclear weapons either preventively or preemptively against any adversary (nuclear-armed or not) and keeps them available only for use or threat of use by way of retaliation following a nuclear strike against itself or its allies. A less robust, but still meaningful, formulation of essentially the same idea is a declaration that “the sole purpose of the possession of nuclear weapons is to deter the use of such weapons against one’s own state and that of one’s allies.” This was the formula President Obama was prepared to embrace in 2010 until, unhappily, he was dissuaded by some of his NATO and Asia Pacific allies—and it is the position that President Biden still seems to support.

#### “Geographically qualified first use” is distinct from no-first-use. The picture proves.

Frank Blackaby et al. 84, Director of Stockholm International Peace Research Institute, 1984, *No-First-Use*, Taylor & Francis, p. 79

Introduction

It is a truism that the principle of a possible first use of nuclear weapons, which underlies NATO's strategy of "flexible response', has a number of strategic, political, and, last but not least, ethical shortcomings. However, this does not necessarily mean that the simple antonym of first use, that is, the adoption of a commitment to no-first-use, would automatically remedy all of them. As a matter of fact, there are many more alternatives to first use than a mere no-first-use pledge, as figure 3.1 suggests. (The alternatives examined here are printed in italics.) The following contribution first briefly identifies some of the problems that would still be left unsolved after a hypothetical adoption of an unqualified no-first-use pledge. Second, it tries to examine some major alternatives to both first use and unqualified no-first-use.

Figure 3.1. Alternatives to first use**A diagram of a use

Description automatically generated with medium confidence**

#### 4. Applying an approach to a particular case does NOT ‘adopt.’

Paul Joseph Kelly Jr. 16, Chief Judge, United States Court of Appeals for the Tenth Circuit, “Checkley v. Allied Prop. & Cas. Ins. Co,” 635 Fed. Appx. 553, Lexis

In determining the applicability and scope of the doctrine, the court turned to the Restatement (Second) of Torts, specifically sections 3082 and 390.3 Id. at 358. [\*557] The court, however, refused to adopt sections 308 and 390 outright:

We believe it would be misleading to use the word "adopt" as applied to our reliance on the Restatement rules. We consider those rules appropriate for analysis of the present case without holding that they would necessarily apply to all fact situations that could be construed to come within their ambit.

#### No overlimiting---there are tons of affs:

#### 1. NFU. They could read:

#### --a Congress restriction aff with presidential powers bad advantages---like the entire exec power topic

#### --a Court restriction aff about LOAC and international law, or about national security oversight and the PQD

#### --there’s a ‘host of sub-options’ for making the commitment legally enforcable

David A. Koplow 18, Professor of Law, Georgetown University Law Center, “The Fault Is Not in Our Stars: Avoiding an Arms Race in Outer Space,” 59 Harv. Int'l L.J. 331, Summer 2018, Lexis

II. No First Use

This Part deals with the notion of an international agreement to avoid a first use of space weapons. It first defines the proposition in more detail and discusses a number of variations and options to consider; then it identifies what the proposal can, and cannot, essay to accomplish; and finally it describes precedents from elsewhere in the history of arms control that may provide some support for the viability and utility of the concept.

A. The NFU Proposal and Its Variations

The core conceit of a "no first use" ("NFU") scheme is simple: participating states would each undertake not to be first to violate the taboo against employing a specified weapon, here an ASAT device, in combat. Behind that nostrum, however, lies a host of sub-options.

For example, the NFU commitment could be entrenched in legally-binding form, through a treaty or similar undertaking; 76 in a non-legally-binding (or politically-binding) document; or in a series of orchestrated, parallel, revocable, self-declared unilateral statements of intention. In general, the accoutrements of black letter international law should provide a greater degree of formality and seriousness of purpose, but it is hard to demonstrate that legally-binding instruments are categorically more important, more enduring, or more fully complied with than mere political "soft law" documents. 77

In either case, the defined scope of an NFU undertaking would be subject to negotiation, in multiple dimensions. It could deal exclusively with kinetic-energy devices or embrace directed-energy and cyber weapons, too. 78 Likewise, it could bar only "destruction" of a target, or also extend to mechanisms that would inflict only partial, or only temporary, suspensions of normal satellite operations. The coverage could be further modulated to protect [\*356] only the satellite or extend to its associated ground stations and the links between them. The self-restraint could apply categorically to all satellites, or it could preferentially protect only specified types, such as those that were central to states' strategic nuclear operations, while leaving unprotected the satellites that support tactical or conventional warfare.

