Nuclear Weapons and Arms Control in an Era of Doubt

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Nuclear weapons may be unique among deadly technologies in remaining overwhelmingly important because they resist change. Some seventy-five years after the first nuclear detonation at Alamogordo, there are innumerable military technologies of equal age that remain important today. Some already were mature then, and cling for relevance today, like tanks and fighter planes. Others were just born like turbojet engines, radar, guided missiles, electronic computing and solid state electronics. While some degree of their significance was readily grasped at the time of their birth, they required decades to mature, and their full implications took just as long to become evident. Many continue to morph dramatically as we watch.

As Richard Rhodes recently reminded us, nuclear weapons always were different, their distinctive danger understood by Robert Oppenheimer and others from the start. Initially the technology developed regardless, evolving at a frenetic pace through the first fifteen years after Alamogordo, as if racing to deny their reality. Early nuclear history witnessed radical reduction in their size and mass, massive increases in destructive power, and creation of a spectrum of ever more versatile and unstoppable delivery systems. It was a desperate search for technological solutions to their dilemmas, but it ended instead in acceptance of the trap they create.

Since the early 1970s nuclear technologies have been distinguished more by acceptance and stability, especially among the countries that deployed them and their allies. The pace of technical change for nuclear
weapons per se, warheads, slowed to an almost imperceptible pace. Nuclear weapons policy - another secondary technology like ballistic missiles or inertial guidance - became part of nuclear stability. There still is extensive relevant research and engineering today, but it is almost entirely in secondary technologies - delivery systems, defences and hypersonic alternatives - not warheads.

Our current trouble comes with just such secondary technologies. Nuclear weapons may no longer be changing much, but the policy consensus that arose to tame their existence and guide their acceptance no longer holds as persuasively. Arms control lies in tatters, more a legacy or memory than an active force. Its fraternal twin - nuclear deterrence - has been diluted by changing circumstances, its relevance increasingly debated.

Both concepts are too foundational to become irrelevant. Something, perhaps even quite a lot, will remain of both so long as nuclear weapons themselves remain relevant. But their ability to explain the nuclear environment is declining. Rather than focusing analysis and policy on trying to patch them, students and policy-makers face unprecedented demands to identify new foundations for nuclear stability, approaches that include or replicate the remaining roles of deterrence and arms control, but surpass their relevance for the nuclear world emerging before us.

**Have We Reached the Limits of Nuclear Policy?**

This is not just a dangerous time for international security, it is an awkward time. We are re-learning how to think about nuclear security. President Trump’s refusal to accept the entire liberal order of
arms control and disarmament is the most extreme statement, which he made literal in his repeated advocacy of overwhelming American nuclear superiority. Trump has since shown that was just his wishful thinking; he is unwilling to support the US defence budgets that nuclear superiority would require. But he also left no doubt of his willingness to junk off every element of legal restraint. Abandoning the Iran deal and INF Treaty in 2018 can only be understood as first shots in a personal war against all forms of arms control, an unwinding that is certain to continue.

Trump is making the change more extreme than it has to be, but he did not invent it. The underlying problem has been obvious since 2009, when President Obama’s call for nuclear disarmament failed to light any fires. The Obama Administration struggled mightily to breathe life into a sick regime. The broad consensus among world leaders was not there to reciprocate, reflecting public uncertainty that anything can be achieved through security bargains. And America was unwilling to gamble on the steep concessions that a healthier process requires. Among the lessons of Obama’s personal frustration was the futility of basing future action on past successes. The effort was enough to show there is no going back, and no going forward.

The arms control and disarmament formula worked for over thirty years, most clearly from 1963 to 1996, from the Partial Nuclear Test Ban to the Comprehensive Nuclear Test Ban. But even in the mid-1990s, arms control and disarmament were not yielding consequential progress any more. Failed negotiations and unratified treaties became hallmarks of efforts at nuclear restraint. The successes that came since then were due more to unilateral restraint, albeit often based
on international norms. The negotiating record among nuclear weapons states since then has no clear success to show. Negotiated milestones include failures like START II, ambiguous outcomes like CTBT, trivial like SORTS, or modest in expectation and achievement, designed mostly to institutionalise the status quo, like New START. The biggest possible nuclear breakthroughs, like nuclear no first use or verifiable nuclear arms control for other nuclear weapons states, have gone nowhere.

It is a measure of the depth of this blockage that nuclear strategic studies have grown exponentially. Academic studies of nuclear weapons proliferation and stability have never been more numerous. Their methodological foundation also has achieved unprecedented levels of scientific verifiability and reproducibility. It is reasonable to conclude we have never known more about nuclear security. But it also would be fair to conclude we don’t know much that is new or addresses the new situation. Cutting edge research, like the flourishing world of nuclear commentary, demonstrates extraordinary richness and depth, but as is often the case with empirical social science, the price of certitude is modesty. We know more and more about less and less.

