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Paul Avey. *Tempting Fate: Why Nonnuclear States Confront Nuclear Opponents.* Ithaca: Cornell University Press, 2019. ISBN: 9781501740381 (hardcover, \$53.95); 9781501755200 (paperback, \$19.95).

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INTRODUCTION BY LAWRENCE RUBIN, GEORGIA INSTITUTE OF TECHNOLOGY

For over seventy years, the policy and academic communities have debated the effects of nuclear weapons on interstate relations. In this saturated field of study, there is little consensus except that a nuclear war would be devastating and that nuclear weapons aren't going away any time soon.

Paul Avey's, *Tempting Fate: Why Nonnuclear States Confront Nuclear Opponents*, examines the decision-making calculus of non-nuclear weapons states (NNWS) in their interactions with nuclear weapons states (NWS). In short, Avey answers the understudied question of why states without nuclear weapons confront nuclear-armed opponents by laying out a compelling logic with empirical support from four detailed case studies. The core of his argument is that the non-nuclear state does not believe that its NWS opponent will use its nuclear arsenal and the NNWS will try to make sure the costs of nuclear use outweigh the benefits.

Tempting Fate makes a meaningful and insightful contribution to security studies and nuclear security; four important scholars in this field, Rebecca Davis Gibbons, Kelly Greenhill, Jeffrey Kaplow, and Abigail S. Post, agree. In the pages that follow, these four scholars of international security emphasize the praiseworthy contributions and the limitations of Avey's argument. Both aspects are equally important to advance our collective understanding of the role of nuclear weapons in interstate relations and strategic interaction.

To begin, the reviewers all believe that Avey's book makes a significant contribution. Greenhill notes that the book provides a "clear, parsimonious and novel explanation." More importantly, each reviewer finds a slightly different contribution in Avey's solid work. Post claims the biggest contribution of the book is that it provides "overwhelming evidence that non-nuclear states take their opponents' nuclear arsenals very seriously," and that the broader contribution speaks to crisis management and wartime strategy, particularly risk manipulation. Kaplow maintains that the book's most important insight is that the risk of nuclear use is subject to manipulation by the non-nuclear weapon state. Greenhill, meanwhile, highlights Avey's innovative approach which focuses on "how the conventional balance of power shapes states' abilities to manipulate those costs and benefits."

The reviewers point out some critiques and limitations. In many cases, these should be seen as identifying the boundaries of the applicability of the argument and to open opportunities for further research. Here, I'll highlight the critiques that focus on the challenging issue of red lines. Kaplow asks where these red lines come from and how they are made credible. Greenhill questions the idea that "a state can accurately gauge their nuclear opponents' red lines" and points out that "different actors may view red lines and the costs and benefits of using nuclear weapons differently." Gibbons reflects that the book led her to question "why leaders anticipate each specific red line for nuclear use." Post raises a question about the cognitive challenge involved in assessing a "red line." The reviewers seem to agree that these questions illustrate the need for more work on perceptions, and this leads us to the last important point: how this book might encourage further research.

The reviewers' suggestions are closely aligned to some of their critiques or simply areas outside the book's scope. Gibbons suggests that future research should examine whether the book's theoretical expectations apply to non-U.S. cases of conflict between NWS and NNWS, and more broadly, she recommends that adding more cases might also increase the argument's generalizability. Kaplow encourages more thinking more about temporal variation: Does the availability of effective non-nuclear military options for the monopolist change the red-line calculus for non-weapons states? Is a non-nuclear challenger simply more likely to emerge now than in the past? Greenhill is interested to know how this research might be expanded or explore further regarding allies. How will parties to disputes understand the enabling or constraining roles of allies?

It is clear that the reviewers uniformly believe this book is an important and novel contribution. Post captures this sentiment well, "This book makes for a perfect addition to any syllabus on escalation management or nuclear politics; and should be required reading for national security decision makers."

Participants:

Paul C. Avey is an associate professor of political science at Virginia Tech. His research interests include nuclear politics, U.S. foreign policy, and academic-policy engagement. He is the author of *Tempting Fate: Why Nonnuclear States Confront Nuclear Opponents* (Cornell University Press, 2019), and author or coauthor of articles in multiple academic and policy journals and sites. Avey was a 2018-2019 Council on Foreign Relations International Affairs Fellow, a postdoctoral fellow with the Tower Center for Political Studies at SMU, a Stanton Nuclear Security Fellow at MIT, and a pre-doctoral fellow at Harvard's Belfer Center for Science and International Affairs. He earned a Ph.D. and M.A. in political science from the University of Notre Dame, an M.A. in social sciences from the University of Chicago, and a B.A. in political science and history from the University of Iowa.

Lawrence Rubin is an associate professor in the Sam Nunn School of International Affairs at the Georgia Institute of Technology, and is a fellow at International Institute for Strategic Studies and the Foreign Policy Research Institute. During the 2017-2018 AY, Rubin served in the Office of Secretary of Defense for Policy through a Council on Foreign Relations International Affairs Fellowship. Rubin is the author and editor of three books. His most recent are *The End of Strategic Stability? Nuclear Weapons and the Challenge of Regional Rivalries* (Georgetown University Press, 2018) co-edited with Adam Stulberg and *Islam in the Balance: Ideational Threats in Arab Politics* (Stanford University Press, 2014). Rubin recently edited and contributed to the special issue, "Emerging Technology and National Security," *Orbis* 64:4 (2020).

Rebecca Davis Gibbons is an assistant professor of political science at the University of Southern Maine and an associate of the Project on Managing the Atom at Harvard Kennedy School's Belfer Center for Science and International Affairs. Her research focuses on the nuclear nonproliferation regime, arms control, disarmament, and global order. Her academic writing has been published in journals including the *Journal of Global Security Studies*, the *Journal of Strategic Studies*, *Washington Quarterly*, the *Nonproliferation Review*, and *Parameters*. Her public affairs commentary has been featured in *Arms Control Today*, *The Hill*, *U.S. News & World Report*, *The Bulletin of Atomic Scientists*, *War on the Rocks*, and the *Washington Post's Monkey Cage*.

Kelly M. Greenhill (Ph.D., MIT) is 2020-21 Leverhulme Trust Visiting Professor, SOAS (UK); currently on leave from Tufts University and Harvard University's Kennedy School of Government's Belfer Center. Her first monograph, *Weapons of Mass Migration: Forced Displacement, Coercion and Foreign Policy* (Cornell Studies in Security Affairs, 2010), won the 2011 International Studies Association's Best Book of the Year Award and has been published in whole or in part in six languages. She is currently preparing for publication her fifth book, which explores the use and abuse of rumors, conspiracy theories, myths and other forms of extra-factual information in foreign and civil defense policymaking.

