

FROM NUCLEAR BRINK  
TO NO FIRST USE

# THE SHEATHED SWORD



*Editors:*

Lt Gen. Prakash Menon | Aditya Ramanathan

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# THE SHEATHED SWORD

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**Edited by**

Lieutenant General Prakash Menon

Aditya Ramanathan

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## Chapter 6

### NUCLEAR COERCION—EVALUATING INSIGHTS FROM ACADEMIC SCHOLARSHIP

Walter C. Ladwig III

A prominent view in the field of international relations suggests that international politics was fundamentally altered by the introduction of the atomic bomb in 1945. The tremendous destructive power of nuclear weapons and the speed with which they achieved their effect upended the traditional strategic calculations between ends and means, undermining the role of force as a central tool of statecraft. As Bernard Brodie famously exhorted, ‘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. It can have almost no other useful purpose.’<sup>1</sup>

One of the main difficulties facing scholars who investigate the political effects of nuclear weapons on international relations is the comparative lack of empirical evidence on which to base claims: nuclear weapons have only been used in anger twice and seventy-five years after their advent, fewer than ten countries are believed to possess a nuclear capability. Consequently, many traditional beliefs about the effects of nuclear weapons on international politics rest on limited evidence or deductions based on theories drawn from other fields of social interaction.<sup>2</sup>

Recent years have seen a resurgence of academic interest in nuclear issues. New scholarship on the political effects of nuclear weapons, often employing quantitative methods, have challenged some traditional beliefs while confirming others. Since neither security challenges nor nuclear status is randomly distributed across the international system, these ‘large-n’ studies are ultimately based on observational data. Promising though they are, their results can only report correlations, not concrete causal claims.<sup>3</sup> Consequently, while definitive conclusions remain elusive, a much more nuanced understanding of how international politics has been shaped by the nuclear era is emerging.

This chapter examines the academic literature on nuclear coercion and crises. To do so, it proceeds in three parts. The first section explores the empirical evidence undergirding three schools of thought on

nuclear coercion. The second section identifies the factors that scholars report affect the efficacy of nuclear threats. The last section explores the logic of nuclear first use.

### *EVALUATING NUCLEAR COERCION*

Most scholars who study coercion in international relations employ Thomas Schelling's framework which divides the subject into two distinct sub-categories: deterrence and compellence.<sup>4</sup> Although both are forms of coercion, they differ in their objectives and have different dynamics.

From a conceptual standpoint, deterrence involves preventing a target from undertaking a particular act by convincing them that the perceived costs outweigh the expected benefits. This can be achieved by persuading the target that they will not accomplish their objective in the first place (deterrence by denial) or by threatening severe retaliation against something the opponent holds dear if they undertake the specified act (deterrence by punishment). Irrespective of the approach, the target is expected to respond rationally to the threats on the basis of an educated cost-benefit calculation. Whereas deterrence seeks to preserve the status quo and prevent changes, compellence employs threats to force a target to alter its conduct. The objective may be to oblige an adversary to do something specific they have not done or to reverse an action they have already taken.

Aside from the objective, deterrence and compellence also differ in terms of where the initiative lies, the time scale for action and the reputational effects incurred. With deterrence, the threatening state outlines the proscribed action and only executes the promised punishment if the target undertakes the undesirable act. The trigger for punishment is in the hands of the target. With compellence, on the other hand, the hostile state threatens or commences a punishing action that only ceases when the target complies with the coercer's wishes. Deterrent threats could exist more or less indefinitely. As long as the target avoids acting in a specified manner, the threat can remain latent. With compellence, on the other hand, a clear deadline for action is typically part of the threat. If no time frame is specified, the target could delay action forever.

Since it involves a concrete action on the part of the target—reversing something they have already done or doing something they would otherwise not wish to—complying with a compellent threat is far more visible than compliance with the deterrent threat. Consequently, acceding to a compellent threat can involve a reputational or prestige

cost for the target. With deterrence, on the other hand, complying with a threat literally requires the target to do nothing. There is no need for them to indicate they were deterred or even acknowledge the deterrent threat in the first place. Thus, deterrence does not necessarily carry with it the 'loss of face' that is inherent in compellence. Consequently, deterrence is often seen as an easier objective to accomplish than compellence.