In addition, the participants would have to decide whether to protect only satellites of those states that had joined the agreement, or to express a promise not to employ weapons first against anyone, even those who did not commit themselves to reciprocal undertakings. If the more restricted version of an ASAT ban were adopted, negotiators would then have to decide how best to attribute a particular satellite to a particular state (or states), a problem growing in complexity during an era in which space objects are increasingly owned and operated by private actors or by public/private consortia with ties to multiple countries. 79

Obviously, the most comprehensive version of an NFU pledge--legally binding, applying to all forms of systems and extending to all states--would be the strongest, and provide the most arms control value. But it is quite possible that the political dynamics of the day would compel the negotiators to begin with a relatively temperate version of the undertaking, hoping it would grow over time. 80

B. What an NFU Agreement Could, and Could Not, Accomplish

The primary direct contribution of an ASAT NFU agreement would be to attempt to delegitimize counter-space operations, to reinforce the international taboo against employing military force in that way. It could help define use of these weapons as unacceptable, something that civilized countries simply do not do (or, at least, do not do unless their enemies have already done it first). 81

In a more pragmatic vein, this type of commitment would rein in some of the provocative rhetoric that countries occasionally employ in their public statements about their military operations and in their defense doctrine and manuals. For example, it would inhibit truculent comments that "all options [\*357] are on the table" in dealing with a particular crisis or problem. 82 It would likewise affect the justifications for funding space weapons and the training routines and war games that military space forces conduct. 83

In this vein, a useful adjunct to an NFU agreement could be a joint statement--parallel to President Reagan's famous assertion regarding nuclear weapons--to the effect that a war in space "cannot be won and must never be fought." 84 Acknowledging the potentially catastrophic effects of multiplying space debris, national leaders could commit themselves to avoiding such pyrrhic encounters.

Admittedly, the practical effect of an NFU undertaking is confined. In particular, this sort of verbal declaration or agreement does not categorically prohibit or restrict the development, testing, production, or deployment of space weapons, because virtually all of the same hardware and many of the other preparations for a (legal) second use of a weapon would be indistinguishable from those associated with an (illegal) first use. The NFU treaty or commitment would therefore exert only a modest suppression upon the retention or development of states' capabilities for engaging in space warfare. 85

Furthermore, a state participating in an NFU accord, even a legally-binding document that was widely adopted by its potential opponents, would probably not feel sufficiently secure to let down its guard very much. That is, declaratory policies, even if codified in a treaty of this sort, could not provide much guarantee that some rogue state will not, in fact, use its system first. There is no assurance against a sudden "breakout" from the treaty--the ban could be fully complied with until the sudden moment when it was completely violated, and the cheater might be able to seize a substantial military advantage via its instantaneous breach. Verification of compliance with an NFU treaty could be another issue; perhaps it would ordinarily be possible to identify a first ASAT strike and to attribute it to a particular state, but it is certainly conceivable that in other circumstances it might be difficult to establish responsibility for the attack. 86

[\*358] Moreover, the retained permission to use a weapon second, after the proscription has been shattered by some other actor, could raise complicated questions of interpretation. If country A uses a device against country B, then surely it would be legitimate for B to respond in kind against A. 87 But could state C also take the opportunity to shoot at A's satellites (assuming either that there is some sort of alliance relationship between B and C, or not)? For that matter, once A has shattered the NFU prohibition, are all limitations removed, so it would be permissible for C to fire a weapon against state D's satellites (again, alternatively assuming there is, or is not, any special connection between A and D)? 88

C. Precedents for NFU in Arms Control

Demonstrating a clear provenance for a controversial idea does not, of course, establish its wisdom or prove its adaptability to different circumstances, but the history can be illuminating nonetheless. In the case of an NFU pledge, there are ample precedents available, and they have achieved considerable success in other zones of arms control.