Jeffrey Kaplow is an assistant professor of government at William & Mary. His research focuses on the causes and consequences of nuclear proliferation and the role of international security institutions in constraining state behavior. His current book project examines the surprising effectiveness of the nuclear nonproliferation regime.

Abigail S. Post is an Assistant Professor of Political Science and National Security at Anderson University in Indiana. She will be a Stanton Nuclear Fellow with RAND Corporation for the 2021-2022 academic year. Her book project investigates the impact of moral and legal language on public opinion, dispute escalation, and negotiation outcomes. Her research also includes projects on costly signals and crisis bargaining, gender and foreign policy, and the use of laboratory and survey experimental methods to examine topics ranging from political violence to public opinion toward the use of military force. Her dissertation received the 2019 John McCain Dissertation Award. Her research has been published in *The Journal of Conflict Resolution* and *International Interactions*.

REVIEW BY REBECCA DAVIS GIBBONS, UNIVERSITY OF SOUTHERN MAINE

In *Tempting Fate: Why Nonnuclear States Confront Nuclear Opponents*, Paul Avey addresses an important puzzle of the nuclear age: Why have states without nuclear weapons risked conflict with nuclear-armed states? Presumably, the risk of retaliation with such devastating weapons should make non-nuclear weapon states (NNWS) wary of confronting nuclear weapon states (NWS). Instead, Avey finds that conflicts between NNWS and NWS have been just about as common as wars between dyads without nuclear weapons. To add to this puzzle, it has often been the states in the dyad without the “absolute weapon” that have initiated the conflicts.¹ In exploring this phenomenon, Avey provides a theoretically rich explanation that he illustrates with four detailed case studies: Iraqi President Saddam Hussein’s wars with the United States, Egypt’s confrontations with Israel in the 1960s and 1970s, Chinese conflict with the United States in during the 1950s, and finally, U.S.-Soviet tensions over Berlin in the late 1940s.

Tempting Fate provides an important contribution to the field of nuclear studies and security studies more broadly. Avey’s comprehensive theory incorporates a broad swath of international relations scholarship. His theory considers insights from research on normative constraints (8-10), nuclear effects (18-20), the accuracy revolution (22) and limited war and escalation dynamics (24-29). His case studies provide detailed qualitative evidence about several important conflicts over the last seventy-five years. Overall, Avey is very careful about what claims can be supported by the available evidence. I did have some questions, however, about the book’s assumption about the credibility of nuclear use across all four cases.

In explaining the puzzle of NNWS confronting those with nuclear arms, Avey argues that non-possessors do in fact anticipate that they could be targeted with nuclear weapons. His theory, in other words, hinges on the credibility of nuclear use in certain circumstances. Avey posits that NNWS lower the chances of nuclear retaliation by reducing the benefits and increasing the costs of such action. They do this by limiting their war aims and the means used, as well as by creating civil defenses, hardening targets, and dispersing targets. Avey theorizes that NNWS with powerful conventional capabilities do the most to restrict their aims and means in conflict, while states that are conventionally weak relative to their nuclear-armed adversary can take more risk in escalating the conflict. NNWS increase the cost of use by threatening escalation with other unconventional weapons; seeking support from formal or informal allies, and by activating global public opinion against nuclear use.

Avey outlines several potential costs of using nuclear weapons in conflict, dividing them into short- and long-term categories. Short-term costs include collateral damage; dangers to neighboring states from radiation and incoming refugees; and the likelihood of escalation of the conflict. Avey argues that all of these costs stem from the unique destructive power of nuclear weapons. Longer-term costs to NWS include the weakening of nonproliferation norms and undermining the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), which in turn may lead new nuclear weapon states to emerge. Proliferation is especially likely to follow if the use of nuclear weapons is perceived as politically advantageous to the nuclear-armed state. Interestingly, nuclear use that is perceived as unsuccessful is also costly for nuclear-armed states, as this contingency will undermine the deterrent value of their existing arsenals. Essentially, if nuclear weapons are used to achieve a desired outcome in conflict, the nuclear-armed state faces significant costs whether they are successful in the immediate term or not.

Avey’s long and detailed list of costs associated with nuclear use highlights the limited value of these weapons for any type of employment during a conflict and thus made me wonder about the credibility of the threat of use. What are the very small number of circumstances in which the benefits outweigh these many costs and conventional weapons could not accomplish the same military goal?

¹ Bernard Brodie, Frederick Sherwood Dunn, Arnold Wolfers, Percy Ellwood Corbett, and William T. R. Fox. *The Absolute Weapon: Atomic Power and World Order* (New York: Harcourt, Brace and Co., 1946).

The tremendous costs of nuclear use led me to begin reading Avey's case studies by interrogating the assumption in each that NNWS presumed nuclear use was on the table and took actions to reduce this possibility. Of course, these are difficult cases to make, and Avey examines several types of evidence to support his claims. The evidence is convincing in the Israel-Egypt case. Egyptian leaders thought nuclear weapons would only be used if they breached Israel's 1967 borders; their war plans did not include this course of action and they communicated as such (82-86). In the case of the 1948 Berlin Blockade, it is hard to disentangle general Soviet concern about the U.S. nuclear monopoly from their expectations about nuclear use in the specific case of the crisis (129-134)—a conflict that was not a shooting war, unlike the other three cases in the book.

I was less persuaded by some of the evidence illustrating the Iraqi government's expectation of U.S. nuclear use in 1991. Saddam Hussein's boasting to other regional leaders that his country was ready for a nuclear attack or posturing to his own domestic circles reads as self-aggrandizement (57). The evidence portrays a leader determined to persuade others of the risks he was willing to take as part of his effort to become a leader in the Arab world.

In addition, in the Israel-Egypt case and the China-U.S. case, the NNWS aggressor raises the costs of nuclear use by calling on a third party to provide extended nuclear deterrence (the Soviet Union in both instances). While protection from a nuclear power is consistent with Avey's theory of raising costs of nuclear use, this explanation is different from what is anticipated by his puzzle of a NNWS confronting a NWS. If we assume that the promise of extended deterrence was credible, these instances are more similar to a nuclear-nuclear dyad than a conventionally-armed state confronting a nuclear-armed state without such protection. As such, these cases may provide a better test of the role of extended nuclear deterrence in causing restraint.

Tempting Fate suggests several important areas of future research. The first relates to the norm of nuclear non-use, commonly referred to as the nuclear taboo.² Avey argues that the taboo is not a sufficient explanation for NNWS confronting their nuclear-armed adversaries. One aspect of the nuclear taboo that is not explored through these case studies, however, is whether the expectations about the likelihood of nuclear use changed over time, as the taboo would anticipate. It is plausible to assume that the Chinese thought that U.S. nuclear use was credible in the 1950s; after all, it was only a few years after the U.S. bombings of Nagasaki and Hiroshima. But was U.S. use of nuclear weapons just as credible against Iraq decades later in the 1990s?

