Deterrence in a Multipolar World

Prompt Attacks, Regional Challenges, and US-Russian Deterrence

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This study considers the problem of nuclear deterrence and crisis stability in a multipolar nuclear world with special attention to policy options for prompt attack for the United States and Russia. Russian experts in national security recognize, as do Americans, that a Cold War framework no longer suffices either to define or explain their nuclear relationship. Neither Moscow nor Washington officially fears a nuclear surprise attack despite the determination of both states to maintain their nuclear arsenals as uniquely capable for purposes of military deterrence and dissuasion, as well as for the political spillovers symbolic of great-power status. Notwithstanding President Barack Obama's call for nuclear abolition in his Prague speech of 2009, neither Russia nor other nuclear weapons states appear ready for drastic reductions in their nuclear forces.[1]

In addition, interest in nuclear weapons appears to be growing in the Middle East, South Asia, and East Asia, along with the increased possibility of a nuclear crisis in those regions. For these and other reasons, the Eurocentric deterrence regime and paradigm that characterized the definition of nuclear threats during the Cold War have been superseded by a twenty-first-century matrix of widely distributed regional threats in which nuclear arsenals are commingled with nationalism and other potentially virulent strains of political destabilization. This shifting international context also affects our understanding of prompt nuclear attack, previously conceptualized in a bipolar context. Now things have changed—and might change even more.

From the preceding perspective, this study revisits the problem of prompt or fast attack with respect to nuclear deterrence and crisis stability.[2] Prompt attack includes both preemptive and preventive attacks although the emphasis here is on preemption. The primary story line about prompt nuclear attack is enlarged by considering whether and how a multipolar nuclear decision system might differ from the bipolar nuclear system of the Cold War. Prior success stories in nuclear nonproliferation may have increased complacency among strategists and policy makers about the nuclear challenges that lie ahead from all political azimuths.

Prompt Attack

Prompt military attacks are essentially defensive strategies carried out by offensive means. Motivations for prompt attacks can be diverse, and the following list is not exhaustive: (1) the actor's expectation that an enemy attack is inevitable although not necessarily imminent, (2) the actor's expectation that an enemy attack is both inevitable and imminent, (3) the actor's estimate that a "window of opportunity" exists during which a defender may be caught unawares and thereby disarmed or militarily disadvantaged to great effect, (4) the actor's military predilection and operational codes are such that military-strategic surprise commends itself as a strategy au courant for the nation's high command or its political leadership, and (5) the actor's expectation that offensive military technology is superior to defensive technology, especially if employed to great effect during the initial period of war.[3]

Prompt attacks include both preemption and preventive war. Richard Betts notes that the difference between preemptive and preventive attack "has often been confused, even by professional strategists."[4] The distinction made commonly by theorists is that *preemptive* attacks are undertaken within a time-urgent context, such that an opponent's attack has already been set in motion or is imminent. On the other hand, a *preventive* war is an attack launched to forestall the growing power or future capability of an enemy who might plausibly attack if given the opportunity. In short, as a recent RAND study observes, the utility of preemption "is based on the benefits of being the attacker instead of the defender" whereas preventive war "is motivated by the desire to fight sooner rather than later."[5] Furthermore, there are both political and military trade-offs between preemption and preventive attack. As Betts explains, "Politically, it is much easier to rationalize

preemption than preventive action. Militarily, however, preemptive attack forfeits some of the benefit of surprise that can be kept by a preventive strike."[6]

Instead of a hard-and-fast line between preemption and preventive war, we might prefer to think of a sliding scale or continuum. Some kinds of preemption shade over into some kinds of prevention. The George W. Bush administration described Operation Iraqi Freedom as a preemptive war although some theorists would have classified it as a preventive one. The Bush perspective derived from the administration's tendency to see the "enemy" not only as Saddam Hussein and his regime but also as a potential network of rogue states supporting terrorists. Striking at Saddam was thus a preventive regime change in order to obviate a future need for preemptive or retaliatory attacks against state-sponsored terrorists equipped with weapons of mass destruction (WMD). Although Iraq turned out not to have nuclear or other WMDs, future preventive strikes against states with those weapons and thought to support terrorists might be justified by governments as preventive attacks on regimes that also serve as preemption against terrorists supported by those regimes.[7]