The most direct prior expression of NFU comes from the realm of chemical and biological weapons. Under the 1925 Geneva Protocol, participants eschew the use of "asphyxiating, poisonous or other gases, and of bacteriological methods of warfare." 89 Through a network of reservations, this categorical prohibition was converted essentially into a commitment not to use such weapons first, and only with respect to other states assuming reciprocal [\*359] obligations. 90 The treaty was very widely accepted and remains in force today (although largely superseded, as elaborated, infra). 91

Unsurprisingly, despite the global support for the Geneva Protocol (and despite the universal revulsion at the shocking humanitarian consequences that chemical weapons had inflicted during World War I), many countries continued to build up their chemical and biological weapons inventories. In fact, new generations of even more deadly nerve agents were crafted to supplement or replace the mustard gas, phosgene, and other horrors of the earlier conflict. As World War II raged, combatants armed themselves with massive chemical ordnance, and most grimly anticipated that these arsenals would again be used on a grand scale. 92

Still, President Franklin D. Roosevelt sought to avoid that cataclysm, by employing the device of an NFU undertaking. Although the United States had not yet ratified the Geneva Protocol, he publicly asserted that the United States would refrain from employing its chemical weapons if the Axis powers would do likewise. 93 Remarkably, even without any additional formal legal commitment--and in the midst of a global conflagration that knew few other humanitarian restraints--these special arms were not employed by the opposing forces in the central battlefields of the European Theater. 94 It is, of course, impossible to prove how much the Geneva Protocol and the Roosevelt reciprocity statement, in concert with the deterrent threat of retaliation in kind, were responsible for that unanticipated non-use, but it does appear that the NFU commitments made important contributions.

In fact, the pattern regarding chemical and biological weapons over the following decades revealed only rare international usage, accompanied by a profound sense that any country that resorted to these reviled weapons was [\*360] behaving as a pariah. States mostly did not disarm their chemical and biological weapons, but they did not often engage those capacities in conflict. 95

Formal elaboration of the NFU commitments, and advancement beyond them, required additional decades. The 1972 Biological Weapons Convention 96 and the 1993 Chemical Weapons Convention 97 established broad, widely-accepted prohibitions--parties undertook not to develop, produce, stockpile, or otherwise acquire the stigmatized weapons; not to use them (first or second); and, in the case of chemical weapons, to destroy not only the arms but also the facilities that had been used to create them. 98 Both the Biological Weapons Convention and the Chemical Weapons Convention expressly acknowledge the Geneva Protocol as the legal genesis for their much more ambitious undertakings. 99

Another important precedent for NFU commitments comes from the world of nuclear weapons, where the history is more checkered. During the Cold War, for example, when massive NATO and Warsaw Pact forces were entrenched across Central Europe, the Soviet Union advocated that the countries possessing nuclear weapons should agree never to use them first, so any conflict on the continent would be at least somewhat confined. At that time, however, the United States and its allies feared they might not be able to contain a massive westward aggression by conventional forces. They concluded that it was valuable for deterrence to retain a measure of strategic ambiguity, including the possibility that the West might breach the nuclear barrier to repel an attack. No NFU agreement was reached. 100

Years later, following the dissolution of the Warsaw Pact, the collapse of the Soviet Union, and the precipitous cratering of the Russian economy, the military calculations were reversed. The United States and its newly-expanded collection of allies grew more confident about their ability to resist [\*361] aggression, and they were more favorably disposed toward a nuclear NFU agreement for the continent. This time, however, the newly disempowered Russia declined. 101

More generally, a nuclear NFU commitment--in the form of a "negative security assurance"--has become an important tool in the global campaign for nuclear non-proliferation. 102 Under the 1968 Nuclear Non-Proliferation Treaty ("NPT"), 103 most countries agreed to give up any right to possess nuclear weapons of their own, but they have sought guarantees from the countries that continue to possess those arms that they will not use them against the non-nuclear states. In response, each of the five nuclear weapons possessors who are parties to the NPT have extended some form of negative security assurance in various vocabulary over the years. 104 These statements run beyond the concept of NFU in constituting commitments not to use nuclear weapons at all against the countries that have foresworn them, but the assurances are typically laden with exceptions or limitations that make a negative security assurance functionally quite similar to an NFU statement. 105 Notably, pressures continue to emerge from the "recipients," who press for the assurances to be expanded into a more comprehensive, unqualified, and clearly legally-binding form, seeking to diminish the value of nuclear weapons as "the coin of the realm" in national security debates and as the badge of "first-class citizenship." Conversely, the nuclear weapons states' failure to satisfy those demands, and their insistence that nuclear weapons remain "usable," have emerged as significant dangers to the continued integrity and viability of the NPT regime. 106