Second, and along the same ideational lines, the book led me to question why leaders anticipate each specific red line for nuclear use. How have leaders around the world come to accept shared ideas about when nuclear weapons will be used and when they will not? For example, in the Egypt-Israel case, one Egyptian military official explains that Egypt only expected to risk Israeli nuclear use if the Egyptian army crossed Israel's borders (82). In Iraq, leaders assumed the United States would avoid nuclear use if the Iraqis held back on using their chemical weapons (57-59). Chinese leaders expected that once they had the support of Soviet air power, the United States would be deterred from nuclear use because it would not risk a wider war with a nuclear-armed state (106). In the Berlin Crisis, the Soviet Union anticipated that by limiting its actions to Berlin, nuclear use was unlikely (127). Because nuclear weapons have not been used in warfare since 1945, it is especially interesting to consider how these shared ideas about the likely instances of nuclear use were formed over time and particularly how each of these conflicts shaped that thinking. What is just as astounding as Avey's initial puzzle is that if his argument is correct, non-nuclear states know that nuclear use is possible when they begin a conflict with a nuclear-armed state—they know they could be targeted by the most destructive weapon on the planet—and yet they are quite certain the weapons will remain unused as long as they remain within certain parameters. How have these leaders become so confident in these assessments when nuclear use is rare? Future research could explore how the specific assumed parameters of nuclear use came to be.

² Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons since 1945* (Cambridge: Cambridge University Press, 2007).

Finally, the book's case selection leads to questions about the theory's generalizability and suggest that future research on other cases is needed. Three of the four cases directly involve the United States, and in the other, U.S. involvement is indirect (Israel vs. Egypt). One wonders if the United States, due to its position as a global order-maker during the postwar era and as the champion of the global nuclear nonproliferation regime,³ may have caused adversaries to have lower expectations of Washington's potential nuclear use compared to other nuclear-armed states. As a leader with global reach, the United States would likely be more negatively affected than most other states by a violation of the norm of nuclear non-use.⁴ As suggested above, a violation of this norm, depending on its perceived strategic outcome, could lead to more cases of states pursuing and using nuclear weapons.⁵ The long-term effects on the nuclear nonproliferation regime was one of the long-term costs of use highlighted at the beginning of the book, and additional proliferation is relatively more costly to the United States. Are the red lines similar regardless of the nuclear-armed state? Avey likely lacked sufficient archival materials from these other cases (which are briefly summarized in an appendix), but if such materials become available, future research should examine whether Avey's theoretical expectations apply to non-US cases of conflict between NWS and NNWS.

Overall, *Tempting Fate* provides an important theoretical argument and fascinating case studies that will be of great interest to scholars of international relations. Avey demonstrated that nuclear weapons do not deter aggression from weaker opponents and that if they were used in conflict, nuclear-armed states would face significant costs, whether the employment was successful or not. Similar to recent scholarship by Todd Sechser and Matthew Fuhrmann on the difficulties of using nuclear weapons for coercive diplomacy,⁶ Avey's book illustrates the limited utility of nuclear weapons in addressing many international security challenges.

³ Francis J. Gavin, "Strategies of Inhibition: U.S. Grand Strategy, the Nuclear Revolution, and Nonproliferation." *International Security* 40:1 (Summer 2015): 9-46.

⁴ Matthew Kroenig, "Exporting the Bomb: Why States Provide Sensitive Nuclear Assistance," *American Political Science Review* 103:1 (February 2009): 113-133.

⁵ Rebecca Davis Gibbons and Keir Lieber, "How Durable is the Nuclear Weapons Taboo?" *Journal of Strategic Studies* 42:1 (2019): 29-54.

⁶ Todd S. Sechser and Matthew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy* (Cambridge: Cambridge University Press, 2017).

Paul Avey's book, *Tempting Fate: Why Nonnuclear States Confront Nuclear Opponents*, tackles an important, heretofore not satisfactorily answered question in nuclear security studies: namely, why countries without nuclear weapons would fight nuclear-armed opponents. The fact that these wars happen at all is something of a puzzle, given that nuclear deterrence theory posits that nuclear-armed states should not be targeted, especially if they possess secure second-strike capabilities. Yet, as Avey highlights in his introduction, there were sixteen wars between nuclear and non-nuclear weapons states between 1945 and 2010, raising questions as to why these wars occurred as well as why non-nuclear states felt they could take on nuclear-armed states.

Avey offers a clear, parsimonious and novel explanation that speaks both to wars instigated by non-nuclear states as well as those started by nuclear-armed states. He argues that in situations of what he refers to as "nuclear monopoly," non-nuclear states can leverage a range of "strategic and material inhibitions" against their nuclear counterparts—and thereby "raise the costs and lower the benefits of nuclear use"—in ways that enable non-nuclear states to go to war without fear of nuclear retaliation (24). Moreover, Avey further argues, the weaker the non-nuclear state, the less likely it is to be subject to a nuclear strike. Thus, somewhat counter-intuitively, wars in nuclear monopoly will tend to occur only the face of large power asymmetries favoring the nuclear weapons state (4). This is a consequence, Avey argues, of the central role played by the conventional balance of power in dictating the behavior of the non-nuclear weapons state. Why should this be the case?

Non-nuclear states can adopt several different strategies to minimize the probability of nuclear use by a nuclear-armed opponent. The prevailing balance of power, Avey argues, materially influences whether or not these strategies are likely to succeed. Weaker states are better able to reduce the anticipated benefits (relative to the expected costs) of nuclear use. As the conventional strength of a non-nuclear power rises, the probability that it will go to war with a nuclear power declines. This is the case in no small part because conventionally powerful states have a more difficult time signaling that they have limited intentions and that they will not threaten the nuclear power's vital interests. While an emphasis on the costs and benefits of using nuclear weapons—and the manipulation thereof—is not analytically new, Avey's particular take on the issue is innovative, as is his focus on how the conventional balance of power shapes states' abilities to manipulate those costs and benefits.¹

To support his argument, Avey undertakes a series of case studies in which he systematically tests his proposed theory against the historical record. The cases range in time from the Soviet Union taking on the United States over Berlin, in the early days of the Cold War, to Iraqi President Saddam Hussein's resistance of the U.S.-led coalition in 2003, well into the post-Cold War period. Avey's deft and astute utilization of archival materials and memoirs and close reading of extensive secondary sources make for compelling reading and offer rich and detailed—if not always fully persuasive support—for his thought-provoking argument. (To be fully persuaded, I would, for instance, have liked to see more direct evidence that it was in fact the weakness of the non-nuclear state that was materially responsible for tempering the risk that nuclear weapons would be used.) The employment of both within-case and cross-national case comparisons also enables Avey to bolster confidence in the internal and external validity of his theory, as does the brief quantitative analysis offered near the book's conclusion. The book also features useful appendices that feature detailed discussion of coding rules and criteria and mini-case studies that comprise the rest of the universe of cases of war under nuclear monopoly.

