Arms control tomorrow: the challenge of nuclear weapons in the twenty-first century

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Turning and turning in the widening gyre
The falcon cannot hear the falconer;
Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world,
The blood-dimmed tide is loosed, and everywhere
The ceremony of innocence is drowned;
The best lack all conviction, while the worst
Are full of passionate intensity.
Surely some revelation is at hand;
Surely the second coming is at hand.

– W.B. Yeats, ‘The Second Coming’

INTRODUCTION

Yeats published ‘The Second Coming’ in 1920, at a time when he was preoccupied with the ending of one age and its transformation into the next and when, by some accounts, he believed the world was on the threshold of apocalyptic change. ‘The Second Coming’ has always impressed its readers with its stark and disturbing images and there are indications (noted below) that some in the administration of President Barack Obama – perhaps even the President himself – have read this striking poem and drawn from it the conclusion that important aspects of the international order are indeed on the verge of ‘falling apart’.

From the outset, the Obama administration has offered a less dogmatic (and pessimistic) and more constructive (and optimistic) approach to international security than is widely perceived to have been the substance and style of his predecessor, President George W. Bush. The progressive tone of the new approach was set out in President Obama’s inaugural address in January 2009:

Recall that earlier generations faced down fascism and communism not just with missiles and tanks, but with the sturdy alliances and enduring convictions. They understood that our power alone cannot protect us, nor does it entitle us to do as we please. Instead, they knew that our power grows through its prudent use. Our
security emanates from the justness of our cause; the force of our example; the tempering qualities of humility and restraint.¹

At the risk of reading too much into a short passage, there is both a gritty realism here regarding the world and its dangers, and a sense that in certain circumstances and at certain moments the military advantages enjoyed by the United States will be irreplaceably vital to national security. But the passage also conveys the conviction that so-called ‘kinetic’ military force is not the answer to everything. Military power does not entitle the United States to ‘do as we please’ and does not provide the only, or indeed the most suitable, route to enduring security. More than military power, national and international security is the province of ideas, values, example and cooperation.

The popular response to the Obama inauguration speech is that it offered a clean break from the Bush administration’s narrower focus on US national security, its belief in the decisive role of armed force and its preference for self-help before multilateral cooperation. In its first year the Obama administration has shown an energetic and intelligent engagement with the challenges of national and international security in the early twenty-first century. The administration has also taken an imaginative and encouragingly pragmatic line, showing itself to be prepared to adopt those of its predecessor’s approaches and initiatives that are considered to have merit. Nevertheless, the challenges the administration confronts are considerable: managing an international campaign against terrorism and insurgency; the operational deployment of armed forces in Iraq and Afghanistan; diplomatic involvement in regional crises in the Middle East, South Asia and East Asia; confronting the problem of insecurity of energy supply; and contending with the human security implications of climate change and with future demands for humanitarian intervention. And as well as all of these challenges, the Obama administration’s energy, imagination and intelligence will also be tested in the field of nuclear weapons control.

The purpose of this chapter is to gauge the scale of the nuclear weapons challenge and to assess the style and substance of the Obama administration’s response to it. The chapter begins with a brief summary both of the nuclear challenge and of the administration’s response, as set forth in Obama’s April 2009 speech in Prague and subsequently. Four aspects of the nuclear challenge are then considered in greater detail: the political/diplomatic, the technological, the strategic and (above all) the intellectual.

The title of this chapter plays on that of Arms Control Today, the monthly publication of the US Arms Control Association² and a noted and highly valued source of expert research and analysis in the field of arms control (loosely defined). The central argument of this chapter is that, while the arms control, non-proliferation and disarmament challenges of today are daunting enough, a still more pressing challenge lies in developing a coherent rationale for nuclear weapons control that can endure into tomorrow and for the foreseeable future.
THE OBAMA ADMINISTRATION’S VISION OF NUCLEAR WEAPONS CONTROL

The Obama administration’s nuclear weapons agenda is certainly full: negotiations with Russia over further nuclear warhead reductions; the proposed ratification and implementation of the Comprehensive Test Ban Treaty (CTBT); agreement on a Fissile Material (Cut-off) Treaty (FMCT); hosting a Global Summit on Global Nuclear Security in April 2010 and the Review Conference of the Nuclear Non-Proliferation Treaty (NPT) in May 2010. Some analysts argue that the NPT will not survive if the disastrous performance seen in 2005 is repeated at the 2010 conference.