With regard to nuclear weapons during and after the Cold War, most theorists and policy makers have regarded preventive war as morally unacceptable and politically provocative. On the other hand, the United States and other nuclear powers have felt it necessary and legitimate to include preemption among their options available for credible deterrence and crisis management.[8] US declaratory policy since the administration of President John F. Kennedy has required the capability to ride out any nuclear first strike and retaliate, inflicting at a minimum "unacceptable" damage against the society of the attacker.[9] In practice, the US arsenal of the present can certainly accomplish more than this minimal objective against any conceivable attacker. Even with respect to post-Soviet Russia, not to say lesser nuclear powers, the United States can strike back with sufficient retaliatory power to destroy numerous military and political targets in addition to economic and social ones. As Desmond Ball has commented,

> American nuclear war plans have always included a wide range of types of targets—military forces, stockpiles, bases, and installations; economic and industrial centers; political and administrative centers; and, after 1950, the Soviet nuclear forces. Despite the frequent and sometimes quite radical changes in avowed U.S. strategic policies and targeting doctrines over the past three decades, these four general target types or categories have remained remarkably resilient in strategic nuclear war plans.[10]

This second-strike capability defines the baseline for US deterrence capability, but it is not the only option of which US forces are capable. Striking immediately after having detected launch of an enemy attack in progress is also an option for the United States, for Russia, and for future nuclear states with sufficient launch detection, threat identification, and response capabilities (especially the necessary command, control, communications, computers, and intelligence). Of course, deciding on preemption can be a mistake if warning and assessment are faulty. Both the United States and Soviet Union carefully studied the problem of a mistaken warning of nuclear attack during the Cold War. Each built redundant warning systems as well as checks and balances into the decision-making process for nuclear release and launch authorization. Each sought to avoid the risk of unsanctioned or accidental launch or of being caught flat-footed by a genuine attack. Large and redundant arsenals

of weapons and delivery systems also helped reassure leaders against strategic nuclear surprise.[11]

The option of nuclear preemption has been characterized as shooting first as a last resort. During the Cuban missile crisis, US leaders worried whether an invasion of Cuba or air strikes against Soviet medium- and intermediate-range missiles located in Cuba would result in Soviet escalation to large-scale conventional or nuclear war. In turn, President Kennedy announced publicly that the United States would regard *any* nuclear attack from Cuba on the United States or *elsewhere in the Western Hemisphere* as tantamount to a Soviet attack on the United States, guaranteeing a full retaliatory response against the Soviet Union.

Kennedy's statement was a message to Moscow not only about US deterrence of any Soviet attack but also about the Soviet Union's responsibility to prevent any unsanctioned or accidental launch of Soviet weapons from Cuban soil. The president's concern was not misplaced. As we now know, Cuban president Fidel Castro assumed the United States had already made a decision to invade Cuba and urged Soviet premier Nikita Khrushchev to take the nuclear initiative. As Khrushchev recounts in his memoirs,

> Castro suggested that in order to prevent our nuclear missiles from being destroyed, we should launch a preemptive strike against the United States. He concluded that an attack was unavoidable and that this attack had to be preempted. In other words, we needed to immediately deliver a nuclear missile strike against the United States. When we read this I, and all the others, looked at each other, and it became clear to us that Fidel totally failed to understand our purpose.[12]

Nuclear Preemption

The Past: Lessons and Illustrations

The world has never witnessed a two-sided nuclear conflict, but the Cold War was marked by nuclear competition between the Americans and Soviets that taught hard lessons. Among them was the fact that leaders could not avoid an outbreak of nuclear war simply by amassing larger numbers of weapons. The composition of nuclear forces and the performance attributes of various long-range delivery systems (missiles and bombers) figured into operational and political aspects of deterrence. Then, too, military doctrines for the prevention or deterrence of war—and their relationship to assumptions about nuclear war fighting if deterrence failed—played into the likelihood for crisis and arms-race stability between the Americans and the Soviets.[13]

Nuclear weapons technology enforced some limited doctrinal convergence and behavioral similarity with respect to nuclear strategy despite the very different ways in which Soviet and American leaders perceived the world. Soviet leaders foresaw the inevitable triumph of global communism under their leadership, with a moveable deadline shifting along with the military balance or the "correlation of forces" that included military and other variables.[14] US leaders organized their global strategizing around the grand strategy of containment of the Soviet Union within its existing sphere of influence. These antagonistic and competitive worldviews

coexisted within a technology environment that favored offensive nuclear-delivery systems over defensive antimissile or air defense systems.