¹ Earlier works that speak to the leverage offered and costs associated with nuclear weapons (use) include Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton: Princeton University Press, 2014); Fiona S. Cunningham and M. Taylor Fravel, "Assuring Assured Retaliation: China's Nuclear Posture and U.S.-China Strategic Stability," *International Security* 40:4 (2015): 7-50; Caitlin Talmadge, "Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States," *International Security* 41:4 (2017): 50-92; and Jasen Castillo, "Deliberate Escalation: Nuclear Strategies to Deter or Stop Nuclear Attacks," in Kelly M. Greenhill and Peter Krause, eds., *Coercion: The Power to Hurt in International Politics* (Oxford: Oxford University Press, 2018), 292-311.

There is a great deal to like about Avey's book, and the text warrants a close read by scholars of nuclear security, bargaining, and asymmetric power dynamics. As is *de rigueur* for roundtables such as these, however, I have several outstanding questions and concerns. The first surrounds the logic of the argument, which in a nutshell is that "the costs and benefits of using nuclear weapons create openings that weak actors can exploit" (front flap). However, if Avey's intuition is correct, and weak actors can so adroitly engage in such exploitation to redress significant grievances and dissatisfaction with the status quo, then why does the historical record boast so few cases of weak, non-nuclear states attacking nuclear-armed opponents? Namely, *if* it really is the case that non-nuclear weapons states can acquire great advantages over their nuclear counterparts due to power asymmetries, why have we seen so few cases of such wars and still fewer where the non-nuclear state was the conflict initiator? To be sure, I both recognize and respect Avey's decision to bracket the question of who initiates the conflict, but if his argument is correct in isolation—as opposed to in conjunction with some other variable(s), intervening or otherwise—the paucity of observed cases is puzzling. If dissatisfied non-nuclear states really can in fact challenge their nuclear counterparts with little fear of nuclear retaliation and experience relative ease in signaling limited (not especially threatening) intentions, then it seems as though we ought to see more of these wars. But in point of fact, the number of wars under nuclear monopoly—namely, 16—is rather modest, and, two-thirds of these wars, such as the aforementioned 2003 U.S.-led war against Iraq, were started by nuclear-armed states against non-nuclear ones.

The small number of cases is arguably somewhat less puzzling if a slightly different logic is in play than that one Avey posits. It seems as though it might instead be the case that some non-nuclear weapons states feel they have no choice but to go to war, in spite of real nuclear threats. Avey argues that he chose to focus on cases where the non-nuclear state "confronted the nuclear-armed opponent or had the opportunity to give into demands without risking its regime or territory" (38). But reading the cases doesn't give one the sense that the weak actors involved necessarily viewed the stakes in play as cavalierly or sanguinely as Avey sometimes intimates. Put another way, it could be true that weak non-nuclear states anticipate that the likelihood of nuclear retaliation is small, but they may feel driven to opt into crises for reasons that have relatively little to do with such an assessment.² Such decisions could arise for several distinct, but related reasons. First, weak states may feel they need to opt into crises and even wars to get the attention of stronger nuclear weapons states over disputes that would probably have been resolved short of war, if the dyad comprised states with less lopsided power balances—Egypt vs. Israel in 1969, for instance. Weak states often encounter great difficulty getting the attention of their more powerful counterparts.³

Second, it may also be the case that, for domestic political reasons, leaders of non-nuclear states may feel compelled to initiate a dispute to help shore up domestic support—Iraq in 1991 and, perhaps, also Argentina in 1982 come to mind here. Here again, weak non-nuclear states may feel compelled to select into crises and even wars they would ideally prefer to eschew, but feel they have no choice because letting the status quo stand is simply not a viable alternative option. Third, powerful nuclear weapons states often bully weaker non-nuclear weapons states, issue crippling and escalating demands, thereby creating situations wherein weak actors become desperate and willing to take substantial risks in order to change the status quo. Powerful nuclear states, moreover, often do little to allay non-nuclear state fears that they will come back for more in future. Thus, to avoid being subjected to salami tactics—and sometimes hoping against hope—weaker non-nuclear states may resist powerful nuclear states—as, for instance, happened in Serbia in 1999 and Iraq in 2003.⁴ In such circumstances, war could happen not because, as Avey puts it, it is viewed as "possible" (page citation) but because it is viewed as unavoidably necessary.

² See, for example, James Fearon, "Selection Effects and Deterrence," *International Interactions* 28:1 (2002): 5-29.

³ See, for example, Kelly M. Greenhill, *Weapons of Mass Migration: Forced Displacement, Coercion and Foreign Policy* (Ithaca: Cornell Studies in Security Affairs, 2010), 28-29.

⁴ See, for example, Phil Haun, *Coercion, Survival, and War: Why Weak States Resist the United States* (Stanford: Stanford University Press, 2015).

A second question surrounds the assumption of perfect or near-perfect information that is integral to Avey's argument. This issue is relevant for a few reasons. First, the logic of the argument necessitates that non-nuclear states that are dissatisfied with the status quo must accurately gauge their nuclear opponents' red lines as well as correctly estimate how to stop short of them, i.e., "setting [their] own 'red lines' and gambling that those lines are below the red lines for nuclear use by the nuclear weapon's state" (12). Accurately making these guessestimates is a tall order, and, having recently written on the manifold risks of inadvertent escalation, I was left musing over how realistic an assumption it is to imagine that states are: a) able to correctly make such assessments; and b) be routinely confident that they are able to make said assessments. Much of what we think we know about inadvertent escalation—both in theory and the historical record—suggests some reasons for skepticism on both points.⁵

Moreover, even if the leader of a non-nuclear state does think (s)he has a good bead on the likelihood of nuclear use at a certain period of time in a conflict, different actors may view red lines and the costs and benefits of using nuclear weapons differently. Consider for instance that while the Truman administration eschewed their use, the Eisenhower administration that followed it did have a plan for using nuclear weapons if negotiations with the Chinese to end the Korean War in 1953 failed.⁶ Similarly, the Israelis may have had a plan to use a nuclear "device" in 1967, and while, Prime Minister Levi Eshkol reportedly wasn't keen, Moshe Dayan, who was brought into the government as Defense Minister just before the start of the war, reportedly was—and was also reportedly prepared to proceed without cabinet approval. That the Egyptian air force was destroyed early in the Six Day War removed any need for further discussion of nuclear use, unlikely as use ultimately might have been.⁷ In short, it feels a bit optimistic to assume that non-nuclear challengers can be as confident that they will be protected against nuclear attack as Avey suggests.