This would be a daunting agenda in the best of times, but these are emphatically not the best of times for international agreements on the control of nuclear weapons. There is continued uncertainty as to whether Russia will prove to be a constructive partner in its negotiations with the United States, or will instead insist upon concessions before allowing any progress to be made (over further NATO expansion, for example). How can the growing demand for nuclear energy be met, while ensuring that nuclear weapons materials and technology are not spread yet more widely around the world? Is the long-standing taboo against nuclear weapon use in a state of terminal decay, with some countries and non-state groups keen to acquire a nuclear capability in order to make use of it militarily? If the nuclear taboo is losing its authority, how can the acquisition and use of nuclear weapons be deterred successfully and durably?

The purpose (and therefore credibility) of the major treaty-based initiatives is also open to question. Is the goal to contain hostile relationships along the lines of the Cold War confrontation? Is it to protect the interests of the established nuclear weapon states by maintaining discriminatory agreements? Or is the aim the lasting achievement of a nuclear disarmed world?

It was against this stark and disturbing backdrop that President Obama made his April 2009 speech in Prague on the subject of the international security order. Arguing, as at his inauguration, that ‘moral leadership is more powerful than any weapon’, he focused his remarks on an issue that he described as ‘fundamental to the security of our nations and to the peace of the world – that’s the future of nuclear weapons in the 21st century’. Obama described the continued existence of thousands of nuclear weapons as ‘the most dangerous legacy of the Cold War’ – a conflict that had disappeared while nuclear weapons had not. In a particularly compelling passage, Obama summarized the nuclear weapon challenge in the following terms:

In a strange turn of history, the threat of nuclear war has gone down, but the risk of a nuclear attack has gone up. More nations have acquired these weapons. Testing has continued. Black market trade in nuclear secrets and nuclear materials abound. The technology to build a bomb has spread. Terrorists are determined to buy, build or steal one. Our efforts to contain these dangers are centered on a global-non-proliferation regime, but as more people and nations break the rules, we could reach the point where the centre cannot hold. [Emphasis added]
America and a Changed World

Dismissing the notion that the spread and use of nuclear weapons are inevitable, President Obama argued that the United States had a ‘moral responsibility’ to ‘seek the peace and security of a world without nuclear weapons’. There then followed a series of ‘concrete steps’ to be undertaken by the United States towards the goal of a denuclearized world. In the first place, Obama promised to reduce the role of nuclear weapons in US national strategy, while noting cautiously that, for as long as nuclear weapons remained, the United States would retain a nuclear arsenal for the purposes of deterrence and defence. As with other nuclear powers such as the United Kingdom, the juxtaposition of a US commitment to nuclear weapons reduction and a commitment to nuclear weapons retention is likely to remain one of the characteristic features of the international nuclear weapons debate for the foreseeable future. Obama then spoke of the need for a new Strategic Arms Reduction Treaty (START) with Russia and mentioned the possibility that all nuclear weapon states might at some point join the initiative. The ratification of the CTBT would be pursued ‘immediately and aggressively’, and a ‘new’ treaty to end the production of fissile material would be sought. The NPT would be strengthened with ‘more resources and authority’ for international inspections and, in an attempt to deal with the risk of break-out from the NPT, President Obama called for ‘real and immediate consequences’ for ‘countries caught breaking the rules or trying to leave the treaty without cause’. An international fuel bank would be created in order to encourage the spread and use of civil nuclear technology without increasing the risks of nuclear weapons proliferation. A new international initiative would seek to secure all vulnerable nuclear material around the world, not least in order to prevent terrorist access to the means and materials of nuclear weapon construction. Various extant programmes such as the Proliferation Security Initiative and the Global Initiative to Combat Nuclear Terrorism (both of which originated during the Bush presidency) would be turned into ‘durable international institutions’, and, as a first step towards that goal, Obama called for a Global Summit on Nuclear Security to be held in the United States.