Even in the less rigorous, but more imaginative environment of commentary, there is precious little novelty on either side. Among advocates of nuclear disarmament, the dominant themes are revealing in their subjunctive tense: renewed disarmament could, should, would. In essence, there is nothing wrong with old formulas, and no barriers that greater political determination cannot solve. The most sensitive commentary stresses the need to consider broader problems of changing strategic circumstances, but offers no guidance on how to do that. Similarly, advocates of
re-energised nuclear re-armament stress there is nothing wrong with old strategic formulas, and no barriers that greater political determination to re-arm cannot solve.⁵

On both sides, nuclear strategic writing is dominated by romanticism. Whether the work of disarmament or rearmament advocates, commentary is overwhelmingly conservative; the solutions to contemporary worries are to be found in the past. Rather than learn the lessons of Obama’s disarmament failure, supporters persist in emphasising his goal and methods, even though Obama repudiated those in the last two years of his presidency, when he turned to comprehensive nuclear rearmament. Similarly, nuclear re-armers, frustrated by the slow pace of activity even under President Trump, would return to visions from the 1950s and ‘60s.

**Maybe, Except for Everything Else**

Nuclear romanticism would make sense if everything else remained unchanged. If only. The greatest weakness of old fashioned arms control and disarmament, and old fashioned superiority is everything else. With the essential preconditions gone, the old formulas cannot generate the same results. Never easy or guaranteed, their success is now undermined completely.

It is tempting to see the problem as a crisis of political will, worsened by the antics of Vladimir Putin—who wants the benefits of arms control but refuses to pay the price—and Donald Trump—who neither understands the benefits or is willing to learn why others do. But the earlier frustrations of Obama and Medvedev prove there is stronger stuff at work, forces that no amount of political will is likely to surmount. With structural forces now dominant, argue neo-realists, expectations must be severely lowered. Structural theorists say this is because
arms control and disarmament, like the benefits of superiority, always were ephemeral. In essence, neo-realism cackles, after a long interlude of wishful thinking, we’re just back to normal; sorry.\textsuperscript{7}

Few would challenge the diagnosis that things look bleak, but I question the structuralist logic, that they \textit{have to} be bleak. By investing everything in forces beyond human control, structuralism leads to historicism, confusing trends for inevitability and history for the future.\textsuperscript{8} It is much more revealing to follow the lead of historians and post-structuralists who see contingency at work. Events are ultimately events. Past successes were real and offer vital lessons, but they also were historically contingent on specific conditions, often accidental or lucky, prevailing at the time. Past success cannot be recapitulated, but nor is humanity doomed to repeat past disasters.

The problems that nuclear weapons compel us to wrestle with lie elsewhere, not in system structure, but in beliefs. While the international system has changed, it has not changed as dramatically as the rapidly different nuclear situations implies. What is different are the attitudes and assumptions about how best to manage nuclear weapons. Above all we confront an environment of doctrinal uncertainty. An entire spectrum of policy assumptions - from procurement policy, to targeting and launch planning, arms control and crisis management - has been melting away. We cannot answer basic questions about the dangers of nuclear war, where those dangers are most serious, what form nuclear war is most likely to take, and how it is most effectively prevented or managed should it occur.

The declining of faith in nuclear deterrence is among the most visible manifestations of this lost faith. In its place
came *tailored deterrence*, initially a response to the difficulties applying deterrence to the kinds of threats that dominated American strategic thought after the Cold War. Classical deterrence was well and good for suppressing the risks of nuclear war with established nuclear powers like China and Russia, but would it work with Iran and North Korea, with nuclear terrorism, or non-nuclear threats to American interests? It is a call for more nuanced application of nuclear threats, missile defences, and pre-emptive conventional force, configured in different combinations for each potential threat.\(^9\) Tailored deterrence never became a concrete doctrine. There are no five easy steps. Rather, I view it as a plea to keep deterrence relevant when it was losing its hold.

As an effort to patch up a blunt tool for a more nuanced world, tailored deterrence was less a doctrine than a menu. Behind it’s ever more elaborate combinations one clearly saw declining certainty, not so much of an effort to patch up deterrence, but growing readiness to abandon it altogether. This willingness to abandon deterrence became explicit in the 2018 Nuclear Posture Review.\(^{10}\)

As usual, the United States is most outspoken in its doctrinal conditionality, but it is not alone. Russian nuclear doctrine remains as nebulous as ever, and officials in Moscow do a fine job raising ever more doubt, mostly through intermittent statements making its pervious commitment to nuclear no first use ever more vaguely conditional.\(^{11}\) China joined the tailored deterrence movement more explicitly when it raised the possibility of using nuclear force to prevent Taiwan from declaring independence and the possibility of using nuclear weapons in regional conflict with the United States.\(^{12}\) Even India, the only nuclear armed state to formally commit to nuclear no first use, is not widely
believed.\textsuperscript{13} Israel, North Korea and Pakistan, on the other hand, are only too willing to appear to be wedded to first strike threats. One can only sigh in relief for France and the United Kingdom.