The literature on nuclear weapons has produced at least three major schools of thought regarding the efficacy of these devices as tools of coercion. The first, the so-called nuclear revolution, is the dominant view in most international relations scholarship and contends that deterrence with nuclear weapons is comparatively easy, while compellence is quite hard. The second school of thought, nuclear irrelevance, takes issue with the concept of nuclear deterrence, arguing that nuclear weapons are ineffective in warding off challengers who are cowed by robust conventional forces instead. The third school of thought, brinkmanship, is far more optimistic about the prospects of compellence via nuclear threats than the nuclear revolution literature suggests. The remainder of the section explores each of these perspectives in more detail and assesses the degree to which their theoretical predictions are upheld or challenged by existing scholarship.

### **The Nuclear Revolution**

In line with Brodie's comments in the introduction, the dominant view in much of the international relations literature sees the development of the atomic bomb as a transformational development in the history of warfare. According to adherents of what Robert Jervis termed the 'nuclear revolution' viewpoint, these devices are primarily defensive weapons: the threat to retaliate with a nuclear strike is a powerful tool in the hands of a state that wished to preserve its territory and independence in the face of an adversary who sought to deprive them of it.<sup>5</sup> With just a handful of survivable weapons, Waltz argued, a nuclear-armed state could defend itself from most challenges.<sup>6</sup> Once protected in such a manner, a state can ensure its security via nuclear deterrence more or less indefinitely, 'because thwarting a first strike is easy....'<sup>7</sup> Since the requirements for effective deterrence are seen to be so low, when crises between nuclear-armed states do occur, the outcomes are not expected to be determined by the nuclear balance.<sup>8</sup> In Stephen Walt's words, 'nuclear superiority was a meaningless concept.'<sup>9</sup>

The defensive power of nuclear weapons is presumed to be so great that the costs of attempting an offensive against a nuclear adversary rise to unthinkable levels.<sup>10</sup> Consequently, the political utility of nuclear

weapons, Jervis argued, is much greater for those with defensive aims, such as deterring threats and preserving the status quo.<sup>11</sup> They are less useful for pursuing revisionist objectives and compelling states to act in specific ways, particularly if the target also possesses nuclear weapons.<sup>12</sup> Thus, nuclear deterrence is relatively easy and nuclear compellence is very difficult. With the non-violent end of the Cold War, it was easy to accept arguments such as that of John Gaddis, that the nuclear stalemate explained the 'long peace' between heavily armed, ideologically antagonistic superpowers.<sup>13</sup>

This body of literature suggests that the risks of a catastrophic nuclear exchange mean that nuclear-armed states will be reluctant to initiate military crises with each other and non-nuclear states will avoid triggering a confrontation with a nuclear-armed state as well. As John Mearsheimer contends, 'the presence of nuclear weapons makes states more cautious about using military force of any kind against each other.'<sup>14</sup> Consequently, threats of violence and the use of force should no longer be seen as viable tools of international politics, at least between nuclear powers.<sup>15</sup>

Perhaps reflecting its dominance in academia, surveys of former US national security officials find that a majority hold views in line with the nuclear revolution thesis.<sup>16</sup> What evidence do we have to support the nuclear revolution thesis? Empirical analysis of inter-state disputes between 1945 and 1976 by Bueno de Mesquita and Riker reports that 'the presence of an explicit or underlying nuclear threat constrains conflict by reducing its likelihood of escalating into war.'<sup>17</sup> More recent work by Rauchhaus examining both the outbreak of war and militarised interstate disputes between pairs of states from 1885 to 2000 also finds that nuclear-armed states are less likely to fight wars with each other.<sup>18</sup> The assumption that nuclear weapons result in less risky behaviour is borne out by Asal and Beardsley who find that the involvement of a nuclear-armed state in a crisis increases the chances of a non-violent resolution, an effect that is magnified the more nuclear-weapon states are involved.<sup>19</sup> All of these findings are in line with the expectations of nuclear revolution literature.

Does the presence of nuclear weapons on both sides of a crisis make the participants more cautious? Multiple studies by Asal and Beardsley fail to conclude that the presence of nuclear weapons deters the outbreak of crises between nuclear-armed states, even if those crises are less likely to escalate into full-blown war. Similarly, separate studies by Geller and Rauchhaus find that the chances of a crisis escalating short of war are significantly greater when both sides possess nuclear weapons, compared to disputes between pairs of non-nuclear states.<sup>20</sup> In contrast to the expectations that nuclear weapons on both sides of

a conflict have a pacifying effect on belligerents, Bell and Miller report that nuclear-armed states are no less likely to go to war with each other than non-nuclear states are.<sup>21</sup>

Indeed, the most significant challenge to the nuclear revolution comes from the 1999 Kargil war between India and Pakistan. Instead of inhibiting risk-taking, as the nuclear revolution theory would suggest, Paul Kapur argues that possession of nuclear weapons actually encouraged Pakistan's military leaders to mount a high-risk operation to seize territory from their larger neighbour, secure in the belief that their nuclear capability would protect them from retaliation.<sup>22</sup> Admittedly, this is the only example of a war between nuclear-armed states. However, its existence undermines much of the certitude associated with the predictions of the nuclear revolution school of thought.