President Obama’s Prague speech was at once a stark summary of the many problems associated with nuclear weapons control and an agenda involving a wide range of ambitious responses. The remaining sections of this chapter examine the nature of the nuclear weapons challenge and the prospects for success in four key areas: the political and diplomatic, the technological, the strategic and the intellectual.

THE POLITICAL AND DIPLOMATIC CHALLENGE

The political and diplomatic challenge to the Obama administration’s aspirations for nuclear weapons control is manifested on three levels: the international, the allied and the domestic. At the international level, the challenge might best be described as treaty weariness. To a significant and rather disturbing extent, the triad of agreements with which the administration is most immediately concerned – the replacement for START with Russia, the ratification of the
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CTBT and agreement on a verifiable FMCT – are widely regarded as belonging to the Cold War – an era that has long since passed and a geostrategic US–Russian bilateral framework that is scarcely relevant. These negotiations require a burst of energy and enthusiasm – with identifiable results – if they are not to be regarded as either superannuated or geostrategically constrained, or both. Put another way, if these treaties are not perceived to have long-term and (at least in the case of the latter two) universal validity, then what is their point?

Similar questions could be asked of the Non-Proliferation Treaty, which by many accounts is the most worn out of them all. The possibility that the 2010 NPT Review Conference might end in failure like its 2005 predecessor has prompted a trenchant debate as to the likely effect of such failure on the coherence and effectiveness of the international nuclear non-proliferation regime (including the NPT itself, the International Atomic Energy Agency and a range of other treaties and agreements). Some have argued that the regime would inevitably collapse, while others reject such an apocalyptic vision, pointing out that the NPT is widely respected and is the most subscribed treaty in the international system.

The problem for these weary Cold War-era agreements (and this applies equally to agreements addressing chemical and biological ‘weapons of mass destruction’) is that they are at best little understood and at worst regarded as self-referential, self-perpetuating bureaucracies. These bureaucracies appear alarmingly unconcerned when their core objectives are not met and simply reconvene for another conference some years hence. As the Obama administration seeks to reinject the ‘energy and enthusiasm’ referred to earlier into nuclear weapons control, its problem is presentational. Clearly, the weaknesses and shortcomings of the NPT must be identified, addressed and rectified. But if the NPT is too loudly and roundly discredited in the process, the risk is not only that non-nuclear weapon states might become wary of its durability and begin to seek security guarantees by other means (possibly including nuclear weapon acquisition), but also that existing nuclear weapon states might lack confidence in a discredited, obsolescent institution and decline to meet their commitment to the NPT bargain. In this regard, Stephen Blank has written of the ‘connection between the major nuclear powers’ self-restraint and even downsizing of their arsenals and the viability and durability’ of the NPT. Equally, the United States should be wary of injecting too much energy and enthusiasm into the nuclear debate in the form of the argument for a ‘Global Zero’, for example. A dramatic vision such as this, whatever the immediacy of its popular appeal, might well imply that the tired old treaties of the Cold War really have had their day and no longer merit any serious diplomatic and intellectual effort, a greater prize having finally come into view. The problem is, of course, that most analysts would accept that the Global Zero idea is rather like the Holy Grail: all have heard of it; many are attracted to it; but none are ever likely to see it. The danger, then, is that the best is made the enemy of the good and that the world ends up with neither the Global Zero nor a set of functioning (albeit flawed) treaties.
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At the allied level, the political and diplomatic challenge is one of managing expectations. As far as the United States’ European allies are concerned these expectations are largely (but not entirely) historical, while in East Asia the pressure from allies has a rather more urgent tone to it.

