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The History of Proliferation Optimism: Does It Have a Future?

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ABSTRACT Students of international politics known as ‘proliferation optimists’ argue that when it comes to the spread of nuclear weapons ‘more may be better’ because nuclear weapons deter great power war and produce greater levels of international stability. This essay provides a critique of proliferation optimism, challenging optimism’s conception of nuclear deterrence theory, its logical underpinnings, and its policy recommendations. It does this by conducting an intellectual history of proliferation optimism, identifying the core weaknesses of proliferation optimism as a theoretical framework, and articulating the myriad threats posed by nuclear proliferation.

KEY WORDS: Nuclear Weapons, Nuclear Proliferation, Deterrence, Proliferation Optimism, Proliferation Pessimism

Should we worry about the spread of nuclear weapons? At first glance, this might appear to be an absurd question. After all, nuclear weapons are the most powerful weapons ever created by humankind. A single nuclear weapon could vaporize large portions of a major metropolitan area, killing millions of people, and a full-scale nuclear war between superpowers could end life on Earth as we know it. For decades during the Cold War, the public feared nuclear war and post-apocalyptic nuclear war scenarios became a subject of fascination and terror in popular culture. Meanwhile, scholars carefully theorized the dangers of nuclear weapons and policymakers made nuclear nonproliferation a top national priority. To this day, the spread of nuclear weapons to additional countries remains a foremost concern of US leaders. Indeed, in his 2014 annual threat assessment to the US Congress, Director of National Intelligence James Clapper argued

that nuclear proliferation poses one of the greatest threats to US national security.¹

Many academics, however, question the threat posed by the spread of nuclear weapons. Students of international politics known as ‘proliferation optimists’ argue that the spread of nuclear weapons might actually be beneficial because it deters great power war and produces greater levels of international stability.² While these arguments remain provocative, they are far from new. The idea that a few nuclear weapons are sufficient to deter a larger adversary and keep the peace has its origins in the early strategic thinking of the 1940s. Moreover, a critical review of this literature demonstrates that many of these arguments are less sound than they initially appear.

This essay argues that, contrary to the claims of the optimists, the spread of nuclear weapons poses a grave threat to international peace and to US national security. It begins with a brief review of the intellectual history of proliferation optimism to show how parochial interests and resource-constrained environments incentivized strategic thinkers in France and in the US Navy to develop and promote key pillars of the proliferation optimism school. Next, it identifies the core weaknesses of proliferation optimism as a comprehensive framework for understanding the effects of nuclear proliferation on international politics, including its: oversimplification of nuclear deterrence theory and corresponding underestimation of the potential for nuclear war, internal logical contradictions, and limited ability to speak to the concerns of policymakers. Finally, it articulates the myriad threats posed by nuclear proliferation, including: nuclear war, nuclear terrorism, global and regional instability, constrained US freedom of action, weakened alliances, and the further proliferation of nuclear weapons.

In so doing, this essay makes several contributions to our understanding of proliferation optimism and nuclear weapons proliferation. First, it proposes a novel argument about how bureaucratic considerations and resource constraints were conducive to the intellectual diffusion of proliferation optimism. Second, it responds to recent calls for proliferation pessimists to stop ‘playing small ball’ and to rebut head on proliferation optimists’ core claims about nuclear deterrence theory and

¹James R. Clapper, ‘Worldwide Threat Assessment of the US Intelligence Community’, Statement for the Record, US Senate Select Committee on Intelligence, 29 Jan. 2014, <www.dni.gov/index.php/newsroom/testimonies/203-congressional-testimonies-2014/1005-statement-for-the-record-worldwide-threat-assessment-of-the-us-intelligence-community>.

²Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate* (New York: Norton 1997); David J. Karl, ‘Proliferation Optimism and Pessimism Revisited’, *Journal of Strategic Studies* 34/4 (Aug. 2011), 619–41.

stability.³ Third, this essay reviews the many reasons why US officials should oppose the spread of nuclear weapons, regardless of whether optimists are correct in their central claims about nuclear weapons and international stability. While many of these threats have been identified and reviewed in greater detail by others, this essay aims to usefully bring them together in a single work as part of an overarching critique of the proliferation optimism position.

An Intellectual History of Proliferation Optimism

The origins of the key pillars of proliferation optimism can be found in early Cold War debates about nuclear strategy. These pillars include the ideas that a small nuclear arsenal capable of targeting an enemy's cities is sufficient for deterring a powerful adversary and that nuclear wars, because they would be so devastating for everyone involved, will never be fought. These ideas stood in stark contrast to other strands of deterrence thinking that emphasized the importance of nuclear force posture, counterforce targeting, strategic instability, nuclear brinkmanship, inadvertent and accidental nuclear escalation, and limited nuclear wars.⁴ It is noteworthy that some (but by no means all) of the most influential early advocates of minimum deterrence and proliferation optimism (indeed, as we will see below, these ideas are mutually reinforcing) cannot truly be understood without reference to the parochial interests and resource-constrained environments in which the strategic thinkers who developed them operated.

Early Academic Writing

Shortly after the first use of nuclear weapons on Hiroshima and Nagasaki, US strategists began to grapple with the question of what the atomic bomb meant for international peace and security. The first answer given is one that presaged the contemporary proliferation optimism literature, namely, that nuclear weapons are an 'absolute weapon' that are terrifyingly destructive, invulnerable to enemy attack, and that render great power war obsolete.⁵

Perhaps the first person to articulate this position was University of Chicago economist Jacob Viner in a speech to the American Philosophical Society in Philadelphia on 16 November 1945 – just

³Frank Gavin, 'The Ivory Tower–Policy Gap in the Nuclear Proliferation Debate', *Journal of Strategic Studies* 35/4 (Aug. 2012), 573–600.

⁴Lawrence Freedman. *The Evolution of Nuclear Strategy* (New York: Palgrave Macmillan 2003).

⁵See, for example, Bernard Brodie, *The Absolute Weapons: Atomic Power and World Order* (New York: Harcourt Brace Jovanovich 1946).

months after the first use of nuclear weapons on Hiroshima and Nagasaki.⁶ In the speech, Viner argued that counterforce nuclear targeting would be useless and disarming first strikes impossible. In doing so, he laid the basis for subsequent claims about a minimum nuclear posture being sufficient to deter a more powerful adversary. Viner argued, ‘the atomic bomb, unlike battleships, artillery, airplanes, and soldiers, are not an effective weapon against its own kind. A superior bomb cannot neutralize the inferior bomb of an enemy.’ Viner went on to argue that the awesome destructive power of nuclear weapons would induce great caution in leaders and possibly produce peace among the major powers. In his words, ‘the universal recognition that if war does break out, there can be no assurance that the atomic bombs will not be resorted to may make statesmen and people determined to avoid war even where in the absence of the atomic bomb, they would regard it as the only possible procedure under the circumstances for resolving a dispute or a clash of interests.’⁷

The proliferation optimism position received further elaboration a few months later in Bernard Brodie’s classic book *The Absolute Weapon*.⁸ In great detail, Brodie explained the basic features of the minimum deterrence and proliferation optimism position. He argued that nuclear weapons are invulnerable, ruling out the possibility of an enemy launching a splendid first strike. He also claimed that nuclear weapons have such terrifying effects that they would make war too costly to wage, potentially leading to peace. In his most oft-quoted line, Brodie declared, ‘Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them.’⁹ Unlike most optimists writing today, however, Brodie was a fairly pessimistic optimist, holding that nuclear weapons could stabilize great power politics while simultaneously fearing a nontrivial risk of nuclear exchange.