Likewise, with regard to perfect information, I wonder whether nuclear monopoly is really nuclear monopoly if the non-nuclear state does not know its opponent has nuclear weapons? Put another way, do cases of nuclear monopoly wherein the non-nuclear state does not know that the nuclear weapons state possesses nuclear weapons belong in the universe of cases? Less abstractly, and more specifically, when did the Egyptians come to understand that Israel had nuclear weapons? Clearly, they knew by 1973, but as Avey notes, they very likely did not know in 1967 (165) and "may" have known by the time of the War of Attrition (66), but the evidence on this front is very thin. To his credit, Avey acknowledges that inclusion of the 1967 Six Day War case is debatable (163-64); I would add the same is possibly also true of the War of Attrition. However, he nevertheless includes the case(s) in his tally of the universe of cases "as a check against excluding a potentially relevant case" (164). Perhaps such inclusions do not matter. Given the already modest size of the universe of cases, however, I was left wondering whether there might be implications for the logic of the argument and/or for the conclusions drawn in the quantitative analysis of the potential loss of these one-two cases.

Finally, how parties to disputes will understand the enabling or constraining roles of allies is hard to pin down. On one hand, non-nuclear weapons states with powerful, nuclear-armed allies have greater capacity to pressure nuclear weapons states by threatening to raise the costs of nuclear use. But on the other hand, shouldn't such force multipliers make the risks of escalation (to nuclear use) more likely, either because the nuclear weapons state feels more directly threatened by the non-nuclear state or because the promise of support from a nuclear-armed ally cuts against claims that limited intentions can be easily signaled by a weak non-nuclear armed state? Again, this does not mean that Avey's argument is wrong, only that the

⁵ See, for example, Greenhill, "Of Wars and Rumors of Wars: Extra-factual Information and (In)Advertent Escalation," in Harold A. Trinkunas, Herbert S. Lin and Benjamin Loehrke, eds., *Three Tweets to Midnight: Effects of the Global Information Ecosystem on the Risk of Nuclear Conflict* (Stanford: Hoover Institution Press, 2020), 113-136.

⁶ Bernard Gwertzman, "U.S. Papers Tell of '53 Policy to Use A-Bomb in Korea," *New York Times*, June 8, 1984, A8.

⁷ Guy Laron, "The Six Day War and the Nuclear Coup that Never Was," *War on the Rocks*, June 29, 2017; see also Guy Laron, *The Six Day War: The Breaking of the Middle East* (New Haven: Yale University Press, 2017).

functioning of the logic requires a more delicate balance and better understanding of the situation than we generally associate with such situation. After all, we don't call it the fog of war for nothing.

These minor quibbles aside, *Tempting Fate* is a terrific first book that merits the attention of scholars and policymakers alike. I am already looking forward to seeing what Avey will tackle next.

REVIEW BY JEFFREY KAPLOW, WILLIAM & MARY

In *Tempting Fate: Why Nonnuclear States Confront Nuclear Opponents*, Paul Avey addresses one of the persistent puzzles of nuclear statecraft. If nuclear weapons are indeed useful for deterrence, as some analysts argue,¹ why do non-weapons states still seek to challenge their nuclear-armed adversaries? Avey takes the ready answer—that the threat of a nuclear attack against a non-nuclear state is simply not credible—as the starting point for his analysis, but he moves beyond explanations purely based on a norm of nuclear non-use to interrogate the various factors that lead states to believe a nuclear response would be more or less likely.

Avey has written an excellent book that advances our understanding of the effects of nuclear weapons on interstate conflict. The book is a significant contribution not least because of its careful attention to the case of nuclear asymmetry. Much of the nuclear strategy literature remains focused on competition between nuclear powers,² but Avey argues persuasively that the nuclear shadow looms even over conflicts involving just a single nuclear power.

The book's treatment of the logic of asymmetric nuclear deterrence is admirable in its careful theorizing about the specific costs and benefits that adhere to nuclear use. Existing accounts tend to hand-wave over this part of the story. Either nuclear use is obviously too costly for the nuclear state and so nuclear threats are not credible, or else nuclear use always makes its presence known from the top of the escalation ladder, lending credibility to nuclear threats even against non-weapons states. Avey works to replace common assumptions about the credibility of nuclear threats with some empirically grounded nuance, highlighting the factors that are likely to make nuclear use incredible in some circumstances, but a possibility that casts a long shadow in others. Avey acknowledges the power of a norm of nuclear non-use, but he does not take this as the end of the discussion. A nuclear taboo may raise the cost of a nuclear strike substantially, but nuclear states still may weigh the cost against the potential benefits, and it is not clear that this calculus will always lead to nuclear restraint.³ The book predicts that non-nuclear states opting to take on a nuclear monopolist will employ various strategies to reduce the benefits and increase the costs of a nuclear strike against them, including limiting war aims, adopting defensive strategies, avoiding operations against nuclear forces, and involving external actors who might constrain the nuclear state. The book's argument is well supported by four detailed cases, along with a broader examination of data on international conflict involving nuclear monopolies since the dawn of the nuclear age.

The cost-benefit framework that Avey employs is a clear and versatile approach to thinking about the likelihood of nuclear escalation. But beneath the surface of these broad categories there are some potential contradictions with which leaders are forced to grapple. The book argues, for example, that non-weapons states might attempt to harden targets in order to reduce the benefits of a nuclear strike against them, but hardened facilities might actually shift the cost-benefit analysis to favor nuclear use if conventional weapons would no longer be an effective means to achieve some military goal. More broadly, Avey writes of nuclear use as a last resort—and it is hard to disagree, especially in today's environment where the norm against non-use appears strong—but elsewhere acknowledges particular scenarios in which the use of nuclear weapons might be seen as the best means to a particular military objective rather than as the final defense against an existential threat. An

¹ Kyle Beardsley and Victor Asal, "Winning with the Bomb," *Journal of Conflict Resolution* 53:2 (April 2009): 278–301; Robert A. Pape, *Bombing to Win* (Ithaca: Cornell University Press, 1996); Matthew Kroenig, *The Logic of American Nuclear Strategy* (New York: Oxford University Press, 2018).

² Kroenig, *The Logic of American Nuclear Strategy*; Keir A. Lieber and Daryl G. Press, *The Myth of the Nuclear Revolution* (Ithaca: Cornell University Press, 2020); Brad Roberts, *The Case for U.S. Nuclear Weapons in the 21st Century* (Stanford: Stanford University Press, 2015); Caitlin Talmadge, "Would China Go Nuclear? Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States," *International Security* 41:4 (2017): 50–92; Vipin Narang, "Posturing for Peace?" *International Security* 34:3 (2010): 38–78.

³ On the nuclear taboo, see Nina Tannenwald, *The Nuclear Taboo* (New York: Cambridge University Press, 2007).