Paradoxically, the predominance of offensive over defensive technology during the Cold War did not lead to more surprise attacks, as it might have prior to nuclear weapons, but to a protracted military stalemate. The inability of either the Soviet Union or the United States to write a plan for a credible first-strike capability (denying to the defender his second-strike capability) made preemption or preventive war seem unappealing. This perception remained true even during periods of US nuclear monopoly or clear superiority in numbers of weapons and delivery systems. With regard to preemption, the Cuban missile crisis provided a tutorial for leaders about the dangers of a competition in risk taking that could lead to a mistaken decision for nuclear first strike due to fears based on misperception. As the expressive Premier Khrushchev ruminated in his secret letter to President Kennedy on Friday, 26 October,

> If you have not lost your self-control and sensibly conceive what this might lead to, then, Mr. President, you and I ought not now to pull on the ends of the rope in which you have tied the knot of war, because the more the two of us pull, the tighter the knot will be tied. And a moment may come when that knot will be tied so tight that even he who tied it will not have the strength to untie it, and what that would mean is not for me to explain to you, because you yourself understand perfectly of what terrible forces our countries dispose.[15]

Some Soviet military writings during the Cold War argued that the Soviet Union and international socialism would attain military victory even in a global nuclear war. Some of this amounted to posturing for effect in domestic political debates between military hawks and doves. Moreover, some of this hubris about victory in a nuclear war was Marxist-Leninist philosophy about the inevitable defeat of capitalism superseding common sense and science. Nevertheless, the Soviets' actions in force building and command and control (C2) revealed their awareness of the realities of the nuclear age and of the actual military balance or the larger "correlation of forces" between the United States and the Soviet Union.

It was left to Ronald Reagan and Mikhail Gorbachev to make official what nuclear-weapons scientists and knowledgeable military planners had understood for several decades: a nuclear war cannot be won and should never be fought. To some extent, this declaration was gratuitous, given the scientific knowledge available for a long time about the effects of nuclear weapons.[16] Although Reagan endorsed a broad research program for missile defenses (the Strategic Defense Initiative [SDI]), he did so not for the reasons that the Soviets feared. Reagan sought not nuclear superiority over the USSR but a technology to supersede the mutual vulnerability of deterrence. Contemporary technology was inadequate to the task, but the debate over SDI helped convince Gorbachev of the futility of matching or exceeding US defense capabilities.

Although the construct or policy option of a preventive nuclear war became institutionally unthinkable in Washington and Moscow, the possibility of inadvertent nuclear war or escalation to nuclear from conventional war was very real during the Cold War. This legacy has carried forward into the post–Cold War and twenty-first-century world. The term *inadvertent* means something other than *accidental* war, such as the possibility of a test misfire or other technology failure that leads to war. Inadvertent nuclear war is the result of an unforeseen combination of human

and technical factors, pulling both sides in a nuclear crisis over the brink despite their shared interest in avoiding war.

The likelihood of inadvertent nuclear war between two states is based on their political intentions, military capabilities, approaches to crisis management, the personalities of leaders, standard operating procedures for the management of nuclear forces during peacetime and in crisis, and other variables.[17] A decision for nuclear preemption is so irrevocable that leaders will want as much intelligence as possible relative to the plans and actions of their opponent. Unfortunately, credible intelligence regarding the opponent's political thinking and military planning may be hard to come by under the exigent pressures of crisis. Therefore, states may infer the other side's intentions from the disposition of its forces; the behavior of its command, control, communications, and intelligence systems; or guesswork based on past experience.