Brodie’s most optimistic notions were soon countered in what would become an early incarnation of the optimism-pessimism debate, predating the now-famous Waltz-Sagan debate by over 30 years.¹⁰ Beginning with a series of basing studies done for the Department of Defense, Albert Wohlstetter, an American strategist working at the RAND Corporation in Santa Monica, California, argued that nuclear weapons are not as invulnerable as they appeared to optimists like Brodie.

⁶Jacob Viner, ‘The Implications of the Atomic Bomb for International Relations’, *Proceedings of the American Philosophical Society*, delivered 16 Nov. 1945.

⁷Ibid.

⁸Brodie, *The Absolute Weapon*.

⁹Ibid.

¹⁰Sagan and Waltz, *The Spread of Nuclear Weapons*.

Rather, he argued that the ‘balance of terror’ that optimists had written so eloquently about, was actually quite ‘delicate’.¹¹ He demonstrated that US nuclear forces were potentially vulnerable to a Soviet first strike and that this vulnerability could tempt Moscow to launch a nuclear war. His study led to a number of improvements in the survivability of US nuclear forces, including the moving of US air bases beyond the range of Soviet bombers and the hardening of ballistic missile silos.

More importantly for our purposes, however, Wohlstetter’s study also undermined a key pillar of proliferation optimism. If nuclear forces were potentially vulnerable, then an enemy might be encouraged to attack, and it was not a great leap from this insight to argue that the spread of nuclear weapons would not necessarily contribute to peace. Just as a belief in minimum deterrence supports the idea of a nuclear peace, attention to nuclear vulnerability and counterforce nuclear war necessarily leads to proliferation pessimism. Indeed, it is difficult to find analysts who simultaneously believe that the details of nuclear force posture matter and that the spread of nuclear weapons is inherently stabilizing.

It should come as no surprise, therefore, that Albert Wohlstetter was a proliferation pessimist. In subsequent writing, Wohlstetter catalogued the potential downsides of nuclear proliferation for US interests, even if nuclear weapons spread to friendly states, such as America’s NATO allies.¹² First, he identified nuclear war as a potential problem. A few nuclear weapons would not be enough for deterrence, but rather ‘The problem of deterring a major power requires a continuing effort because the requirements for deterrence will change with the countermeasures taken by the major power.’¹³ But, if that investment was not made, deterrence could fail and nuclear war could result. Second, Wohlstetter worried that the spread of nuclear weapons within the NATO alliance would undermine alliance cohesion by making the allied states less interdependent. Third, Wohlstetter forecasted that the spread of nuclear weapons would lead to the further spread of nuclear weapons. He criticized US decisionmakers for calculating the pros and cons of nuclear proliferation to an ‘Nth’ state without also figuring in the potential negative consequences of what he called the ‘N+1 problem.’¹⁴

¹¹Albert Wohlstetter, *The Delicate Balance of Terror* (Santa Monica, CA: RAND Corporation 1958).

¹²Albert Wohlstetter, ‘Nuclear Sharing: NATO and the N+1 Country’, *Foreign Affairs* 39/3 (April 1961), 355-87.

¹³Ibid.

¹⁴Ibid.

The optimism-pessimism debate did not remain relegated to the ivory tower for long, however. Shortly thereafter, influential actors in government began adapting the ideas of proliferation optimism to fit their strategic circumstances and advance their parochial interests.

The French Force de Frappe

In 1960, France entered the nuclear club with its first nuclear test.¹⁵ French leaders, including President Charles de Gaulle, did not believe that France could rely on the United States and NATO to provide for France's security. As de Gaulle would famously ask, would Washington really be willing to trade New York for Paris in a nuclear war? France, therefore, acquired an indigenous nuclear weapons capability that would allow Paris to pursue a more independent foreign policy. Having developed the bomb, however, French strategic and military thinkers were soon confronted with a new problem: how would they use their nuclear weapons? In the early and mid-1960s, France began developing a nuclear doctrine.

At the same time that US and Soviet thinkers began articulating the aspects of nuclear doctrine that would come to characterize the superpower nuclear competition throughout the Cold War (counterforce nuclear targeting, limited nuclear options, the importance of assured destruction, the advantages provided by nuclear superiority, and the pursuit of active and passive defenses), France, a medium power operating with fewer resources than the superpowers, was compelled to develop a more modest nuclear strategy. In large part due to its limited means, France developed a minimal deterrent doctrine, in which French military planners aimed to be able to threaten significant damage to Soviet cities in the event of a Soviet invasion of France.¹⁶

Unlike the superpowers, France did not have the luxury of working down from strategy to capabilities, but instead had to work backwards, developing strategy around given capabilities. As French strategic thinker General Pierre-Marie Gallois put it, France pursued a nuclear 'strategy of the means'.¹⁷ In the words of de Gaulle, 'we do not have the ambition to make a force as powerful as those of the Americans or Soviets, but a force proportionate to our means, our needs, and our

¹⁵Lawrence Scheinman, *Atomic Energy Policy in France under the Fourth Republic* (Princeton UP 1965).

¹⁶Bruno Tertais, 'Destruction Assuree: The Origins and Development of French Nuclear Strategy, 1945–1982', in Henry D. Sokolski (ed.), *Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice* (Carlisle, PA: Strategic Studies Institute 2004).

¹⁷*Ibid.*, 95.

size'.¹⁸ Accordingly, the key pillars of French doctrine reflected France's resource constraints. 'Deterrence of the strong by the weak' was the belief that a small state can deter a much larger adversary as long as the smaller state has the ability to conduct a countervalue nuclear attack against the larger state's cities.¹⁹ 'Sufficiency' was the idea that a small number of nuclear weapons was sufficient for deterrence and that anything more was unnecessary.²⁰

France's small size and lack of strategic depth prevented it from adopting the warfighting postures of the superpowers. As Gallois put it, 'France has nothing to cede that would not be herself.'²¹ France's vulnerability, therefore, demanded that France launch an immediate and full-scale nuclear attack at the initiation of any hostilities. Unable to build a large enough arsenal to maintain an assured destruction capability against the Soviet Union, France aimed only, according to Gallois, to 'tear an arm' off the aggressor.²² While US Secretary of Defense Robert McNamara famously assessed that destroying large portions of the Soviet population and economy was necessary to deter Moscow, French thinkers thought that the Soviet Union could be deterred if France could inflict damage on the Soviet Union roughly equivalent to the destruction of the entire country of France. In the words of one French official, 'French nuclear forces have been calculated to permit reaching a population of the adversary of the same order as that of our own country. If France were destroyed, our adversary would lose the equivalent of France.'²³

A lack of adequate delivery vehicles also prevented France from following a counterforce strategy. France's plans for the development of a land-based intercontinental ballistic missile (ICBM) were canceled due to their expense, leaving Paris with a countervalue option only. As strategist Raymond Barre described, 'it was the less costly option... France, a medium-sized nation with limited resources, cannot pretend seeking parity with the two great nuclear powers. The only way which is opened to us is that of the current strategy.'²⁴

Like proliferation optimists on the other side of the Atlantic, French strategists believed that if a small nuclear arsenal in France could deter the Soviet Union, then the spread of nuclear weapons elsewhere could

¹⁸Ibid., 86.