“escalate-to-de-escalate” logic of the kind that is sometimes attributed to Russia might fit into this category, as might a nuclear strike against an otherwise protected underground facility.⁴ This is not a criticism of the theory so much as it is support for Avey’s larger point that the specifics of the individual case will drive non-nuclear weapon state efforts to reduce the risk of nuclear use, in ways that sometimes defy easy categorization. For the book’s purposes, it is enough that non-weapons state leaders took seriously the risk of nuclear escalation and took action to reduce that risk.

One of the book’s important insights is that the risk of nuclear use is subject to manipulation by the non-nuclear weapon state. Non-weapons states exercise their agency in part by steering clear of the nuclear monopolist’s red lines. By avoiding the perception of a serious challenge to the weapons state’s core interests, the non-weapons adversary reduces the benefit of a nuclear strike against it. This logic shifts our focus to the question, which is mostly outside the scope of the book, of where these red lines come from and how they are made credible. Here there is an opening to the work of international security scholars applying theories based in political psychology or behavioral economics, a literature left largely unmined in Avey’s work.⁵ The strategic interaction between states in an asymmetric nuclear dyad provides a useful testing ground for understanding a leader’s threat perceptions and uncertainty over state capabilities and resolve.⁶

Red lines may be more effective in theory than in practice, however. Often there is considerable ambiguity around what, specifically, would push a nuclear state to resort to nuclear use. The nuclear state has some incentive to exaggerate this red line, attempting to place any potential provocation at risk for a nuclear response. The non-weapons state, for its part, may or may not understand the red line in the same way. One counterintuitive implication here is that nuclear monopolists may be rewarded for maintaining ambiguous nuclear thresholds. If non-weapons states cannot be sure that they are stopping short of a nuclear threshold, they may decline to engage in conflict in the first place rather than risk nuclear escalation. This logic contrasts with theories based on reputational effects or audience costs, which are more inclined to privilege threats that draw a clear line in the sand.⁷

Among the many empirical challenges facing studies of nuclear deterrence is the overlap between conventional military strength and nuclear status. The small number of states with nuclear arsenals are of course among the strongest conventional military powers as well. This correlation between nuclear and conventional military strength complicates inference when it comes to the role of nuclear weapons in conflict. Aspects of state behavior attributed to the presence of nuclear weapons might instead be due to conventional military strength.

This is a particular concern for Avey’s work, since his theory relies heavily on relative military power; he argues that nuclear monopolists are more likely to see challenges from non-nuclear weak states than from non-nuclear strong states, since weak states ultimately pose less of a threat that could escalate to nuclear use. It is difficult to test this proposition across cases, however, because the states that pose existential conventional military threats to the nuclear-armed states in this sample are

⁴ On a purported Russian escalate-to-de-escalate strategy, see Olga Oliker and Andrey Baklitskiy, “The Nuclear Posture Review and Russian ‘De-Escalation:’ a Dangerous Solution to a Nonexistent Problem,” *War on the Rocks* (February 2018).

⁵ Keren Yarhi-Milo, *Knowing the Adversary* (Princeton: Princeton University Press, 2014); Jeffrey D. Berejikian and Florian Justwan, “Testing a Cognitive Theory of Deterrence,” in Anne I. Harrington and Jeffrey W. Knopf, eds., *Behavioral Economics and Nuclear Weapons* (Athens: University of Georgia Press, 2019), 25-55; Marcus Holmes, *Face-to-Face Diplomacy: Social Neuroscience and International Relations* (New York: Cambridge University Press, 2018); Joshua D. Kertzer, *Resolve in International Politics* (Princeton: Princeton University Press, 2016).

⁶ Jeffrey M. Kaplow and Erik Gartzke, “The Determinants of Uncertainty in International Relations,” *International Studies Quarterly* (2021).

⁷ James D. Fearon, “Domestic Political Audiences and the Escalation of International Disputes,” *American Political Science Review* 88:3 (1994): 577-592; Anne E. Sartori, “The Might of the Pen,” *International Organization* 56:1 (2002): 121-149.

themselves largely nuclear-armed states. For most nuclear states, the pool of potential peer competitors is quite small once other nuclear states are taken out of the mix. The exception is Israel, which is the weakest conventional military state in Avey's data. Israel engaged in several conflicts against peer or near-peer military powers and, as Avey notes, the quantitative data for Israel does not seem to support the broader hypotheses about the role of relative military strength. While Avey argues that the numbers do not reflect Israel's qualitative military superiority, it is not clear whether the broader pattern highlighted in the book reflects a decision by strong states to avoid a conflict that could escalate to nuclear use, or just the fact that there are very few states that could be considered "strong" in relation to the U.S. or the Soviet Union.

The book is careful not to go beyond the evidence it presents, but one cannot help drawing connections with contemporary conflicts. While he raises the possibility, Avey largely does not grapple with the question of whether the dynamics of nuclear monopoly have changed over time. His discussion of the U.S.-Soviet conflict over Berlin in the late 1940s has some relevance to issues of nuclear monopoly today, but there is reason to suspect that the cost-benefit analysis for nuclear states may have shifted over time. The norm of nuclear non-use, for example, may be more firmly entrenched now, 75 years after Hiroshima, than in the immediate post-World War II period, raising the costs of nuclear use for weapons states facing a non-nuclear antagonist. Similarly, dramatic improvements in conventional military capabilities, not to mention the development of a variety of coercive techniques associated with gray zone conflict, may put nuclear use at a relative disadvantage. Why bear the costs of a nuclear attack when a non-nuclear approach is now more likely to be successful? If the landscape of nuclear strategy has shifted since the Berlin blockade, or even in the three decades since the events of the U.S.-Iraq case ably covered in this volume, the reader might reasonably ask whether the lessons derived from this analysis are really applicable to today's nuclear challenges. Future work might attempt to engage with this temporal variation directly: Do nuclear threats appear less credible in later cases? Does the availability of effective non-nuclear military options for the monopolist change the red-line calculus for non-weapons states? Is a non-nuclear challenger simply more likely to emerge now than in the past?

These questions aside, Avey offers an impressive piece of scholarship, one which is admirably clear and well-argued in its treatment of a frequently overlooked aspect of nuclear strategy. His book provides an essential framework for scholars and analysts looking to better understand conflicts in nuclear monopoly.