For example, during Able Archer 83, a North Atlantic Treaty Organization (NATO) command and communications exercise that tested procedures for the release of alliance nuclear weapons in November 1983, an apparent mind-set among some Soviet intelligence officials led them to conclude (temporarily) that the exercise might be the "real thing"—an actual set of preparatory moves for NATO nuclear release and a possible first strike against Soviet forces and installations in Europe.[18] The pessimistic interpretations of Able Archer were not universally shared among Soviet intelligence officers, but some of the alarmism arose from Soviet military doctrine that foresaw the conversion of an exercise simulating an attack into one as a possible path to war.[19]

Another example of the difficulty of reading the other side's intentions during an exigency occurred during the Cuban missile crisis of 1962. A second letter from Khrushchev to Kennedy on 27 October, more demanding in its terms for settlement compared to an earlier letter the previous day, caused some deliberators in the Executive Committee of the National Security Council to wonder whether Khrushchev had been overruled by a hostile faction of the Soviet Presidium. Robert Kennedy noted that "the change in the language and tenor of the letters from Khrushchev indicated confusion within the Soviet Union, but there was confusion among us as well."[20] Fortunately, in both the NATO Able Archer exercise and the Cuban crisis, the most pessimistic assumptions proved incorrect before leaders could act on them.

A post–Cold War example of a scenario for inadvertent nuclear war occurred in January 1995 during the launch of a Norwegian scientific rocket for the purpose of studying the aurora borealis. The initial phase of the rocket's trajectory resembled that of a ballistic missile launched from a nuclear submarine and possibly headed for Russian territory. Russian early warning systems detected the launch and passed the information to military headquarters. Russian president Boris Yeltsin, the defense minister, and the chief of the Russian general staff were connected via their emergency communication network. For the first time, the Russian president opened his secure briefcase or "football" with nuclear codes for launch authorization. The crisis passed when the rocket trajectory eventually veered away from any possible threat to Russia. The operational misinterpretation of the Norwegian rocket launch was made possible by an earlier bureaucratic mistake. Norwegian officials had notified the Russian foreign ministry well in advance of the launch date that

the rocket test was scheduled and had identified its mission. For unknown reasons, the Russian foreign ministry failed to pass that information to the defense ministry or other military headquarters in time to avoid confusion.

The Russian annexation of Crimea in March 2014 and subsequent destabilization of eastern Ukraine were not immediately seen as a nuclear confrontation between Russia and NATO or the United States. Nevertheless, the possibility of an expanded conventional war between Ukrainian and Russian proxy forces took place beneath the umbrella of US and Russian nuclear weapons. This nuclear shadow over the Russian use of unconventional warfare / political warfare in Ukraine and the responses from NATO and the European Union had two somewhat opposite effects. On the one hand, the presence of Russian and NATO nuclear weapons in Europe made any geographical expansion of the conflict beyond the borders of Ukraine—especially into any NATO country—particularly dangerous. On the other hand, each side could exploit the other's awareness—and fear—of that danger to obtain desired political objectives. Thus, the US-NATO and Russian proxy war over Ukraine was not only a contest in combat activeness and military effectiveness in Ukraine but also a competition in risk management and crisis manipulation.[21]

The Future: Issues of Concern

If the possibility existed of a mistaken preemption during and immediately after the Cold War between the experienced nuclear forces and command systems of America and Russia, then it may be a matter of even more concern with regard to states with newer and more opaque forces and command systems. Further, the Americans and Soviets (and then Russians) had a great deal of experience getting to know one another's military operational proclivities and doctrinal idiosyncrasies, including those that might influence the decision for or against war.

Another consideration relative to nuclear stability in the present century is that the Americans and their NATO allies shared with the Soviets and Russians a commonality of culture and historical experience. Future threats to American or Russian security from WMDs may be presented by states or nonstate actors motivated by cultural and social predispositions neither easily understood by those in the West nor subject to favorable manipulation during a crisis.