¹⁹Ibid., 64.

²⁰Ibid., 86.

²¹Pierre Marie Gallois, *Le Sablier du Siecle: memoires* (Lausanne: L'Age d'homme 1999), 402.

²²Tertais, 83.

²³Ibid., 82.

²⁴Ibid., 96.

have a pacifying effect on international politics more broadly. As Gallois argued, a nuclear arsenal ‘increases the risk, counsels discretion, and consequently strengthens the strategy of dissuasion. As atomic armament grows more widespread ... the notion of dissuasion will also become more common, each nation practicing it according to its means ... It will not be long before we may have to give up war altogether.’²⁵

Unsurprisingly, the first generation of proliferation pessimists in the United States was skeptical of French strategy and doctrine. Albert Wohlstetter assessed that if the United States, a global superpower, struggled to develop a survivable nuclear arsenal capable of deterring the Soviet Union, then France, a much smaller power, did not stand a chance of developing a truly independent deterrent. At the end of the day, thought Wohlstetter, ‘The burden of deterring a general war as distinct from limited wars is still likely to be on the United States and therefore, so far as our allies are concerned, on the alliance.’²⁶

In sum, the notion that a few nuclear weapons would be sufficient to deter great power war was warmly welcomed and advocated by strategic thinkers in Paris. France’s resource-constrained environment prevented it from adopting anything other than a minimum deterrent posture. France was not the only place, however, where minimum deterrence was advocated in response to the available means.

Polaris

In the late 1950s and early 1960s, a similar minimum deterrence strand was developing among US nuclear strategists.²⁷ Like in France, circumstances would compel military planners, this time in the US Navy, to argue that a few nuclear weapons would be sufficient to deter a more powerful foe, helping to pave the way for subsequent generations of proliferation optimists.

In the early days of the Cold War, the US Navy was the only major US military service cut out of the strategic nuclear mission. This would have major implications for service budgets and inter-service rivalries as nuclear capabilities were of paramount importance in the superpowers’ Cold War rivalry and the Navy wanted a foothold in the nuclear game.

²⁵Pierre Marie Gallois, *Stratégie de l’âge nucléaire* (Paris: François-Xavier de Guibert 1960).

²⁶Wohlstetter, ‘Nuclear sharing’.

²⁷This section draws heavily from Harvey M. Sapolsky, ‘The US Navy’s Fleet Ballistic Missile Program and Finite Deterrence’, in Henry D. Sokolski, *Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice* (Carlisle, PA: Strategic Studies Institute 2004).

The Navy sought to edge its way into a role by developing ‘super carriers,’ aircraft carriers suitable for nuclear-armed fighters to take off and land, but the program was cancelled by President Truman in 1949.

Then, in the mid-1950s, under the leadership of Admiral Arleigh Burke, the Navy began developing the innovative Polaris submarine launch ballistic missile system (SLBM). Polaris provided the Navy with a nuclear role. Indeed, Burke argued that Polaris’s unique advantages, its greater survivability in particular, made it a candidate to replace the more vulnerable fixed ICBMs operated by the Air Force.

Critics in other services soon countered, however, that SLBMs did not meet the requirements of US nuclear strategy. SLBMs, unlike bombers and land-based ICBMs, were not accurate enough to engage in counterforce targeting. Moreover, there were too few submarines to bring sufficient firepower to bear to guarantee an assured destruction capability against the Soviet Union.

The Navy could not credibly argue that Polaris had capabilities that it did not have, but they could, and did, challenge the prevailing logic of deterrence. In a prize-winning essay, Paul Bracken, a naval commander working under Burke, coined the term ‘finite deterrence’. Bracken, and eventually Burke, argued that the massive nuclear attacks and counterforce targeting envisioned by the Air Force and the Army were unnecessary. Rather, they claimed that a few survivable nuclear weapons capable of destroying enemy soft targets – the precise capabilities provided by Polaris – were sufficient for deterrence.

In the end, Burke and the Navy were only partially successful in their bureaucratic battle. While SLBMs became a central element of US nuclear force structure, they did not replace bombers and ICBMs. Arguments about maintaining superiority across the entire spectrum of capabilities were more persuasive in the context of a heating up Cold War. Nevertheless, the ideas of ‘finite’ and ‘minimum deterrence’, developed by Bracken and Burke, motivated in no small part by a desire to advance the Navy’s position in an inter-service competition are alive and well in the writings of today’s proliferation optimists.

Contemporary Academic Writing

Proliferation optimism received what may have been its clearest articulation by Kenneth Waltz in his seminal 1981 *Adelphi* paper, ‘The Spread of Nuclear Weapons: More May Be Better’.²⁸ In this, and subsequent works, Waltz argued that the spread of nuclear weapons

²⁸Kenneth Waltz, ‘The Spread of Nuclear Weapons: More May Be Better’, *Adelphi Papers* 171 (London: International Institute for Strategic Studies 1981).

has beneficial effects on international politics. He maintained that states, fearing a catastrophic nuclear war, will be deterred from going to war with other nuclear-armed states. As more and more states acquire nuclear weapons, therefore, there are fewer states against which other states will be willing to wage war. The spread of nuclear weapons, according to Waltz, leads to greater levels of international stability. Looking to the empirical record, he argued that the introduction of nuclear weapons in 1945 coincided with an unprecedented period of peace among the great powers. While the United States and the Soviet Union engaged in many proxy wars in peripheral geographic regions during the Cold War, they never engaged in direct combat. And, despite regional scuffles involving nuclear-armed states in the Middle East, South Asia, and East Asia, none of these conflicts resulted in a major theater war. This lid on the intensity of conflict, according to Waltz, was the direct result of the stabilizing effect of nuclear weapons.

Following in the path blazed by the strategic thinkers reviewed above, Waltz argued that the requirements for deterrence are not high. He argued that, contrary to the behavior of the Cold War superpowers, a state need not build a large arsenal with multiple survivable delivery vehicles in order to deter its adversaries. Rather, he claimed that a minimum deterrent posture of few nuclear weapons is sufficient for deterrence. Indeed, he went even further, asserting that any state will be deterred even if it merely suspects its opponent *might* have a few nuclear weapons because the costs of getting it wrong are simply too high.

Not even nuclear accident is a concern according to Waltz because leaders in nuclear-armed states understand that if they ever lost control of nuclear weapons, the nuclear retaliation they could suffer in response would be catastrophic. Nuclear-armed states, therefore, have strong incentives to maintain tight control over their nuclear weapons. Not even new nuclear states, which lack experience managing nuclear arsenals, would ever allow nuclear weapons to be used or to fall into the wrong hands.