REVIEW BY ABIGAIL S. POST, ANDERSON UNIVERSITY

Paul Avey's book *Tempting Fate: Why Nonnuclear States Confront Nuclear Opponents* offers a counterintuitive yet entirely plausible answer to the question: Why do states without nuclear weapons confront nuclear-armed opponents? The answer that comes to mind is that the non-nuclear state does not believe that their opponent will use its nuclear arsenal, possibly due to structural inhibitions against the first-use of such weapons. However, Avey's argument and evidence indicate otherwise: The non-nuclear state considers the nuclear state's arsenal and strategically acts to avoid what it considers a very possible nuclear escalation. This is where the counterintuitive part comes in. The stronger the non-nuclear country, the more constrained that actor is when fighting under nuclear monopoly. Why is this? A conventionally powerful state poses more of a threat to the nuclear opponent. A weaker non-nuclear opponent poses less of a threat to the nuclear power and has more options that fall beneath the nuclear opponent's red line for nuclear first-use. This argument plays out in four detailed case studies of nuclear monopoly: the United States and the Soviet Union during the 1948 Berlin Crisis; the United States and China during the Korean War; Israel and Egypt during the War of Attrition and October War; and the United States and Iraq during the Gulf War and Iraq War.

This book makes important contributions to understanding the patterns of wars involving nuclear powers, as well as a nuanced theory for understanding state strategy under nuclear monopoly. Instead of arguing that nuclear weapons are good or bad for coercion, Avey provides clear-cut predictions for *when* and *how* nuclear weapons play a part. The diversity of cases accompanied by detailed evidence provide external validity, convincing the reader that these dynamics likely play out in the twenty-first century as well. Overall, this is an important and timely contribution to the political science literature on nuclear weapons¹ that paves the way for similar, focused analysis. It provides a manual for leaders who want to avoid instigating a nuclear attack. It also provides broader contributions to the literature on crisis management and wartime strategy.²

A Theory of Escalation Management

The biggest contribution of *Tempting Fate* is the overwhelming evidence that non-nuclear states take their opponents' nuclear arsenals very seriously. After 75 years of nuclear non-use, nuclear weapons can seem superfluous, even inconsequential to international interactions. *Tempting Fate* demonstrates otherwise. The most convincing evidence that a non-nuclear power took the threat of nuclear use by its opponent seriously starts with Iraqi President Saddam Hussein's discussion of the U.S. nuclear arsenal: "I know if the going gets hard, then the Americans or the British will use the atomic weapons against me, and so will Israel" (57). Iraq accordingly attempted to limit the United States' incentives to use nuclear weapons. In the same case, Avey provides evidence that other American allies and adversaries thought an American nuclear attack possible. This evidence is striking because the assessments predicting a nuclear attack came *after* the Cold War had ended.

Avey makes predictions about both the initiation and the conduct of wars. First, while nuclear weapons do not always deter conflict, wars involving nuclear-armed states are more likely to involve conventionally weak than conventionally powerful non-nuclear states. Second, the weapons continue to shape the nature of that conflict after initiation. These may seem like

¹ Matthew Kroenig, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters* (New York: Oxford University Press, 2018); Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton: Princeton University Press, 2014).

² Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton: Princeton University Press, 2004); Thomas C. Shelling, *Arms and Influence* (New Haven: Yale University Press, 1966); Caitlin Talmadge, *The Dictator's Army: Battlefield Effectiveness in Authoritarian Regimes* (Ithaca: Cornell University Press, 2015).

limited claims, but they challenge theories of nuclear norms.³ At a minimum, the inhibitions to nuclear first-use are not so widely held that the non-nuclear states ignore nuclear weapons. Avey convincingly demonstrates that the non-nuclear states were clearly concerned about their opponents' arsenals, enough so to take active measures to reduce the risks of nuclear use. The book also challenges the latest claims that nuclear weapons are writ large bad for coercion.⁴ These weapons may not give nuclear powers a blank check, but they do provide some leverage for deterring war, limiting the demands made, and narrowing the scope of the war. This is substantial, albeit it is not the panacea for coercion that many theorists have implied.⁵

At its core then, this is a theory of escalation management. Although it is the case he puts the least weight on, Avey does an excellent job describing the dynamics of the 1948 Berlin Crisis in light of the first nuclear monopoly. Even the Soviets, who publicly downplayed the United States' new arsenal, were clearly concerned about the bomb and took measures to keep the crisis from getting out of hand. Indeed, I would have liked to see the theory further extended to encapsulate the dynamics of crises like this one, not just wars. I was also itching to see a case between two non-nuclear powers as a comparison, or at least a comparison of Iraq's behavior against the U.S. compared with its behavior against other adversaries. While it seems unfair to ask Avey to do more than he already has done (four detailed case studies and an appendix with all cases of war under nuclear monopoly should be sufficient), I would have been more persuaded had I seen comparison cases.

A Framework for Non-Nuclear Weapons

Avey also incorporates other Weapons of Mass Destruction (WMD) into his theory. Within the theory, non-nuclear states can take a variety of strategies to increase the costs and decrease the benefits of a nuclear strike. He argues that "it can reduce benefits by taking steps to lower the danger of any action to the NWS and minimize the effects of nuclear strikes. It can raise costs by threatening to expand the scope of the conflict to include additional unconventional weapons or third parties" (31). States can use the stigma against chemical and biological weapons as a deterrent against nuclear first-use as one strategy. By threatening their use in retaliation to nuclear weapons, the non-nuclear state inhibits any use of WMD. This comes up in the cases between Iraq and the U.S. and also when Egypt pursued chemical weapons to deter Israel's nuclear first-use (86).

This argument could be extended to other weapons. We consider nuclear weapons to be special, but other special weapons are emerging. At the start of the "nuclear revolution" scholars argued that we would see more limited conflicts and fewer total wars between nuclear states—wars on the periphery.⁶ Avey demonstrates similar limited dynamics under nuclear monopoly. However, technology changes every day. What happens if biological and chemical weapons are the only WMD at play? What happens if one country has a large-yield bomb that remains below the nuclear threshold? Nuclear weapons

³ Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-use of Nuclear Weapons Since 1945* (New York: Cambridge University Press, 2007); T.V. Paul, *The Tradition of Non-Use of Nuclear Weapons* (Stanford, CA: Stanford University Press, 2009).

⁴ Todd Sechser and Matthew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy* (New York: Cambridge University Press, 2017).

⁵ Kyle Beardsley and Victor Asal, "Winning with the Bomb," *Journal of Conflict Resolution* 53:2 (2009): 278-301; John Merrill and Ilan Peleg, "Nuclear Compellence: The Political Use of the Bomb," *Crossroads* 11 (1984): 19-39; Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca: Cornell University Press, 1996).

⁶ Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca: Cornell University Press, 1989); Kenneth N. Waltz, "Nuclear Myths and Political Realities," *American Political Science Review* 84:3 (1990): 730-745, DOI: <https://doi.org/10.2307/1962764>.

do appear to limit conflicts, so other types of weapons may have similar effects. Expanding Avey's theory could account for this. Thus, there are even broader conclusions to be drawn from *Tempting Fate*.