During the Cold War, the basing of US nuclear weapons in Europe – known as ‘nuclear sharing’ – symbolized the US strategic commitment to Europe and was considered essential to the West’s deterrent posture. The continued presence of US nuclear weapons in Europe, now reduced to a rump – 200 or so ‘dumb’ US nuclear bombs stored in around 90 weapon vaults in Belgium, Germany, the Netherlands, Italy and Turkey – is of questionable value. Originally a demonstration of the indivisibility of American and West European deterrence of Soviet aggression, the nuclear sharing arrangement no longer clearly provides a credible and convincing deterrent umbrella under which America’s non-nuclear European allies could take shelter in times of dire emergency. The rationale for the deployment of US nuclear weapons in Europe could scarcely be thinner, or more tenuous. Even without the deterrent rationale, the nuclear sharing arrangement is regarded as a symbol of NATO cohesion at times of tension and uncertainty in Europe. For the Obama administration, however, continuing to share US nuclear weapons in this way might prove to be counter-productive in the light of its other obligations and aspirations in nuclear weapons control. In blunt terms, where does the greater political and diplomatic benefit lie: in nuclear sharing with European allies or in the pursuit of START, CTBT, FMCT and a re-energized NPT? And, more to the point, is it consistent and coherent to hold both sets of objectives at the same time?6

In East Asia, the concern on the part of Japan, South Korea and Taiwan is the continued credibility of US extended nuclear deterrence in the face of posturing by nuclear weapon states in the region. There are now calls for the United States to strengthen and institutionalize the nuclear guarantee it extends to its allies, possibly in the form of a nuclear planning forum along the lines of NATO’s Nuclear Planning Group.7 In both cases – Europe and East Asia – the central point, as Clark Murdock has observed, is that America’s ‘assurance to its allies and friends that its nuclear deterrent extends to them is a key factor affecting their calculus as to whether to pursue nuclear weapons’.8

Finally, the domestic political challenge for the Obama administration is essentially a matter of securing the support of the US Senate. Ratification of international treaties – including arms control and non-proliferation agreements – requires a two-thirds majority of the Senate, i.e. a minimum of 67 votes in favour. With a Democratic caucus of 60 Senators (including two Independents), a further seven votes must be sought among the ranks of Republican Senators. While there is bipartisan support for a verifiable FMCT in the US Congress, there remains persistent opposition to other agreements such as the CTBT and the START replacement. These initiatives are often portrayed by their critics as ‘ appeasement ’ and an untimely and imprudent weakening of the military pre-eminence of the United States. Others offer a more prosaic explanation for Senate voting patterns, notably for Senators representing states that have had a
long involvement in and dependency upon aspects of the US nuclear weapons programme: ‘when it comes to arms control treaties, ideological considerations rarely trump pork-barrel politics.’

While Senate voting patterns must clearly be taken seriously, for the present it seems unlikely that an overt and decisive opposition to the nuclear weapons control agenda will develop. But it might not always be safe to make this assumption. If the Senate continues to be preoccupied with other policy concerns (e.g. healthcare), the nuclear weapons control agenda could be crowded out by other, equally legitimate policy concerns. A more coherent opposition might indeed then develop over the coming months, and largely out of neglect. A Senate which has not been actively engaged in the complex weapons control debate and in informing public opinion could all too soon become a Senate that is actively opposed to agreement even on initiatives such as the FMCT. Arms control and non-proliferation negotiations can take years to complete. But, with the next round of Senate elections taking place in November 2010, it is not inconceivable that President Obama’s weapons control programme could be knocked off course by an electorate that has not been kept aware of the need for consistency and continuity in these negotiations and that elects to the Senate more of those who are unconvinced of the case for nuclear weapons control. By one view, if the current Senate does not or cannot contribute to substantial progress in weapons control negotiations by the end of 2010, the ‘window of opportunity will slam shut on President Obama’s plans to reduce nuclear weapons stockpiles, ban nuclear testing, and secure vulnerable nuclear material worldwide’.