Following Waltz, many other scholars have subsequently advanced arguments in the proliferation optimism school.²⁹ Indeed, in 2012, Waltz himself argued that nuclear proliferation to Iran would not present a serious threat because a nuclear-armed Iran could be deterred.³⁰

²⁹For a review of these debates as they pertain to South Asia, see Karl, 'Proliferation Optimism and Pessimism Revisited'.

³⁰Kenneth Waltz, 'Why Iran Should Get the Bomb', *Foreign Affairs* (July/Aug. 2012), 2-4.

Proliferation through Rose-Colored Glasses

The proliferation optimist position has a distinguished pedigree, and provides a useful rationale for actors interested in developing strategic deterrence with limited means, but it provides a weaker intellectual framework for comprehensively understanding the likely effects of nuclear proliferation on international politics.

Scott Sagan and other contemporary proliferation pessimists have provided systematic and thoroughgoing critiques of the proliferation optimism position.³¹ Sagan shows that the spread of nuclear weapons leads to greater levels of international instability because: states might conduct preventive strikes on the nuclear facilities of proliferant states, proliferant states might not take the necessary steps to build a secure, second-strike capability, and organizational pathologies within nuclear states could lead to accidental or inadvertent nuclear launch.³² As Frank Gavin writes in his review of the optimism/pessimism debate, ‘The real problem, however, is that Sagan plays small ball in his debate with Waltz, conceding the big issues. Why not challenge Waltz on his core arguments about deterrence and stability?’³³ Rather than repeat the substantial efforts of previous pessimists, therefore, I will take up Gavin’s challenge and focus on three big issues. In particular, this section maintains that proliferation optimists: present an oversimplified version of nuclear deterrence theory, follow a line of argumentation that contains an internal logical contradiction, and do not address the concerns of US foreign policymakers.

First and foremost, proliferation optimists present an oversimplified view of nuclear deterrence theory. Optimists argue that since the advent of Mutually Assured Destruction (MAD), any nuclear war would mean national suicide and, therefore, no rational leader would ever choose to start one. Furthermore, they argue that the requirements for rationality are not high. Rather, leaders must value their own survival and the survival of their nation and understand that intentionally launching a nuclear war would threaten those values. Many analysts and policymakers attempt to challenge the optimists on their own turf and question whether the leaders of potential proliferant states are fully rational.³⁴

Yet, these debates overlook the fact that, apart from the optimists, leading nuclear deterrence theorists believe that nuclear proliferation contributes to a real risk of nuclear war even in a situation of MAD

³¹Sagan and Waltz, *The Spread of Nuclear Weapons*.

³²Gavin, ‘The Ivory Tower-Policy Gap’.

³³*Ibid.*, 597.

³⁴For more, see Robert Litwak, *Outlier States: American Strategies to Change, Contain, or Engage Regimes* (Baltimore: Johns Hopkins 2012).

among rational states.³⁵ Moreover, realizing that nuclear war is possible does not depend on peculiar beliefs about the possibility of escaping MAD.³⁶ Rather, as we will discuss below, these theorists understand that some risk of nuclear war is necessary in order for deterrence to function. To be sure, in the 1940s, Viner, Brodie, and others argued that MAD rendered war among major powers obsolete, but nuclear deterrence theory soon advanced beyond that simple understanding.³⁷ After all, great power political competition does not end with nuclear weapons. And nuclear-armed states still seek to threaten nuclear-armed adversaries. States cannot credibly threaten to launch a suicidal nuclear war, but they still want to coerce their adversaries. This leads to a credibility problem: how can states credibly threaten a nuclear-armed opponent? Since the 1960s, academic nuclear deterrence theory has been devoted almost exclusively to answering this question.³⁸ And their answers do not give us reasons to be optimistic.

Thomas Schelling was the first to devise a rational means by which states can threaten nuclear-armed opponents.³⁹ He argued that leaders cannot credibly threaten to intentionally launch a suicidal nuclear war, but they can make a 'threat that leaves something to chance'.⁴⁰ They can engage in a process, the nuclear crisis, which increases the risk of nuclear war in an attempt to force a less resolved adversary to back down. As states escalate a nuclear crisis there is an increasing probability that the conflict will spiral out of control and result in an inadvertent or accidental nuclear exchange. As long as the benefit of winning the crisis is greater than the incremental increase in the risk of nuclear war, however, threats to escalate nuclear crises are inherently credible. In these games of nuclear brinkmanship, the state that is willing to run the greatest risk of nuclear war before backing down will win the crisis, as long as it does not end in catastrophe. It is for this reason that Thomas Schelling called great power politics in the nuclear era a 'competition in risk taking'.⁴¹ This does not mean that states eagerly bid up the risk of nuclear war. Rather, they face gut-wrenching decisions at each stage of the crisis. They can quit the crisis to avoid nuclear war,

³⁵Robert Powell, 'Nuclear Brinkmanship with Two-Sided Incomplete Information', *American Political Science Review* 82/1 (1988), 155–78; Robert Powell, 'Nuclear Deterrence and the Strategy of Limited Retaliation', *American Political Science Review* 83/2 (1989), 503–19.

³⁶Charles Glaser, *Analyzing Strategic Nuclear Policy* (Princeton UP 1990).

³⁷Brodie, *The Absolute Weapon*.

³⁸Robert Powell, *Nuclear Deterrence Theory: The Search for Credibility* (New York: Cambridge UP 1990).

³⁹Thomas Schelling, *Arms and Influence* (New Haven, CT: Yale UP Press 1966).

⁴⁰Ibid.

⁴¹Ibid.

but only by ceding an important geopolitical issue to an opponent. Or they can escalate the crisis in an attempt to prevail, but only at the risk of suffering a possible nuclear exchange.

Since 1945 there have been 20 high stakes nuclear crises in which 'rational' states like the United States run a frighteningly-real risk of nuclear war.⁴² By asking whether states can be deterred, therefore, proliferation optimists are asking the wrong question. The right question to ask is: what risk of nuclear war is a specific state willing to run against a particular opponent in a given crisis? Optimists are likely correct when they assert that a nuclear-armed Iran will not intentionally commit national suicide by launching a bolt-from-the-blue nuclear attack on the United States or Israel. This does not mean that Iran will never use nuclear weapons, however. Indeed, it is almost inconceivable to think that a nuclear-armed Iran would not, at some point, find itself in a crisis with another nuclear-armed power. It is also inconceivable that in those circumstances, Iran would not be willing to run some risk of nuclear war in order to achieve its objectives. If a nuclear-armed Iran and the United States or Israel were to have a geopolitical conflict in the future, over the internal politics of Syria, an Israeli conflict with Iran's client Hizballah, the US presence in the Persian Gulf, shipping through the Strait of Hormuz, or some other issue, do we believe that Iran would immediately capitulate? Or is it possible that Iran would push back, possibly brandishing nuclear weapons in an attempt to coerce its adversaries? If the latter, there is a risk that proliferation to Iran could result in nuclear war and proliferation optimists are wrong to dismiss it out of hand.