While not challenging the idea of nuclear deterrence per se, some scholars have questioned the presumptions that nuclear revolution theorists make about the survivability of nuclear forces and, therefore, the durability of deterrence and mutually assured destruction (MAD). During the Cold War, the limits of sensor technology and missile accuracy made counterforce targeting a difficult prospect, which, in turn, led scholars to presume it was relatively easy for the two superpowers to develop survivable arsenals that could provide the kind of secure second-strike capability that allowed a MAD stalemate to set in.<sup>23</sup> The validity of that claim has been challenged by recent scholarship. Green and Long call into question the degree to which Cold War policymakers, such as Soviet leaders, actually saw the stalemate MAD supposedly imposed as a stabilising and enduring factor of international politics.<sup>24</sup> The reason? Technological advancement rendered MAD a delicate balance which, in turn, led the two superpowers to pursue nuclear supremacy.<sup>25</sup> In the contemporary era, Lieber and Press argue that increasingly accurate nuclear-delivery systems, paired with persistent real-time sensor networks, are reducing the survivability of nuclear arsenals by weakening the effectiveness of the key means of defending nuclear weapons: concealment and hardening.<sup>26</sup> In a similar vein, Long and Green contend that the USA was far more successful than commonly believed at tracking mobile missile launchers and nuclear-armed submarines, which raises questions about the survivability of second-strike nuclear forces.<sup>27</sup> Thus, according to this point of view, counterforce strikes to disarm an opponent are an increasingly plausible undertaking. This, in turn, suggests that maintaining a secure second-strike capability to ensure deterrence may be more difficult than the nuclear revolution literature suggests.

On balance, there is a reasonable amount of evidence to support the predictions of the nuclear revolution thesis. This is particularly true with

respect to the expectations that nuclear-armed states will rarely, if ever, go to war. In seven decades, we have only one example of a conventional war between two nuclear-armed states. Some of the other expectations of the nuclear revolution literature appear to rest on less solid ground. Empirical analysis of the behaviour of nuclear-armed states indicates that crises occur at a rate of frequency far beyond what much of the nuclear revolution literature would expect and that crisis escalation is more, not less, likely when nuclear weapons are possessed by both parties to a dispute. Moreover, there are increasing questions as to whether the assumptions made in much of this literature about the ease of achieving deterrence stability is a universal truth or is simply the result of the limitations of existing technology in the 1970s and 1980s.

### *IRRELEVANCE OF NUCLEAR WEAPONS*

Challenging the orthodoxy of the nuclear revolution thesis is the view that nuclear weapons are actually irrelevant for deterrence and, in some instances, may actually exacerbate crises. Scholars such as Michael Gordin contend that when the first atomic bombs were used against Japan, their revolutionary strategic potential was not perceived by the US military and other key decision-makers.<sup>28</sup> Rather than being a fundamentally different type of weapon, they were simply seen as bigger and more effective versions of what came before them. Surprising though this view may be, given the way in which international relations scholarship has reified nuclear weapons as fundamentally different from their conventional counterparts, there are those who claim that their effects on strategy, coercion and international politics more broadly are overstated.

The most prominent proponent of the view that nuclear weapons have little relevance for either deterrence or explanations of the broad geopolitical patterns of the Cold War is the political scientist John Mueller. He attributes the lack of major-power war since 1945 not to the presence of nuclear weapons, as Gaddis does, but to the intense destructive power of conventional militaries, which render interstate war between great powers useless as a tool of statecraft.<sup>29</sup> Thus, fears of an escalation in crisis and unwillingness by either of the two superpowers to use force against each other cannot be attributed to their nuclear arsenals. These tools may have contributed to keeping the peace on the margins. However, events would have played out in exactly the same manner if they had been absent. In a related view, deterrence sceptics like Lebow and Stein have challenged the idea that the nuclear stalemate contributed to peaceful relations between the USA and the