[\*362] Finally in this area, it is worth highlighting the controversy over the latest evolutions in the U.S. unilateral, non-legally-binding nuclear NFU statement. In the 2010 Nuclear Posture Review Report--a broad, fundamental reassessment of the foundations of nuclear weapons policy--the Obama Administration undertook to assess the prior U.S. public assurances, and to make a more definitive commitment, as part of its contribution to the global non-proliferation effort. 107 Intense internal debate emerged within the government, resulting in an uneasy compromise. The Pentagon report declared: "The United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the Nuclear Non-Proliferation Treaty (NPT) and in compliance with their nuclear non-proliferation obligations." 108

In 2018, the Trump Administration released its own Nuclear Posture Review Report, 109 which revised the NFU statement to expand the range of circumstances in which the United States would consider the employment of nuclear weapons. Now included in the roster of "extreme circumstances" justifying a first use are "significant non-nuclear strategic attacks … on the U.S., allied, or partner civilian population or infrastructure, and attacks on the U.S. or allied nuclear forces, their command and control, or warning and attack assessment capabilities." 110 Under this standard, a cyber attack, for example, could now trigger a nuclear response. 111

In sum, there is to date no comprehensive NFU policy regarding nuclear weapons by the United States or others. But if the controversy and the back-and-forth gyrations of public policy over the years prove anything, it is to establish the proposition that an NFU statement is not dismissed as "mere [\*363] words." People, government departments, and leading nations care a great deal about even the nuances of NFU policy. 112

A proposed NFU statement about anti-satellite weapons, in a similar fashion, would not magically re-order the field, but it would be consequential nevertheless; it would make a difference in global security calculations that would be worth struggling to get right.

#### --variance can be achieved even within NFU based on how the policy is explained

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This Occasional Paper conducts a net assessment of the potential benefits and costs to U.S., allied, and partner security should the United States adopt a nuclear no first use or sole purpose policy. It begins by differentiating between a nuclear no first use and a sole purpose policy, with the former strictly limiting the United States to employing nuclear weapons only in response to a nuclear attack, while the latter—if written in a particular manner— makes the same restriction, but potentially allows for a preemptive nuclear strike against an imminent nuclear threat. Depending on how they are stated, these policies can have a narrow range of differences, but they are united in their purpose of reducing the salience of nuclear weapons to only a potential nuclear conflict.

#### --there’s enormous varieties in operationalization

Lt Gen Gautam Banerjee 17, Lieutenant General (Retd) Gautam Banerjee, PVSM, AVSM, YSM, was former Chief of Staff, Central Command, former Commandant of the Officers' Training Academy, Chennai, now Senior Fellow & Editor at the Vivekananda International Foundation, “A New Equation of Pakistan’s Nuclear Weaponisation,” Manekshaw Paper, No. 67, 2017

Situational Variables of NFU

As discussed at the very beginning, the policy of NFU is in tune with India’s political ideology. Even otherwise, for India’s own good, in a hostile neighbourhood infested with nuclear weapons, it is the right policy which need not be diluted or questioned. However, there are certain conditions to be met for the policy of NFU to make a mark. In this context, the matters to be considered are, firstly, the appropriate interpretation of the term, and, secondly, the underpinning capabilities that are needed to uphold this policy of NFU.

Truly, NFU is a pledge, not a ban from the hoary principle of ‘right to defend’. Depending on the situation prevailing, the term ‘NFU’ may have more than one connotation. The dumbest one of these would be to wait for a nuclear strike to occur before retaliating with whatever weaponry is left usable. Next, Indian decision-makers cannot even be sure if the movement and deployment of delivery systems are meant for conventional or nuclear use, or if the warheads or bombs carried by these are nuclear, non-nuclear or mixed. In the India-Pakistan context, the matrices of the short flight path, limited early warning and targeting capability, and roving launch sites leave virtually no time for the options of ‘Launch on Warning’ (LOW) or ‘Launch on Attack’ (LOA) to be exercised within the ambit of NFU. Consideration of a ‘preemptive attack’ as a facet of NFU – a rather liberal concession, of course—on the other hand, is unthinkable. It would be difficult to know for certain the Pakistani strategists’ intent of initiating a nuclear attack upon India nor could there be the certainty of being able to destroy all or most of Pakistan’s nuclear assets in the preemptive mode. With even the best ‘Ballistic Missile and Air Defence’ (BMAD) unable to guarantee adequate protection, all of the above mentioned connotations would lead to a nuclear exchange and heavy destruction that India wishes to repudiate in the first place. In sum, it appears to be most sensible to let the classical connotation of NFU remain valid and settle with the one described above as the ‘dumbest’one!