An optimist might counter that nuclear weapons will never be used, even in a crisis situation, because states have such a strong incentive, namely national survival, to ensure that nuclear weapons are not used. But this objection ignores the fact that leaders operate under competing pressures. Leaders in nuclear-armed states also have strong incentives to convince their adversaries that nuclear weapons might be used. Historically we have seen that leaders take actions in crises, such as placing nuclear weapons on high alert and delegating nuclear launch authority to low-level commanders, to purposely increase the risk of nuclear war in an attempt to force less-resolved opponents to back down.

Moreover, not even the optimists' first principles about the irrelevance of nuclear posture stand up to scrutiny. Not all nuclear wars would be equally devastating.⁴³ Any nuclear exchange would have devastating consequences no doubt, but, if a crisis were to spiral out

⁴²Matthew Kroenig, 'Nuclear Superiority and the Balance of Resolve', *International Organization* 67/1 (2013) 141–71.

⁴³See for example, Herman Kahn, *On Thermonuclear War* (New York: Greenwood Press 1978).

of control and result in nuclear war, any sane leader would rather face a country with five nuclear weapons than one with 5,000. Similarly, any sane leader would be willing to run a greater risk of nuclear war against the former state than against the latter. Indeed, scholars have demonstrated that states are willing to run greater risks and are, therefore, more likely to win nuclear crises when they enjoy nuclear superiority over their opponents.⁴⁴ Proliferation optimists might be correct that no rational leader would choose to launch a suicidal nuclear war, but, depending on the context, any sane leader would almost certainly be willing to risk one.

Nuclear deterrence theorists have also proposed a second scenario under which rational leaders would be willing to instigate a nuclear exchange: limited nuclear war.⁴⁵ For example, by launching a single nuclear weapon against a small city, a nuclear-armed state could signal its willingness to escalate a crisis, while leaving its adversary with enough left to lose to deter the adversary from launching a full-scale nuclear response. In a future crisis between China and the United States, for example, China could choose to launch a nuclear strike on a US military base in East Asia to demonstrate its seriousness. In that situation, with the continental United States intact, would Washington choose to launch a full-scale nuclear war on China that could result in the destruction of many American cities? Or would it back down? China might decide to strike after calculating that Washington would prefer a humiliating retreat over a full-scale nuclear war. If launching a limited nuclear war could be a rational strategic move under certain circumstances, it then follows that the spread of nuclear weapons increases the risk of nuclear use. To be sure, some strategic thinkers, including Henry Kissinger, advocated limited nuclear war as a viable strategy only to recant the position later due to fears of uncontrollable escalation. Yet, this does not change the fact that leading nuclear deterrence theorists maintain that limited nuclear war is possible among rational leaders in a MAD world.⁴⁶

In sum, proliferation optimists present an oversimplified conception of nuclear deterrence theory. Leading academic deterrence theorists maintain that the spread of nuclear weapons could lead to nuclear use in games of nuclear brinkmanship and through the exercise of limited nuclear options even among rational leaders in a situation of MAD. Indeed, they understand that a risk of nuclear war is necessary in order for nuclear deterrence to function, which leads us to our next point.

⁴⁴Kroenig, 'Nuclear Superiority and the Balance of Resolve.'

⁴⁵Klaus Knorr *Limited Strategic War* (New York: Praeger 1962); Powell, 'Nuclear Deterrence and the Strategy of Limited Retaliation', 503–19.

⁴⁶Powell, 'Nuclear Deterrence and the Strategy of Limited Retaliation'.

The second weakness in the proliferation optimist argument is that it rests on an internal logical contradiction. This might come as a surprise to some, given that optimists are sometimes portrayed as hard-headed thinkers, following their premises to their logical conclusions. But, the contradiction at the heart of the optimist argument is glaring and simple to understand: either the probability of nuclear war is zero, or it is nonzero, but it cannot be both. If the probability of nuclear war is zero, then nuclear weapons should have no deterrent effect. States will not be deterred by a nuclear war that could never occur and states should be willing to intentionally launch large-scale conventional wars against nuclear-armed states. In this case, proliferation optimists cannot conclude that the spread of nuclear weapons is stabilizing.

If, on the other hand, the probability of nuclear war is nonzero, then there is a real danger that the spread of nuclear weapons will result in a catastrophic nuclear war. In this case, proliferation optimists cannot conclude that nuclear weapons will never be used. This is true whether the risk of nuclear war is exogenous or endogenous to the behavior of the actors involved; the probability of nuclear war simply cannot be both zero and nonzero.

In sum, either the spread of nuclear weapons raises the risk of nuclear war and, in so doing, deters large-scale conventional conflict. Or there is no danger that nuclear weapons will ever be used and the spread of nuclear weapons does not increase international stability. But, despite the claims of many proliferation optimists, it is nonsensical to argue that nuclear weapons will never be used and to simultaneously claim that their spread contributes to international stability. As was argued above, the most obvious way out of this dilemma is to concede that nuclear proliferation does indeed raise the risk of nuclear war.

The third and final shortcoming of proliferation optimism is that it is not a useful guide for the formulation of US foreign policy. Optimists argue that US officials should not worry about the spread of nuclear weapons because new nuclear states can be deterred. Indeed, they argue that 'more may be better'. In making these arguments, however, optimists confuse stability with the national interest.

Optimists focus narrowly on whether the spread of nuclear weapons increases or decreases international stability, but policymakers must focus on how the spread of nuclear weapons affects a broad array of US interests. Even if the spread of nuclear weapons contributes to greater levels of international stability (and our above discussion suggests it might not) it does not necessarily follow that the spread of nuclear weapons is in the United States', or any other state's, interest. As we will discuss in much more detail in the following section, states have good reason to fear nuclear proliferation for

many other reasons. US officials must worry about how the spread of nuclear weapons might: increase the risk of nuclear war, embolden the proliferant state, contribute to further proliferation, threaten the security of allies, put upward pressure on oil prices, constrain US military and political freedom of action, and detrimentally effect many other national goals.

Moreover, increased international stability itself often runs counter to US interests. As I have argued elsewhere, one of the most consequential effects of nuclear proliferation is to constrain the freedom of action of the militarily most powerful states.⁴⁷ Stability resulting from mutual nuclear deterrence means that more often than not, it will be the United States that will be deterred. If stability is obtained only because Washington is deterred from using force against an adversary in a situation where using force could advance national goals, stability harms, rather than advances, US national interests. US officials have publicly discussed the possibility of using force against Iran in various contingencies, but the United States would be less willing to use force against a nuclear-armed Iran.

Optimists might counter that this point only reinforces their argument about proliferation leading to stability. Indeed, they are correct that proliferation would likely induce caution in US leaders. This point does not in any way undermine, however, the above critiques. Nuclear proliferation that constrains the United States would necessarily be accompanied by an increased risk of nuclear war. In addition, and more germane to this section, optimists are wrong to conclude that the United States should not worry about the spread of nuclear weapons because it contributes to stability. Rather, the United States has good reason to oppose nuclear proliferation for precisely this reason.