The spread of nuclear weapons in Asia (including those parts of the Middle East with geostrategic proximity or reach into Asia) presents a complicated mosaic of possibilities in this regard. States with nuclear forces of variable force structure, operational experience, and C2 systems will be thrown into a matrix of complex political, social, and cultural crosscurrents contributory to the possibility of war. In addition to the existing nuclear powers in Asia, others may seek nuclear weapons if they feel threatened by regional rivals or hostile alliances. Containment of nuclear proliferation in Asia is a desirable political objective for all of the obvious reasons. Nevertheless, the present century is unlikely to see the nuclear hesitancy or risk aversion that marked the Cold War, in part because the military and political discipline imposed by the Cold War superpowers no longer exists but also because states in Asia have new aspirations for regional or global respect.[22]

The spread of ballistic missiles and other nuclear-capable delivery systems in Asia—or in the Middle East with reach into Asia—is especially dangerous because plausible adversaries live close together and are already engaged in ongoing disputes about territory or other issues. The Cold War Americans and Soviets required missiles and airborne delivery systems of intercontinental range to strike at one another's strategic centers of gravity. However, short-range ballistic missiles or fighter-bombers suffice for India and Pakistan to launch attacks at one another with potentially "strategic" effects. China shares borders with Russia, North Korea, India, and Pakistan; Russia, with China and North Korea; India, with Pakistan and China; Pakistan, with India and China; and so on.

The short flights of ballistic missiles between the cities or military forces of contiguous states will leave very little time for warning and attack assessment by the defender. Conventionally armed missiles could easily be mistaken for tactical nuclear first use. Fighter-bombers appearing over the horizon could just as easily be carrying nuclear weapons as conventional ordnance. In addition to the challenges posed by shorter flight times and uncertain weapons loads, potential victims of nuclear attack in Asia may also have forces vulnerable to a first strike and C2 systems that increase decision pressures for rapid—and possibly mistaken—retaliation.

This potpourri of possibilities assails conventional wisdom about nuclear deterrence and proliferation on the part of policy makers and academic theorists. For policy makers in the United States and NATO, spreading nuclear and other WMDs in Asia could profoundly shift the geopolitics of mass destruction from a European center of gravity (in the twentieth century) to an Asian and/or a Middle Eastern center of gravity (in the present century).[23] Such an occurrence would profoundly shake up prognostications to the effect that wars of mass destruction are now passé because of the emergence of the "revolution in military affairs" and its encouragement of information-based warfare.[24] Additionally, the argument has emerged that large-scale war between states or coalitions of states, as opposed to varieties of unconventional warfare and failed states, is exceptional and potentially obsolete.[25] The spread of WMDs and ballistic missiles in Asia could overturn these expectations for the obsolescence or marginalization of major interstate warfare.

For theorists, the argument that the spread of nuclear weapons might be fully compatible with international stability, and perhaps even supportive of international security, may be less sustainable than hitherto believed.[26] Theorists optimistic about the ability of the international order to accommodate the proliferation of nuclear weapons and delivery systems in the present century have made several plausible arguments based on international systems and deterrence theory. First, nuclear weapons may make states more risk averse as opposed to risk acceptant with regard to brandishing military power in support of foreign-policy objectives. Second, if states' nuclear forces can survive a second strike, they contribute to reduced fears of surprise attack. Third, the motives of states with respect to the existing international order are crucial. Revisionists will seek to use nuclear weapons to overturn the existing balance of power. States oriented toward the status quo will use nuclear forces to support the existing distribution of power and, therefore, slow and peaceful change, as opposed to sudden and radical power transitions.

These arguments for a less alarmist view of nuclear proliferation take comfort from the history of nuclear policy in the "first nuclear age," roughly corresponding to the Cold War.[27] Pessimists who predicted that some 30 or more states might have nuclear weapons by the end of the century were proved wrong. However, the Cold War is a dubious precedent for controlling the spread of nuclear weapons outside Europe. The military and security agenda of the Cold War was dominated by the United States and the Soviet Union—especially with regard to nuclear weapons. Ideas about mutual deterrence based on second-strike capability and the deterrence "rationality" according to American or allied Western concepts might be inaccurate guides to the avoidance of war elsewhere.[28] Furthermore, powers favoring nuclear containment in general may fall short of disagreement in specific political cases. Patrick M. Morgan has observed "insufficient agreement among states on how serious it [nuclear proliferation] is and on what to do about it."[29]