Soviet Union. Examining key nuclear flashpoints, such as the Cuban Missile Crisis and the 1973 Arab–Israeli war, the duo concludes that nuclear deterrence strategies, as employed by the superpowers, were more provocative than pacific, and ultimately contributed to prolonging the Cold War.<sup>30</sup>

Is there evidence to support Mueller's assertion that the conventional military balance is more salient than the balance of nuclear capabilities explaining crisis behaviour or outcomes? Blechman and Kaplan's study of more than 200 uses of force by the USA finds that in episodes involving the USA and the Soviet Union, the outcome of confrontations was determined primarily by the conventional military balance at the local level, rather than the size of each superpower's strategic nuclear arsenal.<sup>31</sup> This finding is echoed by Kugler's examination of crisis escalation in clashes involving China, the Soviet Union and the USA, which finds that conventional military force levels, rather than nuclear capabilities, are the main factor shaping crisis outcomes, irrespective of their severity.<sup>32</sup>

Are there concrete reasons to believe that nuclear weapons might, in fact, not have significant deterrent value? A study of militarised interstate disputes involving great powers, which was carried out by Huth, Bennett and Gelpi, determined that challengers are not precluded from initiating military confrontations against major powers armed with nuclear weapons.<sup>33</sup> This finding is echoed by a more recent scholarship carried out by Gartzke and Joe, who expressly investigate the connection between patterns of militarised interstate disputes and nuclear weapons.<sup>34</sup> The conclusion they reach is that dispute initiation is not affected by possession of nuclear weapons. Significant conventional military capabilities, existing security challenges and broader geopolitical interests, not nuclear weapons, make states more likely to undertake military challenges against each other.<sup>35</sup> In line with these arguments is the aforementioned study by Bell and Miller which concludes that pairs of nuclear-armed states are no more or less prone to war than non-nuclear states.<sup>36</sup>

Evidence questioning the relevance of nuclear weapons for deterrence is most striking in a series of studies examining the interaction between pairs of states where only one side possesses nuclear weapons. In such scenarios, Geller finds that non-nuclear states are willing to assertively escalate a crisis with a nuclear-armed opponent.<sup>37</sup> Historically, Kugler reports non-nuclear states have prevailed over their nuclear-armed opponents in a number of 'extreme crises' occurring between 1946 and 1991, while Organski and Kugler find that nuclear-armed states were defeated by non-nuclear opponents in six of seven armed conflicts between 1945 and 1979.<sup>38</sup> Echoing previously discussed research, both

of these studies conclude that the successful party was the one with the superior conventional military force, not a nuclear arsenal.

These various studies provide mixed support for claims that nuclear weapons are irrelevant at best and destabilising at worst. Scholars found that, in interactions between pairs of nuclear-armed states, conventional military capabilities rather than the size of a nuclear arsenal is the primary predictor of both the initiation of interstate disputes and crisis outcomes bolster Mueller's argument.<sup>39</sup> Lebow and Stein's claims are supported by findings by Geller and Rauchhaus discussed previously, that disputes between pairs of nuclear-armed states are more likely to escalate versus those carried out by pairs of non-nuclear states.<sup>40</sup> Claims about the irrelevancy of nuclear weapons for deterrence are further strengthened by the conclusion that possession of nuclear weapons has little relevance for explaining the outcomes of crises or conflicts between a nuclear-armed state and a non-nuclear opponent.<sup>41</sup> Once again, the conventional military balance between the two parties best explains crisis outcomes, which most often favoured the non-nuclear state.<sup>42</sup> Instead of dampening the chances of conflict, non-nuclear states in a dispute with a nuclear power are more likely to escalate the clash and the likelihood of war is greater in comparison to conflicts involving two nuclear powers.<sup>43</sup> Taken together, these studies suggest that even when only one party has nuclear weapons, that fact will not affect the likelihood that a dispute will be initiated, its escalation potential, nor its outcome. This, in turn, raises big questions about the deterrent power of nuclear weapons and the assumptions of deterrence put forth by proponents of the nuclear revolution thesis.

The main challenge to claims of nuclear irrelevancy comes from the multiple studies demonstrating that war is substantially less likely to occur between pairs of states when both sides possess nuclear weapons than when neither possess them.<sup>44</sup> The conclusion that nuclear status does lead to different patterns of behaviour, however, is inconsistent with Mueller's argument that the presence of nuclear weapons has no bearing on interstate interactions. Although the claims of nuclear irrelevancy are only partially upheld by the research reviewed here, this scholarship also suggests that the case for the transformative effects of nuclear deterrence on international politics made by proponents of the nuclear revolution thesis remains, in the Scottish verdict, 'not proven'.