Where ideas about stabilising nuclear order are shared, disarmament remains possible. The strongest advocates of arms control and disarmament today are states and NGOs, the actors with the strongest doctrinal consensus. Getting the nuclear have-nots together to support the Treaty on the Prohibition of Nuclear Weapons (TPNW, or simply the Nuclear Weapon Ban Treaty) in 2017 was frightfully easy. It was so easy, they all but fell over each other in their rush to vote in favour of a poorly written treaty, drafted in less than six months, a treaty all about norms, not details. The document simply reaffirms the shared non-nuclear consensus of its 122 supporters in the UN General Assembly.

But there are profound limits to what the have-nots can achieve by themselves. As a treaty, the TPNW is better than the 2002 Strategic Offensive Reductions Treaty (SORTS) - the comic relief of nuclear arms control - which never was intended to be taken seriously. SORTS was the first nuclear agreement to actually hurt strategic relations more than it helped. It persuaded the Administration of President George W. Bush that there would be no costs to abrogating the 1972 ABM Treaty.

It is hard to see how the TPNW could be worse than that at shaping the nuclear environment, but there is little chance it can achieve more. The non-nuclear parties don’t have to do anything except nod in agreement. But implementation among nuclear weapons states would require several meticulously designed agreements, matched to the specific problems of disarmament processes and milestones, intrusive verification and
safeguards. Above all, it would require nuclear weapons states to commit their security to basic assumptions about nuclear non-use and disarmament.

Lacking such provisions, the TPNW offers nothing to help nuclear weapons states meet their pledge in Article 6 of the NPT, ‘to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament’. And it offers nothing for the nuclear states outside the NPT system that cannot be dismissed with shrug. It reveals much about the contemporary mood that the votes in favor of the treaty from Iran and Saudi Arabia are seen by many as evidence of the document’s weakness, not its strength.

Nuclear Analysis and Policy after Strategic Arms Control

It seems extremely likely that the 2010 New START, the last strategic nuclear arms control treaty still limiting the arsenals of Russia and the United States, will die when it is scheduled to expire on February 5, 2021. As with INF, President Putin wants to extend it, but refuses to pay the price of negotiating away his advantages, in this case superiority in tactical nuclear weapons, let alone solving linked issues like Russia’s annexation of Crimea. In Washington, the Republican Party opposes any limits on American missile defence, which Russia probably would require. A simple extension remains feasible, but President Trump seems unhappy with any element of international law restraining American power.

The collapse of New START will mark the first time Russian and American nuclear arsenals are unrestrained by a strategic treaty in 49 years. Nor are we simply
witnessing a return to the nuclear environment of 1972. Things are better in some ways; the American and Russian arsenals are much smaller and better deployed for mutual security. Both sides have greatly improved their ability to detect attack, and appear to have reduced their sensitivity to false alerts, which probably strengthens crisis stability. On-sight inspection, the top contribution of New START, will be missed but can be coped with unilaterally.

But we also face a much more complicated strategic environment than ever, with several other nuclear weapons states and potential nuclear states greatly complicating stability. Despite President Trump’s personal confidence, North Korea is becoming more of a threat to the United States, and the danger of regional crisis escalation with China and Russia is worse than it was in 1972. No less important, as argued here, is the decline of belief in nuclear deterrence. In 1972 it was mutually accepted by the governments that mattered most. Deterrence remains, but it is greatly diluted. As evidence of their lack of belief in the reliability of deterrence, in many conceivable situations, several nuclear armed states are ready to launch first strikes.

Deprived of its greatest technologies, nuclear analysis and official policy is poorly prepared to deal with the change. Based on assumptions that seem increasingly peripheral, analysis and policy are weakened, unable to offer helpful long-term guidance. Nuclear classics from Bernard Brodie and Thomas Schelling, and current policy documents like the 2018 Nuclear Posture Review, seem vague and remote. The closest historical guidance comes from the 1950s and early ‘60s, before superpower deterrence became fully mutual. That era of bombast, threats and hair-raising crises is hardly inspirational.
Deprived of concepts that would offer long-term guidance, analysis and policy cannot do much more than advise on immediate problems. That’s no small thing when nuclear weapons are involved, but hardly satisfying given the stakes.

References

1. The problem which is posed by the release of atomic energy is a problem of the ability of the human race to govern itself without war. There is no permanent method of excising atomic energy from our affairs, now that men know how it can be released… In this respect the problem of armaments was permanently and drastically altered in 1945.’ Oppenheimer quoted in Richard Rhodes, ‘Robert Oppenheimer: The myth and the mystery’, Bulletin of the Atomic Scientists, December 18, 2018.