The case of Israel and its reaction to Iran's apparent interest in developing and deploying nuclear weapons illustrate several of the points made above about the fragility of nuclear deterrence in post–Cold War conditions and, consequently, the possibly meretricious appeal of prompt attacks. Israel regards Iran's possession of nuclear weapons as an existential threat; consequently, the possibility of an Israeli "preventive" conventional military strike against Iran's nuclear infrastructure prior to actual Iranian nuclear weaponization cannot be excluded. The short flight times of attacking Iranian missiles and the extreme vulnerability of Israel's small territory and population to nuclear attacks suggest an Israeli strategy of prompt launch in response to credible warning of any Iranian nuclear strike. On the other hand, a nuclear attack on Israel would be suicidal for Iran as a state actor vulnerable to powerful Israeli and possibly American responses. Therefore, elements within Iran's complex power structure, such as the Revolutionary Guard, might prefer to smuggle nuclear weapons or materials to terrorists in Lebanon or elsewhere, preserving official deniability for Iran. But the larger problem is that, with respect to state-on-state attacks between Tel Aviv and Tehran, strategies of preemption or even prevention are encouraged by the structure of forces, available weapons technologies, high levels of political distrust between the governments of Israel and Iran, and expected costs of going second compared to first in some scenarios.[30]

Conclusions

This article offers few words of consolation. On the evidence of past behavior, preemptive nuclear attacks are more likely and therefore more in need of deterrence or other means of avoidance than are preventive nuclear strikes. This finding has special pertinence during the present century, in which nuclear decision making is not as "locked down" by strategic nuclear bipolarity as it was during the Cold War. Existing nuclear weapons states will need to work out joint mechanisms for handling possibly destabilizing crises in the Middle East and in South or East Asia that might otherwise boil over due to regional actors with grievances, nukes, and insufficient experience in crisis management. Stability of a regional balance of nuclear terror resides mainly in the policies of states and in the intentions of their leaders.

The numbers of nuclear-armed states in a region do not by themselves determine the probability of nuclear crisis or war.

Another issue with respect to current and future nuclear deterrence is that although nuclear adventurism and fatal attraction to prompt attacks may start in the regions, they may not end there. For example, a crowded nuclear Asia also threatens to expand "regional" rivalries into global confrontations because the Asian nuclear club includes nuclear weapons states with global ambitions. This concern about horizontal escalation from a regional nuclear conflict has led some experts to recommend that the United States adopt an unconditional "no-first-use" policy for its nuclear weapons and urge other nuclear weapons states to do likewise. An agreed multilateral no-first-use policy would allegedly help prevent an outbreak of nuclear war in Asia and contain such a war if it occurred.[31]

On the other hand, a unilateral US declaration of this sort, without support from other nuclear weapons states, could weaken US extended deterrence now provided to nonnuclear allies, possibly compromising the Treaty on the Non-Proliferation of Nuclear Weapons and encouraging formerly US-protected allies to develop their own nuclear weapons arsenals. A compromise position might be a US declaratory policy of "no first use / guaranteed second use" against future violators of the nuclear taboo as proposed by Paul Bracken.[32] Cautious policy makers, however, might prefer to avoid very specific statements about nuclear use, allowing themselves more leeway under duress and keeping opponents guessing in the exigent circumstance of a crisis. ✪

Notes

1. "Remarks by President Barack Obama, Hradcany Square, Prague, Czech Republic" (Washington, DC: White House, Office of the Press Secretary, 5 April 209), http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered. Reasons for Russia's reluctance to embrace additional nuclear arms limitations are discussed in Polina Sinovets, "Why Russia Undermines the Norm of Nuclear Disarmament," *PONARS Eurasia*, 20 December 2013, http://www.ponarseurasia.org, in *Johnson's Russia List 2014*, no. 1 (1 January 2014), davidjohnson@starpower.net.

2. The term *anticipatory attacks* is used instead of *prompt attacks* in some analyses (see the following discussion and notes).

3. As Charles Glaser has pointed out, disagreement among theorists about the *requirements* of deterrence does not necessarily imply disagreement about the basic *logic* of deterrence. See Charles L. Glaser, "Why Do Strategists Disagree about the Requirements of Strategic Nuclear Deterrence?," in *Nuclear Arguments: Understanding the Strategic Nuclear Arms and Arms Control Debates*, ed. Lynn Eden and Steven E. Miller (Ithaca, NY: Cornell University Press, 1989), 109–71.