### *BRINKSMANSHIP*

Whereas the nuclear irrelevance school questions the viability of deterrence, brinksmanship questions the nuclear revolution literature's

assumption that nuclear weapons cannot easily compel an opponent. Scholars embracing this line of reasoning see nuclear weapons as narrowly useful for deterring nuclear first use by an opponent but question the ability of nuclear weapons to ward off conflict at other levels.<sup>45</sup> A range of work from the 1960s examined tactics that could be employed to allow nuclear weapons to compel an opponent.<sup>46</sup> A key means by which nuclear-armed states could leverage their strategic arsenals to achieve offensive political objectives is by engaging in high-risk behaviour, which Schelling referred to as a strategy of brinksmanship.<sup>47</sup> Although in general, compelling nuclear threats may not appear to be credible, Schelling suggests states can take actions to purposefully increase the risk that events spiral out of control, resulting in a devastating outcome that no side would rationally choose. The metaphor often invoked is the classic game of chicken where two drivers drive directly at each other at high speeds until one party loses its nerve and swerves out of the way (or both cars crash). In a similar manner, by manoeuvring the other side into a position where their only choice is to capitulate or to risk experiencing reciprocal devastation, brinksmanship can allow a state to leverage non-credible threats to achieve real gains.<sup>48</sup> Actions such as deploying low-yield nuclear weapons on the battlefield and pre-delegating launch authority to local commanders can increase the risk of accidental nuclear exchange, which would not be strictly rational. By escalating the chances that a mutually catastrophic outcome would occur, an aggressor can push a target to the point where they lose their nerve and back down, conciliating the aggressor rather than risking devastation.

Strategies of brinksmanship may give nuclear weapons far greater utility for achieving 'offensive' political objectives than the nuclear revolution school suggests. In other words, nuclear weapons could be effective tools of compellence. As discussed above, calibrated escalation in a crisis, what Herman Kahn referred to as 'a competition in risk-taking', is a key means of weakening an adversary's resolve.<sup>49</sup> Since the consequences of a nuclear conflict are so profound, a number of scholars contend that states on the receiving end of nuclear threats will be highly motivated to avoid conflict and manifest an extensive trade space when it comes to meeting an aggressor's demands.<sup>50</sup> Virtually, any bargaining outcome leaves the target better off than it would be from suffering a nuclear strike. From a rationalist standpoint, nuclear weapons and nuclear threats can enhance a state's bargaining effectiveness relative to non-nuclear-weapon states.

The logic of brinksmanship is rooted in game theory and draws analogies from risky strategic interactions in other walks of life, like the aforementioned game of chicken. In practice, is it a viable means

of leveraging nuclear arsenals to make compellence possible? Sechser and Fuhrmann contend it is unlikely to do so for two key reasons.<sup>51</sup> First, signalling to an adversary in the middle of a crisis can be difficult. Military signals are infamously vague. The ‘message’ being sent by the movement of delivery vehicles, the conduct of flight tests or the mating of warheads may not be noticed or may be misconstrued. During the 1999 Kargil war, for example, the USA believed it detected Pakistani efforts to operationalise its nuclear arsenal but Indian sources were split as to whether this alleged nuclear signalling was real and how credible a threat it represented.<sup>52</sup> Pakistani observers allege that US national technical means failed to detect similar preparations by India and suggest that information provided by reconnaissance satellites lacked context, and therefore confused defensive preparations by Pakistani missile forces for offensive ones.<sup>53</sup> The second constraint on employing a strategy of brinkmanship is a given leader’s appetite for risk. The danger that events can spin out of control may be intolerable for an opponent but it can also be unbearable for the triggering side as well. An extremely high level of risk tolerance is necessary to engage in nuclear brinkmanship, which may not be possessed by most national leaders.