#### 4. GOLDILOCKS---even if each area contained no subsets, it’d be perfect for a nuclear topic.

Rob Glass & Jeffrey Lewis, former debater and Director of the James Martin Center for Nonproliferation Studies at the Middlebury Institute of International Studies, 18, Rob Glass runs the DebaterCast Podcast; Dr. Jeffrey Lewis is the Director of the East Asia Nonproliferation Program at the James Martin Center for Nonproliferation Studies at the Middlebury Institute of International Studies at Monterey and the founding editor of the Arms Control Wonk blog, “DebaterCast Episode 04 – Dr. Jeffrey Lewis,” DebaterCast, 09/11/18, https://debatercast.com/2018/09/episode-04-dr-jeffrey-lewis/

LEWIS: Okay so, launch on warning, which again, people prefer launch under attack as a phrase, but that is the idea that instead of riding out an attack and then retaliating, that you want to begin executing your retaliation prior to the enemy completing its attack. So that's the scenario where there are a hundred Russian missiles launched, maybe a few of them have reached the United States, maybe none of them have reached the United States, but you know they're coming. And so then you want to then undertake your retaliation while the attack is still underway, both so that your forces aren’t destroyed, but also so that you might limit some of the damage that is coming your way. There are things to be said for that policy, but obviously that is the system that requires an aide follow the president around with the football at all times, and requires the president to have a command-and-control system that allows the kind of immediate authorization of the use of nuclear weapons and precludes Congress from being involved. I would be - I would get rid of that posture. No first use is a declaration, so it's a pledge that you would not use nuclear weapons first in a conflict. It seems very reasonable. I think it is very reasonable. It is anathema to Western defense planners, traditionally because they believe the United States may wish to use nuclear weapons on behalf of allies that are attacked, but I think more generally, there is a deeper issue, which is they don't like stigmatizing the use of nuclear weapons. I think they believe that that would undermine deterrence. I don't find that very compelling, but they think that. There's another proposal that Scott Sagan and I have made, which I don't know if it would be topical, but I'd sure love to see people make the argument. It's a funny thing, the way that strategic command talks about the law of armed conflict. There's this idea in the law of armed conflict of military necessity that you shouldn't do something in a conflict unless it's necessary, which is pretty reasonable - you don’t blow up a school just to blow up a school because of the fun, there has to be some purpose right behind this action. There is this funny thing, which is that they don't actually require that for nuclear weapons. They don't have a requirement that it must be necessary to use a nuclear weapon instead of, say, a conventional one. They only say, is it necessary to destroy the target, and if it is, then you can use whatever you'd like. And I think that's a very dangerous thing to say because often when you ask people, do you need a nuclear weapon to destroy this target, what they'll say is, well, but there's a unique psychological impact to using a nuclear weapon. And if you really interrogate them in terms of what they mean by unique psychological impact, what they really mean is terror bombing. It would scare the shit out of people. That's not permissible. That's not a permissible reason to use a particular type of weapon. My colleague at Stanford, Scott Sagan, and I, we propose that as a matter of policy, the president say that the United States would never use a nuclear weapon in a situation where a conventional weapon would be sufficient. I happen to think that that's the correct legal interpretation of the law of armed conflict, but that’s a sort of separate question from what one thinks the right moral choice would be. Congress could arguably require that. I don't - I’m not as good of a topicality debater as I was back in the day, but I think you could probably find a way to make that make that - I'll certainly say this: it is a real proposal and just defining things by ground, you know, making sure that is enough ground for a reasonable number of debate cases, it certainly is one that I would consider. There was this year in high school, I was in college, so I was a coach but it was the healthcare topic. There was literally one case.

GLASS: We just had a healthcare topic. There was also effectively one case.

LEWIS: It’s too little. There shouldn’t be 50 cases, there's a happy medium and it's like 3 to 5 cases. But one case - single-payer round after round - it was awful. I hated judging, and all I do was show up and judge. I didn't have to spend weeks cutting cards. I would quit, actually, if that had been my senior year.

GLASS: From your lips to the topic committee’s ears.

LEWIS: Don’t these people remember these terrible topics? There have been some bad ones.