THE TECHNOLOGICAL CHALLENGE

The nuclear weapons control agenda is also challenged by what is known as the ‘dual-use’ phenomenon: the use of militarily significant materials and technology for legitimate, non-military purposes. Nowhere is this challenge more vivid than in the field of nuclear energy generation. According to the 2009 edition of the IAEA’s nuclear energy forecast, by the end of 2008 there were some 438 nuclear power reactors in operation around the world, with a further 44 under construction. Representing the international nuclear energy industry, the World Nuclear Association reported that, by September 2009, the number of reactors under construction had risen to 50 and that the global demand for nuclear energy might increase from the 327.5 gigawatt electric (GWe) capacity available in 2009 to more than double that amount by 2030. From 2015 this surge in demand could mean worldwide the equivalent of one GWe power reactor being brought on-line every five days.

Nuclear power generation uses knowledge, processes and materials that are all directly associated with nuclear weapon programmes. An associated difficulty is that an inevitable by-product of nuclear energy generation is unprocessed plutonium. The fuel required for nuclear power generation is uranium-235 (U-235), which is not sufficiently available in nature and must therefore be
manufactured from more readily available uranium-238. Uranium ore must first be mined and then dissolved in sulphuric acid, before being ‘recovered’ in a solid form as uranium oxide (otherwise known as yellowcake). Uranium oxide must then be ‘converted’ into the gas uranium hexafluoride, where the proportion of U-235 is about 0.7 per cent. The next step in the process is to produce a sufficient quantity of low-enriched uranium (LEU) containing between 3.5 and 5 per cent U-235. Enrichment is undertaken by a variety of methods (gaseous diffusion, gas centrifuge and laser isotope separation, for example) that are either already available or under development. These are complex processes requiring advanced levels of engineering knowledge and infrastructure. But once acquired, the same processes can be duplicated in a ‘cascade’ in order to enrich U-235 to far higher levels, even to the 93 per cent widely (albeit not universally) considered to be the threshold for weapons-grade highly enriched uranium (HEU).

Reactor-grade plutonium (i.e. plutonium containing 50–60 per cent of the fissile isotope plutonium 239 [Pu-239]) is the inevitable by-product of the irradiation of U-235 in any U-235 reactor. This knowledge is the basis on which weapons-grade plutonium (i.e. containing 90–95 per cent Pu-239) can be ‘bred’ in a power or research reactor. Using chemical separation processes, a relatively small 100 megawatt thermal (MWt) LEU-powered reactor (equivalent to as little as 33 MWe) could produce 100 grams of Pu-239 each day – enough to construct a weapon in just two months.13

The expected growth in nuclear energy generation creates a number of difficulties for the nuclear weapons control agenda. Some states might acquire the capability for nuclear power generation but then divert that knowledge and ability into nuclear weapon production. With worldwide stocks of fissile material increasing steadily, terrorists might seek to acquire quantities of either HEU or Pu-239 sufficient to build either a fully functioning nuclear weapon or an improvised nuclear device. Some groups might steal irradiated and highly toxic nuclear waste in order to construct a radiological dispersal device or ‘dirty bomb’.14 The central point to note is that, while the various arms control and non-proliferation agreements are already facing diplomatic and political pressure, the dual-use nature of nuclear technology suggests that this pressure is likely only to increase over the coming 20 years or so. Inspection regimes, weapons ceilings and deployment agreements, nuclear safety and security measures, and novel ideas such as an international nuclear fuel bank – all of these initiatives are rightly considered essential to effective nuclear weapons control in the first years of the twenty-first century.15 But in the absence of convincing alternatives, these initiatives must also have the diplomatic and political impetus, and be sufficiently dynamic and flexible to be able to manage a still more pressured environment towards the middle of the century as the huge problems associated with dual use expand and proliferate.
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THE STRATEGIC CHALLENGE

It has long been supposed that nuclear weapons control benefits from (and is perhaps made possible by) a so-called ‘taboo’ against both the acquisition and, even more, the use of nuclear weapons. The taboo embodies a number of disincentives: legal constraints and penalties against breaking international treaties; caution at the massive financial investment required for a successful nuclear weapons programme; prudential assessments that a nuclear weapon programme could disappoint an erstwhile ally and protector or, worse still, invite a pre-emptive attack (nuclear or otherwise) by an opponent; and, of course, moral repugnance against the death and destruction that would follow a nuclear attack. It was assumed that the taboo applied both to relations between states and to the behaviour of terrorist groups; a terrorist group that acquired a nuclear weapon, whether or not it chose to use it, would achieve absolute pariah status and would be excluded from political engagement, reconciliation and indeed any conceivable political process.