Is there evidence that nuclear-armed states are willing to engage in Kahn’s risk-taking competition and, more importantly, that such behaviour leads them to triumph in a crisis? Both Asal and Beardsley as well as Rauchhaus report that pairs of nuclear-armed states engage in crises at a much higher rate than non-nuclear states.<sup>54</sup> Geller finds that compared to pairs of non-nuclear states, confrontations between nuclear-armed states are more likely to escalate short of war, a finding echoed by Rauchhaus.<sup>55</sup> In line with the brinkmanship thesis, Kroenig’s examination of fifty-two crises involving pairs of nuclear-armed states reports that states possessing a clear nuclear superiority are willing to accept more risk in a confrontation and employ brinkmanship strategies.<sup>56</sup> In turn, these states are more likely to prevail over their opponents without resorting to a full-scale war. Similarly, De Mesquita and Riker contend that possessing an asymmetric nuclear advantage over another state allows one to employ its arsenal for offensive political gains.<sup>57</sup> A related study by Beardsley and Asal looks at crisis bargaining between nuclear-armed and non-nuclear states, which concludes that nuclear powers are more likely to prevail.<sup>58</sup> Thus, these studies indicate nuclear weapons can be a source of leverage in international politics and accrue political benefits to their possessors quite apart from their military utility.

Sechser and Fuhrmann’s neo-orthodox ‘nuclear skepticism theory’ has raised questions about the value of nuclear weapons for compellence<sup>59</sup> The duo contends that nuclear weapons are a weak tool of compellence.

The ideal instruments of compellence are those that allow a state to: (a) effectively force a target to do what it wants and (b) inflict significant harm comparatively cheaply. Neither of these characteristics applies to nuclear weapons. In line with nuclear revolution theorists, Sechser and Fuhrmann contend that nuclear weapons have limited usefulness for wresting control of contested objectives or terrain from an adversary. Moreover, the cost to the aggressor state of following through on a nuclear threat is a significant one. Not only would the target respond with full force but the use of nuclear weapons would be expected to provoke the opprobrium of the international community as well, which could endanger its longer-term interests. In the face of an existential threat to a country's survival or independence, the cost of using nuclear weapons may be worth paying. When it comes to a compellent threat, however, the balance of resolve often favours the defender. States are willing to fight harder and suffer more to defend things they already have. Conversely, aggressors have lived without the contested objective; therefore, possessing it cannot be an existential issue. Thus, they assert that nuclear-armed states can deliver credible deterrent threats but are not any more likely to compel an adversary than non-nuclear states. In fact, their statistical analysis of 210 compellent threats delivered between 1918 and 2001 finds that states equipped with nuclear weapons are actually less effective at compelling adversaries than non-nuclear states, even when possessing a nuclear monopoly.

Paul Bracken adds nuance to the debate. He argues that it is necessary to distinguish between nuclear compellence of the type studied by Kroenig and Sechser and Fuhrmann, and compellence in a nuclear context, which, he asserts, is quite different.<sup>60</sup> The former involves explicit nuclear threats to compel a target to act, whereas the latter is compellence by a state possessing nuclear weapons where no explicit atomic threat is issued. As long as a state has nuclear weapons, Bracken contends, compellence targets have to assume their use is 'on the table', which renders any threat an implicit nuclear one.<sup>61</sup> Thus, the study of 'nuclear blackmail' needs to be broadened beyond the 'narrow' set of instances where explicit nuclear threats are issued to capture the full range of situations in which nuclear weapons affect the dynamics of coercion.

How well does the brinkmanship thesis fare in the literature reviewed here? Multiple studies report that pairs of nuclear-armed states engage in a large number of crises and that they are more likely to escalate those crises than non-nuclear states. This provides a strong indication that states can and do engage in competitive risk-taking. The evidence is much more mixed with respect to the utility of nuclear weapons in general and this risk-taking crisis behaviour in particular

to achieve superior compellence results, with some studies concluding nuclear superiority is associated with compellence success and others contesting that conclusion.

### *FACTORS INFLUENCING THE EFFICACY OF NUCLEAR COERCION*

Early nuclear theorists tended to adopt a binary understanding of nuclear status: states either had nuclear weapons or they did not, and the coercive effects of such weapons were seen to operate irrespective of what anyone else did.<sup>62</sup> This point of view, which Narang refers to as the ‘existential bias’ in nuclear scholarship, has been challenged by other scholars who demonstrate that how states structure and deploy their nuclear arsenals has an effect on their coercive potential.<sup>63</sup>