In short, the optimists have brought an important perspective to the nonproliferation debate. Their arguments are provocative and they raise the bar for those who wish to argue that the spread of nuclear weapons is a problem. Nevertheless, their counterintuitive arguments are plagued by an under appreciation of the nuances of nuclear deterrence theory, a glaring logical contradiction, and a failure to address the concerns of US policymakers. Proliferation optimism, therefore, falls well short of a coherent intellectual framework and it cannot wish away the enormous security challenges posed by the spread of the world's most dangerous weapons. These myriad threats will be considered in the next section.

⁴⁷Matthew Kroenig, *Exporting the Bomb: Technology Transfer and the Spread of Nuclear Weapons* (Ithaca, NY: Cornell UP 2010).

Why Nuclear Proliferation Is a Problem

The spread of nuclear weapons poses at least six severe threats to international peace and security including: nuclear war, nuclear terrorism, global and regional instability, constrained US freedom of action, weakened alliances, and further nuclear proliferation. Each of these threats has received extensive treatment elsewhere and this review is not intended to replicate or even necessarily to improve upon these previous efforts. Rather the goals of this section are more modest: to usefully bring together and recap the many reasons why we should be pessimistic about the likely consequences of nuclear proliferation. Many of these threats will be illuminated with a discussion of a case of much contemporary concern: Iran's advanced nuclear program.

Nuclear War

The greatest threat posed by the spread of nuclear weapons is nuclear war. The more states in possession of nuclear weapons, the greater the probability that somewhere, someday, there will be a catastrophic nuclear war.

To date, nuclear weapons have only been used in warfare once. In 1945, the United States used nuclear weapons on Hiroshima and Nagasaki, bringing World War II to a close. Many analysts point to the 65-plus-year tradition of nuclear non-use as evidence that nuclear weapons are unusable, but it would be naïve to think that nuclear weapons will never be used again simply because they have not been used for some time. After all, analysts in the 1990s argued that worldwide economic downturns like the Great Depression were a thing of the past, only to be surprised by the dot-com bubble bursting later in the decade and the Great Recession of the late 2000s.⁴⁸ This author, for one, would be surprised if nuclear weapons are not used again sometime in his lifetime.

Before reaching a state of MAD, new nuclear states go through a transition period in which they lack a secure-second strike capability. In this context, one or both states might believe that it has an incentive to use nuclear weapons first. For example, if Iran acquires nuclear weapons, neither Iran, nor its nuclear-armed rival, Israel, will have a secure, second-strike capability. Even though it is believed to have a large arsenal, given its small size and lack of strategic depth, Israel might not be confident that it could absorb a nuclear strike and respond with a devastating counterstrike. Similarly, Iran might eventually be able to build a large and survivable nuclear arsenal, but, when it first crosses the nuclear threshold, Tehran will have a small and vulnerable nuclear force.

⁴⁸Steven Weber, 'The End of the Business Cycle?', *Foreign Affairs* 76/4 (July/Aug. 1997), 65–82.

In these pre-MAD situations, there are at least three ways that nuclear war could occur. First, the state with the nuclear advantage might believe it has a splendid first strike capability. In a crisis, Israel might, therefore, decide to launch a preventive nuclear strike to disarm Iran's nuclear capabilities. Indeed, this incentive might be further increased by Israel's aggressive strategic culture that emphasizes preemptive action. Second, the state with a small and vulnerable nuclear arsenal, in this case Iran, might feel use them or lose them pressures. That is, in a crisis, Iran might decide to strike first rather than risk having its entire nuclear arsenal destroyed. Third, as Thomas Schelling has argued, nuclear war could result due to the reciprocal fear of surprise attack.⁴⁹ If there are advantages to striking first, one state might start a nuclear war in the belief that war is inevitable and that it would be better to go first than to go second. Fortunately, there is no historic evidence of this dynamic occurring in a nuclear context, but it is still possible. In an Israeli–Iranian crisis, for example, Israel and Iran might both prefer to avoid a nuclear war, but decide to strike first rather than suffer a devastating first attack from an opponent.

Even in a world of MAD, however, when both sides have secure, second-strike capabilities, there is still a risk of nuclear war. Rational deterrence theory assumes nuclear-armed states are governed by rational leaders who would not intentionally launch a suicidal nuclear war. This assumption appears to have applied to past and current nuclear powers, but there is no guarantee that it will continue to hold in the future. Iran's theocratic government, despite its inflammatory rhetoric, has followed a fairly pragmatic foreign policy since 1979, but it contains leaders who hold millenarian religious worldviews and could one day ascend to power. We cannot rule out the possibility that, as nuclear weapons continue to spread, some leader somewhere will choose to launch a nuclear war, knowing full well that it could result in self-destruction.

One does not need to resort to irrationality, however, to imagine nuclear war under MAD. Nuclear weapons may deter leaders from intentionally launching full-scale wars, but they do not mean the end of international politics. As was discussed above, nuclear-armed states still have conflicts of interest and leaders still seek to coerce nuclear-armed adversaries. Leaders might, therefore, choose to launch a limited nuclear war.⁵⁰ This strategy might be especially attractive to states in a position of conventional inferiority that might have an incentive to escalate a crisis quickly to the nuclear level. During the Cold War, the

⁴⁹Thomas Schelling, 'Reciprocal Fear of Surprise Attack', (Santa Monica, CA: RAND Paper 1958).

⁵⁰Knorr, *Limited Strategic War*.

United States planned to use nuclear weapons first to stop a Soviet invasion of Western Europe given NATO's conventional inferiority.⁵¹ As Russia's conventional power has deteriorated since the end of the Cold War, Moscow has come to rely more heavily on nuclear weapons in its military doctrine. Indeed, Russian strategy calls for the use of nuclear weapons early in a conflict (something that most Western strategists would consider to be escalatory) as a way to de-escalate a crisis. Similarly, Pakistan's military plans for nuclear use in the event of an invasion from conventionally stronger India. And finally, Chinese generals openly talk about the possibility of nuclear use against a US superpower in a possible East Asia contingency.

Second, as was also discussed above, leaders can make a 'threat that leaves something to chance'.⁵² They can initiate a nuclear crisis. By playing these risky games of nuclear brinkmanship, states can increase the risk of nuclear war in an attempt to force a less resolved adversary to back down. Historical crises have not resulted in nuclear war, but many of them, including the 1962 Cuban Missile Crisis, have come close. And scholars have documented historical incidents when accidents nearly led to war.⁵³ When we think about future nuclear crisis dyads, such as Iran and Israel, with fewer sources of stability than existed during the Cold War, we can see that there is a real risk that a future crisis could result in a devastating nuclear exchange.

Nuclear Terrorism

The spread of nuclear weapons also increases the risk of nuclear terrorism.⁵⁴ While September 11th was one of the greatest tragedies in American history, it would have been much worse had Osama Bin Laden possessed nuclear weapons. Bin Laden declared it a 'religious duty' for Al- Qa'eda to acquire nuclear weapons and radical clerics have issued fatwas declaring it permissible to use nuclear weapons in Jihad against the West.⁵⁵ Unlike states, which can be more easily deterred, there is little doubt that if terrorists acquired nuclear

⁵¹Of course there is no guarantee that Washington would have used nuclear weapons as planned in the event of actual conflict. It should be noted that US nuclear threats were intended not only to deter the Soviet Union, but also to reassure NATO partners and dissuade them from seeking independent nuclear forces.