But the grip of this decades-long taboo may now be easing. It is known, for example, that al-Qaeda has long been interested in acquiring or developing a functioning nuclear weapon, and that Osama bin Laden has declared it a ‘religious duty’ for the organization to acquire nuclear weapons. By one account, had the Taliban regime not been ejected from Afghanistan, and had al-Qaeda managed to remain relatively unmolested in that country, they would ‘eventually’ have acquired nuclear weapons. On these grounds, and in spite of the significant technical and engineering that would have to be overcome, nuclear terrorism might reasonably be described as a ‘realistic threat’. Other analysts describe this possibility in even starker terms: ‘Terrorist acquisition of nuclear weapons poses the greatest single threat to the United States.’

Among states, the disincentives to nuclear weapon acquisition are increasingly matched by the perceived incentives. For decades, the possession of nuclear weapons conferred very high status in the international community (not least, of course, permanent membership of the United Nations Security Council), and this simple message has not been lost on ambitious governments and rising powers around the world. Another, increasingly common, argument is that nuclear weapon possession might be the only thing that Western interventionist forces (with their acknowledged superiority in conventional forces and technology) would respect.

The fraying of the nuclear taboo might also be attributed to the fact that some nuclear weapon states have openly discussed nuclear use for a variety of purposes. The ethical element of the nuclear taboo is challenged by an argument put forward by the late Sir Michael Quinlan in his most erudite and accessible study, Thinking about Nuclear Weapons. In calling for a more careful assessment of the ‘moral acceptability of possessing nuclear weapons’, Quinlan observes that some limited use of such weapons could ‘serve to deny an aggressor the attainment of intolerable aims without entailing unlimited catastrophe, and so could lead to an outcome that might legitimately be termed successful and worth the
costs’. As with the other incentives described above, it is conceivable that the leaders of non-nuclear weapon states could draw these conclusions themselves, articulating their own diplomatic, strategic and moral case for the acquisition of nuclear weapons. There is also the possibility, finally, that non-familiarity has bred contempt. The complex but familiar rationales to justify nuclear weapon possession have been fading fast since the end of the Cold War two decades ago. In their place, perhaps the more vivid reference point for nuclear weapons is not their non-use during the Cold War but the only moment when they have been used – and conclusively so – in 1945. The breakdown of the nuclear taboo is a subject to approach with some caution, not least because breakdown might, paradoxically, prove to be a stimulus to more effective weapons control, rather than the moment at which nuclear weapon use finally ceased to be unthinkable. As Mark Fitzpatrick points out,

There is no compelling logic to assume that nuclear weapons would thereby become re-legitimized as instruments of war. The breaking of the nuclear taboo could actually spur either or both of two opposite reactions: an increased salience of nuclear weapons and a stimulus to disarmament.

Taking a rather less cautious line, Michael Krepon notes that ‘there is no shortage of nonproliferation specialists predicting impending nuclear disasters’ and judges that ‘the threat itself has been greatly exaggerated’. Krepon’s argument is essentially a complaint against worst-case analysis and the distorted, inappropriate and costly planning and preparation that can follow from it. Yet there is surely a countervailing danger of complacency bred of hindsight. If there is an increasing possibility of nuclear weapon use (which most reasonable analysts would agree on), then it is surely difficult to apply anything other than worst-case analysis to that possibility. Something about the nuclear danger – the loss of life and the damage that can be caused – suggests that the ‘threat inflation’ against which Krepon argues might be a prudent response to the possibility of nuclear use. It would certainly seem to be a very human response to that scenario.