One factor that can affect the coercive effects of nuclear weapons is the size and configuration of a state’s arsenal. Does having more nuclear weapons than your opponent strengthen your ability to coerce them? The nuclear revolution thesis personified by Jervis suggests that the nuclear balance is immaterial. In order to deter an adversary, a state really just requires a secure second-strike capability. Anything beyond that is unnecessary. In contrast, other scholars contend that nuclear coercion is only effective when the aggressor state has such an overwhelming superiority that it need not fear an adversary’s atomic retribution.<sup>64</sup> This view on the benefits of nuclear supremacy is echoed by Kroenig who reviews more than four dozen nuclear crises and reports that the size of a state’s nuclear arsenal is correlated with the likelihood of prevailing in a crisis.<sup>65</sup> Consensus on this point does not exist in the scholarship, however, as Sechser and Fuhrmann’s examination of 210 interstate compellent threats reports the opposite conclusion—a nuclear advantage has no bearing on the success of coercive efforts.<sup>66</sup>

A second issue influencing the coercive effect of a state’s nuclear arsenal is the particular configuration of its delivery systems. Gartzke, Kaplow and Mehta report that states possessing a diversified portfolio of nuclear delivery systems have greater success in deterring conventional conflict.<sup>67</sup> This holds true in disputes with both nuclear and non-nuclear states and is more important for explaining deterrence outcomes than either possessing survivable nuclear forces or nuclear superiority. If this is true, why don’t all states pursue a broad range of nuclear delivery vehicles? The ability to do so is limited by both the need to simultaneously contend with conventional military threats and the state’s overall resource constraints.<sup>68</sup> However, states with nuclear-

armed allies or rivals pursue diversification, which also tends to increase the longer a state possesses nuclear weapons.

The nuclear posture adopted by a state is a third factor that can affect the efficacy of their nuclear threats. Narang identifies a typology of nuclear postures pursued by emerging nuclear-armed states in the second nuclear age.<sup>69</sup> The first approach, catalytic, primarily focuses on using nuclear arsenals to attract third-party intervention in a crisis. The primary ‘target’ of the strategy is not an adversary but an ally or neutral one is pressing to intervene on one’s behalf. Pursuing this strategy requires only a nuclear force in being—a survivable second strike is not essential. Israel’s behaviour during the 1973 Yom Kippur war is a prime example of this approach. The second posture, assured retaliation, seeks to deter nuclear coercion by threatening a guaranteed nuclear response. Possessing a secure second-strike capability, the state can guarantee a response to any first strike against it, punishing aggressor cities or other countervalue targets. Assured retaliation only requires a small nuclear arsenal and is the basic nuclear strategy traditionally pursued by India and China. The final posture, asymmetric escalation, focuses on deterring threats by undertaking the first use of nuclear weapons against enemy forces or strategic targets in the event of a crisis. Echoing US experiments with massive retaliation and flexible response in the 1950s and 1960s, asymmetric escalation is the nuclear posture pursued by France during the Cold War and Pakistan today. Of these three nuclear postures, Narang reports that only asymmetric escalation is effective at deterring the outbreak or intensification of conventional war.<sup>70</sup> In contrast, assured retaliation and catalytic postures have historically been associated with deterrence failure. Thus, states possessing similarly sized nuclear arsenals achieve different deterrence outcomes based on the nuclear posture they adopt.

### THE LOGIC OF NUCLEAR FIRST USE

There are several reasons why a state would retain an option of nuclear first use, or not be willing to move beyond a merely rhetorical commitment to NFU.<sup>71</sup> The first reason is to pre-empt an impending nuclear threat by an adversary. If the state believes that an opponent is preparing to strike it with nuclear weapons, countless lives might be saved by eliminating or reducing the antagonist’s arsenal in a pre-emptive strike. The ability to undertake a pre-emptive strike requires a country’s nuclear arsenal to have a high degree of readiness so that decision-makers can quickly respond to a warning. As noted previously,

changes in technology may be making a counterforce strike a more realistic or effective possibility.

The second reason why states might wish to retain a first use option is to deter against the use of other weapons of mass destruction. If a state feels that its conventional military offers insufficient retaliatory options to adequately punish an actor for using biological or chemical weapons against it, the nuclear option may be retained for such purposes. The USA is a prime example of a country that appears to find utility in a first-use option for these purposes. Despite arguments against the use of nuclear weapons to deter chemical and biological threats, neither the Clinton, Bush or Obama administrations were willing to publicly rule out this possibility.<sup>72</sup>

A third plausible reason for maintaining a first-use option is to deter conventional military threats. If a state faces an adversary that is believed to have a major conventional military advantage, tactical or strategic nuclear weapons could be a key means of raising the anticipated cost to an attacker of undertaking a military adventure. As noted previously, Narang's research on alternative nuclear postures found that only asymmetric escalation—which explicitly retains the option of nuclear first use—was effective in deterring conventional military threats.<sup>73</sup> The threat of battlefield nuclear weapons has a secondary benefit in that should deterrence fail, hostile forces will have to disperse themselves on the battlefield to minimise the consequences of a nuclear strike, which can negatively influence their military effectiveness. During the Cold War, the overwhelming numerical superiority of the Soviet Red Army and its proximity to Western Europe led the USA and its NATO allies to adopt a nuclear-based deterrent strategy to dissuade a presumed Soviet conventional attack on Western Europe.