4. Richard K. Betts, *Nuclear Blackmail and Nuclear Balance* (Washington, DC: Brookings Institution, 1987), 161.

5. Karl P. Mueller et al., *Striking First: Preemptive and Preventive Attack in U.S. National Security Policy* (Santa Monica, CA: RAND, 2006), 10. For additional expert discussion, see Colin S. Gray, *The Implications of Preemptive and Preventive War Doctrines: A Reconsideration* (Carlisle, PA: Strategic Studies Institute, US Army War College, July 2007).

6. Betts, *Nuclear Blackmail and Nuclear Balance*, 161.

7. Recent trends in terrorism and terrorist practice may include less reliance on state sponsors, new models of organization, and the ability to mount global campaigns in addition to local attacks. See Brian Michael Jenkins, "The New Age of Terrorism," in *Weapons of Mass Destruction and Terrorism*, 2nd ed., ed. James J. F. Forest and Russell D. Howard (New York: McGraw-Hill, 2013), 29–37.

8. For example, during the Eisenhower administration, some pressures existed for a policy in favor of preventive war, but presidentially approved policy guidance ultimately rejected such war as an option. Preemption, on the other hand, was judged constitutionally acceptable and militarily feasible. See David Alan Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945–1960," in *Strategy and Nuclear Deterrence*, ed. Steven E. Miller (Princeton, NJ: Princeton University Press, 1984), 113–81, especially 143–45.

9. As Lawrence Freedman has noted, Secretary of Defense Robert McNamara's concept of an "assured destruction" capability or a "mutual assured destruction" relationship between nuclear superpowers had precursors in the late 1950s, such as a "stable balance of terror." See Freedman, *The Evolution of Nuclear Strategy*, 3rd ed. (New York: Palgrave Macmillan, 2003), 232–36. See also Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough? Shaping the Defense Program, 1961–1969* (New York: Harper and Row, 1971), 171–84.

10. Desmond Ball, "U.S. Strategic Forces: How Would They Be Used?," in Miller, *Strategy and Nuclear Deterrence*, 217.

11. Bruce G. Blair, *Strategic Command and Control: Redefining the Nuclear Threat* (Washington, DC: Brookings Institution, 1985), especially 14–49. See also Michael S. Gerson, "The Origins of Strategic Stability: The United States and the Threat of Surprise Attack," in *Strategic Stability: Contending Interpretations*, ed. Elbridge A. Colby and Michael S. Gerson (Carlisle, PA: Strategic Studies Institute, US Army War College, February 2013), 1–46.

12. Nikita Sergeevich Khrushchev, *Khrushchev Remembers: The Glasnost Tapes*, ed. and trans. Jerrold L. Schecter with Vyacheslav V. Luchkov (Boston: Little, Brown, 1990), 177.

13. For pertinent cases and analysis, see Betts, *Nuclear Blackmail and Nuclear Balance*, passim.

14. Raymond L. Garthoff, *Deterrence and the Revolution in Soviet Military Doctrine* (Washington, DC: Brookings Institution, 1990).

15. Cited in Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown, 1971), 212.

16. See, for example, Office of Technology Assessment, *The Effects of Nuclear War* (Washington, DC: US Government Printing Office, May 1979), especially app. D, 139–45.

17. Scenarios for the development of nuclear war under contemporary conditions are analyzed in George H. Quester, *Nuclear First Strike: Consequences of a Broken Taboo* (Baltimore: Johns Hopkins University Press, 2006), 24–52.

18. Douglas Birch, "The USSR and US Came Closer to Nuclear War Than We Thought," *Atlantic*, 28 May 2013, http://www.theatlantic.com, in *Johnson's Russia List 2013*, no. 97 (29 May 2013), davidjohnson@starpower.net. See also Christopher Andrew and Oleg Gordievsky, eds., *Comrade Kryuchkov's Instructions: Top Secret Files on KGB Foreign Operations, 1975–1985* (Stanford, CA: Stanford University Press, 1993), 68–90; and Robert M. Gates, *From the Shadows: The Ultimate Insider's Story of Five Presidents and How They Won the Cold War* (New York: Simon & Schuster, 1996), 262–73.

19. See Raymond L. Garthoff, *The Great Transition: American-Soviet Relations and the End of the Cold War* (Washington, DC: Brookings Institution, 1994), 138–40.