Even if the nuclear taboo is not about to be broken, it is certainly fraying at the edges. And the mere possibility that some states and terrorist groups might increasingly see nuclear weapons in terms of military advantage should be cause for very considerable concern. The strategic challenge for advocates of nuclear weapons control is to prevent the erosion of the nuclear taboo by promoting a climate of trust. Trust is maintained through the mechanisms discussed elsewhere in this chapter: careful diplomacy and negotiation; well-written treaties, conventions and agreements; consistency of performance; and verification of that performance. When trust fades or is undermined, the strategic challenge is to be able to shift from an inclusive approach based on persuasion and mutual self-interest to a more adversarial position based on the deterrence and, ultimately, the coercion of recalcitrant governments. Yet the deterrence of a terrorist group is a different matter, arguably requiring a far more subtle and imaginative approach. One such approach might lie in forensic attribution and ‘deterrence by association’: if states and commercial organizations can be
exposed for having supplied a nuclear weapon capability to a terrorist group, they can then be subject to sanctions; and the threat of sanctions might have the effect of cutting off supply in the first place.

THE INTELLECTUAL CHALLENGE
The final challenge to the Obama administration is to develop a more convincing and more contemporary way of explaining its aspirations for nuclear weapons control. Each of the three familiar approaches – arms control, non-proliferation and disarmament – pulls in a different direction, yet all seem to be in play in the administration’s approach. How can this be explained? Put more simply, what does each of these actually mean in the context of international security in the early twenty-first century?

It is relatively easy to describe what these ideas meant during their heyday in the Cold War. Arms control was the management of a highly weaponized adversarial relationship. It was an elaborate construction: its advocates even devised the apparent absurdity that countries could improve their security by remaining vulnerable to their adversaries. These were extraordinary ideas, but they may also have been a peculiarity of the middle and later years of the twentieth century. There are lingering shadows of the Cold War model in the relations between the United States and Russia, and to some extent between India and Pakistan, but it is difficult to identify a close analogue to Cold War arms control in scope, intensity or sophistication. In important respects non-proliferation was also a thing of the Cold War, its purpose being to prevent the leakage of nuclear weapon expertise from the tightly controlled central relationship. Disarmament, finally, embodied the grand ideal: the goal of a world in which the most destructive weapons ever invented were disposed of once and for all. Disarmament was never a thing of the Cold War and never fared well in the shadow of arms control, the strategically dominant idea. But it is emerging as a new and re-energized element of the triad – although, as Stephen Cimbala observes, nuclear weapons states remain far from agreed on the objective of nuclear abolition, nor the means for getting there.

Twenty-first-century nuclear weapons control is none of the above and all of them; it is a composite of these long-standing and complex ideas. As such, nuclear weapons control is unlikely to be the easiest idea to describe and implement. Yet it is essential that the intellectual effort be made to explain, as precisely and simply as possible, the problems that nuclear weapons control addresses, what it hopes to achieve, and on whose behalf. Without a robust and communicable intellectual underpinning, nuclear weapons control will lack plausibility, authority and normative strength. Furthermore, if it is seen to be in the service of one vested interest or another it will be too easily challenged, bypassed or ignored.

The goal of nuclear weapons control cannot be to prevent all war and violence for all time, although this would doubtless be good, if achievable. Nor, of course, should nuclear weapons control seek to confer strategic advantage upon one...
country or another. Instead the goal should be to prevent nuclear war. Such a simple, stark and unequivocal goal will not only provide a persuasive intellectual and moral underpinning but also help to ensure that the various means and ideas available do not become ends in themselves. With a clear and unequivocal goal, nuclear weapons control can become a matter of variable geometry; a loose framework in which various means and devices are available in pursuit of the common goal. By this approach, weapons ceilings, verification, test bans, cut-off conventions, weapon-free zones, counter-proliferation, threat reduction and even the notion of a Global Zero can all be evaluated as instruments rather than venerated as ends in themselves.