Related to the point above, nuclear first use may be seen as having utility not just for deterring an attack on oneself but on allies as well. American security guarantees to Japan, South Korea and its NATO partners are based on an alleged willingness to employ US nuclear weapons against an aggressor who threatens them. Since nuclear escalation could mean that an adversary would respond with an attack on the USA itself, the credibility of such guarantees was always an issue, as exemplified by the infamous question: Would the USA trade Boston for Berlin? A range of actions was undertaken to enhance the credibility of such promises, including the forward deployment of nuclear weapons on allies' soil. Fuhrmann and Sechser report that the latter approach has no effect on deterring aggression; what matters is possessing an alliance with a nuclear-armed state, not the basing of their nuclear weapons in your country.<sup>74</sup> US allies remain strongly opposed to an NFU pledge,

illustrating their perceptions of the importance of the nuclear option in their defence.

Finally, the first use of nuclear weapons can be seen by a state as the ultimate guarantee of its independence and freedom. As a last resort in the face of near-certain defeat, employment of nuclear weapons might salvage an otherwise untenable situation and avert catastrophe. The threat of first use may also prevent a hostile power from pushing for a nuclear-armed state's unconditional surrender and even create some kind of bargaining space in post-conflict negotiations. The so-called Sampson Option, an alleged Israeli nuclear strategy of massive retaliation in the event the country was being overrun, is an example of this 'last resort' logic.<sup>75</sup>

## CONCLUSION

Although nuclear weapons have been with us for more than seven decades, scholars are still coming to grips with their effect on international politics. Traditional views on the ease of nuclear deterrence have been called into question by changes in technology as well as recent research indicating that the choices states make regarding their nuclear posture and portfolio of delivery systems affects the ability to dissuade adversaries, if indeed, nuclear weapons deter at all. When it comes to predictions about nuclear crises and coercion, what theoretical propositions are supported by empirical study and which have been found wanting? The expectations found in the nuclear revolution literature, that wars between nuclear states should be infrequent occurrences, is upheld by the fact that the 1999 Kargil war is the only example of such a clash between two nuclear-armed states in more than seven decades. The expectation that the presence of nuclear weapons will lead states to avoid crises and minimise escalation, however, is not upheld. In fact, both crises and escalation are a common phenomenon when nuclear weapons are on both sides of a dispute. Suggestions that nuclear weapons are irrelevant for coercion and crisis are bolstered by the finding that the possession of nuclear weapons does not prevent an opponent from initiating a dispute, escalating a crisis or using force against a nuclear-armed defender. Indeed, non-nuclear states have prevailed over nuclear opponents in conflict and crisis with surprising frequency, raising questions about the ability of nuclear weapons to deter conventional threats. The broader claims that nuclear weapons cannot explain patterns of state behaviours is undermined by multiple studies indicating that pairs of nuclear, non-nuclear and mixed states do exhibit differing likelihoods of escalating crises and fighting

wars. Finally, the conclusion that pairs of nuclear-armed states are more likely to escalate a crisis—short of war—validates aspects of the brinkmanship literature. The possibility of nuclear blackmail remains a concern. Early thinking on the irrelevance of nuclear weapons for compellence has been challenged by revisionist scholars who contend that nuclear threats can be used to intimidate targets into capitulation. In turn, these revisionist views have been contested by neo-orthodox scholarship, which contend that nuclear threats lack credibility and nuclear weapons are not capable of changing the status quo. Despite hopes that in the twenty-first century, a norm of nuclear NFU might be adopted, few states have been willing to move beyond a rhetorical commitment to that cause; arguments remain for retaining the first-use option. As the field of international relations sees a resurgence of scholarly research on nuclear weapons, our understanding of all of these issues will continue to improve. The first generation of nuclear theorists shaped our thinking about the political effects of nuclear weapons. The challenge for contemporary scholars is to understand which of these insights are timeless and which no longer apply in the second nuclear era.

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