20. Allison, *Essence of Decision*, 224.

21. For an expansion, see the pertinent chapter in my study *The New Nuclear Disorder* (Farnham, Surrey, UK: Ashgate, 2015).

22. See Paul Bracken, *The Second Nuclear Age: Strategy, Danger, and the New Power Politics* (New York: Times Books, 2012), especially 127–211. For an examination of types of scenarios for nuclear first use, see Quester, *Nuclear First Strike*, especially 24–52.

23. On this issue, see Paul Bracken, *Fire in the East: The Rise of Asian Military Power and the Second Nuclear Age* (New York: HarperCollins, 1999), especially 95–124.

24. Insightful analyses pertinent to this topic include Colin S. Gray, *Making Strategic Sense of Cyber Power: Why the Sky Is Not Falling* (Carlisle, PA: Strategic Studies Institute, US Army War College, April 2013); Thomas M. Chen, *An Assessment of the Department of Defense Strategy for Operating in Cyberspace* (Carlisle, PA: Strategic Studies Institute, US Army War College, September 2013); Kamaal T. Jabbour and E. Paul Ratazzi, "Does the United States Need a New Model for Cyber Deterrence?," in *Deterrence: Rising Powers, Rogue Regimes, and Terrorism in the Twenty-First Century*, ed. Adam B. Lowther (New York: Palgrave Macmillan, 2012), 33–45; and Martin C. Libicki, *Cyberdeterrence and Cyberwar* (Santa Monica, CA: RAND, 2009).

25. Important theoretical perspective and policy-relevant commentary on future war (and warfare) appear in Richard Ned Lebow, *Why Nations Fight: Past and Future Motives for War* (Cambridge, UK: Cambridge University Press, 2010), especially chaps. 5 and 6; and in Colin S. Gray, *Another Bloody Century: Future Warfare* (London: Weidenfeld and Nicolson, 2005), passim. See also Martin van Creveld, *The Transformation of War* (New York: Free Press, 1991), especially 1–32 and 192–223.

26. For contrasting perspectives on this issue, see Kenneth N. Waltz, "More May Be Better," in Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate* (New York: W. W. Norton, 1995), 1–45; and Scott D. Sagan, "More Will Be Worse," in Sagan and Waltz, *Spread of Nuclear Weapons*, 47–91.

27. On the concepts of the first and second nuclear ages, see Bracken, *Second Nuclear Age*, passim; Colin S. Gray, *The Second Nuclear Age* (Boulder, CO: Lynne Rienner, 1999); and Keith B. Payne, *Deterrence in the Second Nuclear Age* (Lexington: University Press of Kentucky, 1996).

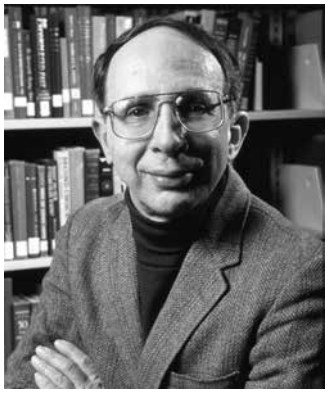
28. Prospective applications for deterrence theory as well as its limitations receive expert appraisal in Patrick M. Morgan, "The State of Deterrence in International Politics Today," *Contemporary Security Policy* 33, no. 1 (April 2012): 85–107. On deterrence and rationality, see Patrick M. Morgan, *Deterrence Now* (Cambridge, UK: Cambridge University Press, 2003), 42–79.

29. Morgan, "State of Deterrence," 97.

30. Additional and very useful analysis of this case appears in Steven R. David, *Armed and Dangerous: Why a Rational, Nuclear Iran Is an Unacceptable Risk to Israel* (Ramat Gan, Israel: Begin-Sadat Center for Strategic Studies, Bar-Ilan University, November 2013).

31. Lawrence J. Korb and Alexander Rothman, "No First Use: The Way to Contain Nuclear War in South Asia," *Bulletin of the Atomic Scientists* 68, no. 2 (2012): 34–42.

32. Bracken, *Second Nuclear Age*, 262–67.



Dr. Stephen J. Cimbala

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