⁵²Schelling, *Arms and Influence*.

⁵³Scott Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton UP 1993).

⁵⁴Michael Levi, *On Nuclear Terrorism* (Cambridge, MA: Harvard UP 2007).

⁵⁵Fissile Materials Working Group, 'After Bin Laden: Nuclear Terrorism Still a Top Threat', *Bulletin of the Atomic Scientists*, 13 May 2011.

weapons, they would use them.⁵⁶ Indeed, in recent years, many US politicians and security analysts have argued that nuclear terrorism poses the greatest threat to US national security.⁵⁷

Analysts have pointed out the tremendous hurdles that terrorists would have to overcome in order to acquire nuclear weapons.⁵⁸ Nevertheless, as nuclear weapons spread, the possibility that they will eventually fall into terrorist hands increases. States could intentionally transfer nuclear weapons, or the fissile material required to build them, to terrorist groups. There are good reasons why a state might be reluctant to transfer nuclear weapons to terrorists, but, as nuclear weapons spread, the probability that a leader might someday purposely arm a terrorist group increases. Some fear, for example, that Iran, with its close ties to Hamas and Hizballah, might be at a heightened risk of transferring nuclear weapons to terrorists. Moreover, even if no state would ever intentionally transfer nuclear capabilities to terrorists, a new nuclear state, with underdeveloped security procedures, might be vulnerable to theft, allowing terrorist groups or corrupt or ideologically-motivated insiders to transfer dangerous material to terrorists. There is evidence, for example, that representatives from Pakistan's atomic energy establishment met with Al-Qa'eda members to discuss a possible nuclear deal.⁵⁹

Finally, a nuclear-armed state could collapse, resulting in a breakdown of law and order and a loose nukes problem. US officials are currently very concerned about what would happen to Pakistan's nuclear weapons if the government were to fall. As nuclear weapons spread, this problem is only further amplified. Iran is a country with a history of revolutions and a government with a tenuous hold on power. The regime change that Washington has long dreamed about in Tehran could actually become a nightmare if a nuclear-armed Iran suffered a breakdown in authority, forcing us to worry about the fate of Iran's nuclear arsenal.

Regional Instability

The spread of nuclear weapons also emboldens nuclear powers, contributing to regional instability. States that lack nuclear weapons need to fear direct military attack from other states, but states with nuclear

⁵⁶On deterring terrorism, see Matthew Kroenig and Barry Pavel, "How to Deter Terrorism," *The Washington Quarterly* 35/2 (Spring 2012), 21–36.

⁵⁷Ibid.

⁵⁸Levi, *On Nuclear Terrorism*.

⁵⁹David Albright, *Peddling Peril: How the Secret Nuclear Trade Arms America's Enemies* (New York: Free Press 2012).

weapons can be confident that they can deter an intentional military attack, giving them an incentive to be more aggressive in the conduct of their foreign policy. In this way, nuclear weapons provide a shield under which states can feel free to engage in lower-level aggression. Indeed, international relations theories about the ‘stability-instability paradox’ maintain that stability at the nuclear level contributes to conventional instability.⁶⁰

Historically, we have seen that the spread of nuclear weapons has emboldened their possessors and contributed to regional instability. Recent scholarly analyses have demonstrated that, after controlling for other relevant factors, nuclear-weapon states are more likely to engage in conflict than nonnuclear-weapon states and that this aggressiveness is more pronounced in new nuclear states that have less experience with nuclear diplomacy.⁶¹ Similarly, research on internal decision-making in Pakistan reveals that Pakistani foreign policymakers may have been emboldened by the acquisition of nuclear weapons, which encouraged them to initiate militarized disputes against India.⁶²

Currently, Iran restrains its foreign policy because it fears major military retaliation from the United States or Israel, but with nuclear weapons it could feel free to push harder. A nuclear-armed Iran would likely step up support to terrorist and proxy groups and engage in more aggressive coercive diplomacy. With a nuclear-armed Iran increasingly throwing its weight around in the region, we could witness an even more crisis prone Middle East. And in a poly-nuclear Middle East with Israel, Iran, and, in the future, possibly other states, armed with nuclear weapons, any one of those crises could result in a catastrophic nuclear exchange.

Constrained Freedom of Action

The spread of nuclear weapons also disadvantages American’s national security by constraining US freedom of action. As the most powerful country on the planet, with the ability to project power to every corner of the globe, the United States has the ability to threaten or protect every other state in the international system. This is a significant source

⁶⁰Glenn H. Snyder, ‘The Balance of Power and the Balance of Terror,’ in Paul Seabury (ed.), *The Balance of Power* (San Francisco: Chandler 1965), 184–201.

⁶¹Robert Rauchhaus, ‘Evaluating the Nuclear Peace Hypothesis: A Quantitative Approach,’ *Journal of Conflict Resolution* 53/2 (April 2009), 258–77; Michael Horowitz, ‘The Spread of Nuclear Weapons and International Conflict: Does Experience Matter?’ *Journal of Conflict Resolution* 53/2 (April 2009), 234–7.

⁶²Kapur, *Dangerous Deterrent*.

of strategic leverage and maintaining freedom of action has been an important objective of US national security policy.⁶³

As nuclear weapons spread, however, America's military freedom of action will be constrained. The United States can use, or credibly threaten to use, force against nonnuclear states. The threat of military action against nuclear-armed states is much less credible, however, because nuclear-armed states can deter US military action with the threat of nuclear retaliation. In January 2012, for example, Iran threatened to close the Strait of Hormuz, a narrow Persian Gulf waterway through which roughly 20 per cent of the world's oil flows, and the United States issued a counter-threat, declaring that Washington would use force to reopen the Strait if necessary. If Iran had had nuclear weapons, however, Washington's threats would have been much less credible. Would a US President really be willing to risk nuclear war with Iran in order to keep the Strait open? Maybe. But, maybe not. While the United States might not be deterred in every contingency against a nuclear-armed state, it is clear that, at a minimum, the spread of nuclear weapons greatly complicates US decisions to use force. Again, optimists might argue that this effect demonstrates their argument, but it only partially demonstrates part of it. It is indeed a reason why proliferation might dampen conventional conflict, but it is also reason why, from Washington's perspective, more would be worse, not better.