CONCLUSION

Nuclear weapons control has for decades been driven by three sets of ideas, none of which is now as convincing as it should be. Arms control agreements are widely perceived to be a thing of the past – a product of the Cold War adversarial relationship between the United States and the Soviet Union. In some respects, the only surprise should be that arms control has survived for so long after the end of the Cold War. Similarly, international non-proliferation regimes – elaborate diplomatic and legal arrangements, often supported by large and complex bureaucracies – are widely perceived to be undergoing a crisis of credibility and utility. The idea of non-proliferation is arguably a legacy of a very different and much simpler time, when technology was more controllable (and the problem of dual-use technology was in its infancy), when the core concern was with the activities of governments and states, and when the Cold War provided an ever-present and compelling case for restraint in weapons development and acquisition. The third main approach to the management of nuclear weapons is of course disarmament. This has never been as persuasive as arms control and non-proliferation and was firmly in their shadow during the Cold War. Even now, and in spite of its resurgence in the form of the Global Zero idea, disarmament continues to be associated with the musings of unworldly idealists.

But all of these ideas need to be taken more seriously than ever before. There is no convincing alternative to them and no convincing argument that any one of them could on its own solve the problems of nuclear weapon control. With Iran and North Korea moving ever closer to having deployable nuclear weapons, the simmering antagonism between India and Pakistan, the growing danger of terrorist acquisition and use of either a nuclear or a radiological device, and the dramatic increase in nuclear energy generation creating even greater challenges for the safety and security of nuclear materials, it is not an exaggeration to say that around the world, nuclear weapon challenges are now more pressing and more complex than since the darkest days of the Cold War.

Responding to these challenges, the administration of President Barack Obama has sought to present a new American approach, marking the end of eight years that are widely regarded as having been dominated by a lack of faith in the merits of non-proliferation and an unwillingness to be constrained
by international treaties. A great deal of effort has been devoted to securing
the various agreements discussed above – START replacement, CTBT and
FMCT. And there are many other initiatives, not discussed at any length in this
chapter, where the continued support of the United States will be essential. The
administration could, for example, put its energy behind the extension of the
G8 Global Partnership Against the Spread of Weapons and Materials of Mass
 Destruction (an area where the enormous and decisive US contribution often
goes unnoticed), broadening the initiative to cover other regions of proliferation
concern.

But in the end, the Obama administration will have to concentrate on
the most urgent question of them all: what can be done about the NPT, due
for its next review in 2010? At the heart of the NPT is the so-called ‘bargain’
between the nuclear weapon states and the ‘nuclear have nots’. For many years
the bargain has looked more like blatant fraud perpetrated on the ‘have nots’,
and the task now is to find a way to recalibrate the NPT in such a way that
nuclear non-proliferation remains a rational option for sovereign governments
around the world. The alternative, of course, is to accept that the NPT has run
its course. In that case, the Obama administration will need to inject as much
energy as possible, and as quickly as possible, into the goal of a world with no
nuclear weapons whatsoever, as proposed in 2007 by George Schultz, William
Perry, Henry Kissinger and Sam Nunn.

The United States will need all its diplomatic and intellectual resources not
only to meet the challenges of today but also, for the longer term, to breathe
life back into an old idea: that multilateral arms control, non-proliferation and
disarmament (even if only an article of faith for the foreseeable future) are all
essential pillars of the global order. If the United States cannot or will not take
up this broader and longer-term challenge, then the increasing availability of
the materials, technology and expertise needed to make nuclear weapons will
mean a world of weapons proliferation, arms races and, ultimately, nuclear use.
Although they have very different ancestries, the time has come to see these
three schools of thought as different means to a common end – the preven-
tion of nuclear war – rather than as exclusive rivals, as an end in themselves or
as a device to assert national interest. It was, after all, one of Barack Obama’s
predecessors President Harry S. Truman who once warned against becoming ‘so
preoccupied with weapons’ (and, we might add, political ideologies) ‘that we lose
sight of the fact that war itself is the real villain’.24

NOTES

1 President Barack Obama’s Inaugural Address, 20 January 2009: http://www.whitehouse.
gov/blog/inaugural-address/.
3 President Barack Obama, Remarks, Prague, Czech Republic, 5 April 2009: http://
www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-
Prague-As-Delivered/.
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7 I am grateful to Professor John Simpson for this observation.


22 M. Krepon, ‘The Mushroom Cloud That Wasn’t: Why Inflating Threats Won’t Reduce
Arms control tomorrow