Undermines Alliances

The spread of nuclear weapons also complicates US alliance relationships. Washington uses the promise of military protection as a way to cement its alliance structures. US allies depend on America's protection, giving Washington influence over allied states' foreign policies. Historically, the United States has offered, and threatened to retract, the security guarantee carrot to prevent allied states from acting contrary to its interests. As nuclear weapons spread, however, alliances held together by promises of military protection are undermined in two ways. First, US allies may doubt the credibility of Washington's commitments to provide a military defense against nuclear-armed states, leading them to weaken ties with their patron. Recall Charles de Gaulle's doubts about Washington's willingness to trade New York for Paris. Similarly, if Iran acquires nuclear weapons, US partners in the Middle East, such as Israel and the Gulf states, will question Washington's resolve to defend them from Iran. While some states

⁶³See, for example, Donald Rumsfeld, *The National Defense Strategy of the United States of America* (Washington DC: Dept. of Defense March 2005).

might very well seek American protection from a nuclear-armed Iran, drawing them closer to Washington, others might go the other way. After all, if the United States proves unwilling to use force to prevent Iran from acquiring nuclear weapons, would our allies in the region really believe that Washington would be willing to fight a war against a nuclear-armed Iran? Qatar, for example, already appears to be hedging its bets, loosening ties to Washington and warming to Tehran.

Second, nuclear proliferation could encourage client states to acquire nuclear weapons themselves, giving them greater security independence and making them less dependable allies. According to many scholars, the acquisition of the *force de frappe* was instrumental in permitting the French Fifth Republic under President Charles de Gaulle to pursue a foreign policy path independent from Washington and NATO.⁶⁴ Similarly, it is possible that Turkey, Saudi Arabia, and other regional states will acquire independent nuclear capabilities to counter Iran's nuclear arsenal, greatly destabilizing an already unstable region and threatening Washington's ability to influence regional dynamics.

Further Proliferation

Nuclear proliferation poses an additional threat to international peace and security because it causes further proliferation. As former Secretary of State George Schultz once said, 'proliferation begets proliferation'.⁶⁵ When one country acquires nuclear weapons, its regional adversaries, feeling threatened by its neighbor's new nuclear capabilities, are more likely to attempt to acquire nuclear weapons in response. Indeed, the history of nuclear proliferation can be read as one long chain reaction of proliferation.

Of course, reactive proliferation does not always occur. In the early 1960s, for example, US officials worried that a nuclear-armed China would cause Taiwan, Japan, India, Pakistan, and other states to acquire nuclear weapons.⁶⁶ In hindsight, we now know that they were correct in some cases, but wrong in others. Using statistical analysis, Philipp Bleek has shown that reactive proliferation is not automatic, but that rather, states are more likely to proliferate in response to neighbors when three conditions are met (1) there is an intense security rivalry between the two countries, (2) the potential proliferant state does not

⁶⁴See, for example, Scheinman, *Atomic Energy Policy in France*; Wilfred L. Kohl, *French Nuclear Diplomacy* (Princeton UP 1971).

⁶⁵Philipp Bleek, 'The Nuclear Domino Myth: Why Proliferation Rarely Begets Proliferation', PhD dissertation, Department of Government, Georgetown Univ., 2010.

⁶⁶Francis J. Gavin, 'Blasts from the Past: Proliferation Lessons from the 1960s', *International Security* 29/3 (Winter 2004/2005), 100–35.

have a security guarantee from a nuclear-armed patron (3) and the potential proliferant state has the industrial and technical capacity to launch an indigenous nuclear program.⁶⁷ In other words, reactive proliferation is real, but conditional. To be sure, as Barry Posen has argued, Egypt, Saudi Arabia, and Turkey all have primitive nuclear infrastructures and it would be difficult for any of them to build nuclear weapons overnight.⁶⁸ In addition, Turkey is a member of NATO and Saudi Arabia enjoys a close security partnership with the United States and these states might prefer to lounge in the shade of America's nuclear umbrella rather than build independent arsenals. On the other hand, one or more of these states, much like the United Kingdom and France in the early days of the Cold War, might decide that America's nuclear protection is insufficient. With a decade's worth of dedicated nuclear development, any of these states could conceivably become nuclear powers. Just because reactive proliferation takes time, does not mean that it is not a problem. If Iran enters the nuclear club, therefore, it is likely that some, but not all, of the countries that we currently worry about will eventually become nuclear powers.

We should worry about the spread of nuclear weapons in every case, therefore, because the problem will likely extend beyond that specific case. As Wohlstetter cautioned decades ago, proliferation is an N+1 problem.⁶⁹

In sum, nuclear proliferation gives us many reasons to fear the spread of nuclear weapons to additional states. While it is important not to exaggerate the above threats, it would be an even greater sin to underestimate them and, as a result, not take the steps necessary to combat the spread of the world's most dangerous weapons.

Conclusion

This article analyzed the past, present, and future of the school of strategic studies known as proliferation optimism. It began by reviewing the academic and policy origins of this intellectual tradition, moved to a critique of the school's more recent scholarship, and concluded with a discussion of the threats posed by nuclear proliferation. It demonstrated that the proliferation optimism literature brings an important perspective to bear on the question of nuclear proliferation's effects and reins in worst-case understandings. At the same time, I

⁶⁷Bleek, 'The Nuclear Domino Myth'.

⁶⁸Barry Posen, 'A Nuclear-Armed Iran: A Difficult, but not Impossible Policy Problem,' Century Foundation Report, 2006, <http://web.mit.edu/cis/pdf/posen_frenchcen.pdf>.

⁶⁹Wohlstetter, 'Nuclear sharing'.

showed that, in making the case for the virtue of nuclear weapons proliferation, this literature swings too far in the opposite direction. Proliferation optimism has made the field of nonproliferation studies more interesting, but its inherent weakness, including its oversimplification of nuclear deterrence theory, internal logical contradictions and inability to speak to the concerns of foreign policymakers, means that it should remain a niche, not mainstream, approach to the study of nuclear weapons.

The spread of the most powerful weapons ever invented by mankind is a serious problem. The burden of proof is on those who wish to claim otherwise. So far, the optimists have made us think, but they have not successfully made their case.

The argument of this article also offers implications for nuclear nonproliferation policy. It is difficult, if not impossible, to find national security officials who believe that the spread of nuclear weapons is beneficial. This is understandable. Unlike optimists, US officials are not responsible for theorizing the reasons behind the nonuse of nuclear weapons over the past seven decades. Rather, their duty is to protect the American people. To them, the argument that a catastrophic nuclear war on their watch is possible, but highly unlikely, is simply not that reassuring.⁷⁰ That is not to say that proliferation optimism has not crept into the corridors of power in more subtle ways. Its influence can be found whenever national security officials underestimate the problems posed by nuclear proliferation or breezily assert that a new nuclear state, such as a nuclear-armed Iran, can easily be deterred. On balance, however, optimism has had more of an effect in the classroom than in the situation room. National security officials are correct to treat the spread of nuclear weapons as a serious threat and to go to great lengths to prevent it.

Indeed, it would be downright dangerous if powerful states were to follow the advice of optimists. Would citizens of the world (including proliferation optimists) really stand by if the great powers distributed nuclear weapons to other countries in a quixotic quest for stability?

International efforts to combat the spread of nuclear weapons have not been without their flaws and the fine-tuning nuclear nonproliferation policy would make a worthy subject for another article. For now, however, we should rest assured, knowing that policymakers are too reasonable to be anything other than proliferation pessimists.

⁷⁰Colin Kahl, 'Policy Pessimism vs. Proliferation Optimism: The Case of Iran', Paper Prepared for the Nuclear Studies Research Initiative Launch Conference, Austin, TX, 17–19 Oct. 2013.

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