The Role of Perceptions

One aspect that would enrich the project would be a focus on—or at a minimum, consideration of—psychological factors. This is inherently a theory of perceptions but one that ultimately assumes nearly perfect information. The non-nuclear state is making a calculated effort not to cross the “red line” of the nuclear power's nuclear use. In the evidence, the non-nuclear state uses strategic factors to make those calculations. One can, however, imagine that cognitive biases or differences by leaders contribute to these calculations. This would at least be a plausible alternative hypothesis to explore. Granted, the fact that no state has yet miscalculated and provoked a nuclear strike lends support to the more parsimonious theory presented here. Still, *Tempting Fate* could speak to a broader audience if it took into account leadership differences and the like.

Relatedly, one issue *Tempting Fate* does not examine closely is whether the non-nuclear state's strategic calculations are accurate. Would the state in question actually use nuclear weapons if the non-nuclear state stepped over the line? While it is clear that the non-nuclear state views the possibility of nuclear use as a very real one, it is less clear whether the perceptions are accurate. Avey could merge his evidence from non-nuclear states with evidence of the calculations of the nuclear states to assess his theory of perceptions. This would make the theory even more relevant to the twenty-first century. Non-nuclear actors might update their priors and calculate that the nuclear opponent is unlikely to use nuclear weapons with every passing year of non-use. The non-nuclear state becomes then less likely to use the limiting strategies that Avey finds throughout history. However, if the nuclear state's inclination to use nuclear weapons have not changed, the non-nuclear challenger may provoke a nuclear attack. Assessing the accuracy of the strategic calculations would provide a more comprehensive guide to decision makers.

Conclusion

In sum *Tempting Fate* introduces a theory that is broadly generalizable and politically useful. While at its core this is a theory of nuclear escalation, I see this as applying to risk manipulation more broadly. (Non-nuclear) states are flirting with chance as they take calculated risks to increase the likelihood they will accomplish their goals without tripping the (nuclear) wire. I appreciate Avey's careful efforts not to overstate his claims, but I believe the theory in this book could be expanded to apply to issue areas outside of the nuclear arena. Finally, it is projects like this that look at the *conditions* under which nuclear weapons shape conflict that contribute the most to policy. This book makes for a perfect addition to any syllabus on escalation management or nuclear politics; and should be required reading for national security decision makers.

RESPONSE BY PAUL C. AVEY, VIRGINIA TECH

It is a privilege to have scholars whose work I admire review my book. I am grateful to Rebecca Davis Gibbons, Kelly Greenhill, Jeffrey Kaplow, and Abigail Post for their careful engagement and thoughtful comments. I would also like to thank Lawrence Rubin for writing the introduction and Jennifer Erickson for organizing this roundtable. I have long been a fan of H-Diplo roundtables, so it is a gratifying to be the subject of one.

I was pleased that the reviewers all agree that my book contributes to understanding conflict between non-nuclear and nuclear weapon states which is, as they note, an important puzzle that lacks extensive attention. They assess my argument as straightforward, concur that the case studies offer detailed accounts of disputes, and are generally persuaded that those leaders considered nuclear weapons in their decision-making. Interestingly, Post and Gibbons highlight somewhat divergent implications from my argument for the coercive utility of nuclear weapons.²⁷ This variance underscores my assertion that nuclear weapons are neither irrelevant nor all-encompassing (4, 135). It is also part and parcel of the study of nuclear politics, where history often points in different directions.²⁸

Each author raises several eminently fair questions and points to limitations of my book. I will focus my response on four issues spanning multiple reviews rather than attempt to engage each point.

First, the reviewers all question how non-nuclear state leaders identify and have confidence that a specific approach will not invite nuclear strikes. I agree with Kaplow that often “there is considerable ambiguity about what, specifically, would push a nuclear state to resort to nuclear use.” Making these “guesstimates,” to borrow from Greenhill, about nuclear thresholds is difficult for non-nuclear states. The precise approach each adopts varies by situation. I elected to avoid an artificial specificity, focusing instead on the common cost-benefit logic behind decisions. The case studies show that the process was rarely straightforward or easy. Leaders faced what they perceived, rightly or wrongly, to be a worsening situation with high stakes (more on this below). They groped for a solution, at times reversing themselves. Their actions were a gamble that, at least so far, has not resulted in disaster.

There are alternative hypotheses that could help to explain how non-nuclear weapon states assess what levers to pull. Kaplow’s and Post’s suggestion to incorporate psychological factors is a good one in this regard. For example, it might be that these actors were engaging in a type of motivated reasoning, settling on a confrontational policy and then finding a rationale to discount nuclear use.²⁹ I bracketed psychological and leader traits to develop a strategic argument.³⁰ A richer explanation can incorporate these and other additional factors (150).

A key role for strategic dynamics likely remains even adding in those additional components. The existence of varying costs and benefits of nuclear use facilitate identifying reasons nuclear weapons would not be used. Moreover, leaders in the cases I examined demonstrated risk-taking as well as caution as the environment shifted, suggesting a sensitivity to external conditions. Building from one of Post’s comments, the lack of nuclear use shows that non-nuclear state officials’ estimates

²⁷ On this point they both cite Todd S. Sechser and Matthew Furhmann, *Nuclear Weapons and Coercive Diplomacy* (New York: Cambridge University Press, 2017).

²⁸ Francis J. Gavin, *Nuclear Weapons and American Grand Strategy* (Washington, D.C.: Brookings Institution Press, 2020).

²⁹ Robert Jervis, “Perceiving and Coping with Threat,” in Robert Jervis, Richard Ned Lebow, and Janice Gross Stein, *Psychology and Deterrence* (Baltimore: Johns Hopkins University Press, 1985): 24-27.

³⁰ On leaders see, for example, Rachel Elizabeth Whitlark, “Nuclear Beliefs: A Leader-Focused Theory of Counter-Proliferation,” *Security Studies*, 26:4 (October-December 2017): 545-574.

were not beyond what the opponent would tolerate before using nuclear weapons. Building from a point raised by Kaplow, non-nuclear state estimates may have been short of any nuclear state red lines, though.

The discussion of non-nuclear state assessments raises a second, and essentially the inverse, issue of if and when the nuclear opponent might have actually used a nuclear weapon. As Post writes, while “it is clear that the non-nuclear state views the possibility of nuclear use as a very real one, it is less clear whether the perceptions are accurate.” Greenhill highlights that the nuclear threshold could vary across leaders within a nuclear armed state. It is worth noting that several analysts—admittedly assessing different dynamics—argue nuclear states possessing fewer conventional options to offset large dangers are more likely to consider nuclear use.³¹ This is in line with my general argument. That said, the issue of nuclear-state decision-making is important, and I do not directly investigate it in my cases.

I focused on non-nuclear weapon state decision making for two main reasons. First, there are many studies examining nuclear strategy within nuclear armed states. Analyses of non-nuclear state decision-making are more scattered. The second reason is that nuclear state intentions and non-nuclear state assessments need not fully align. For instance, I was struck that at the highest levels in non-nuclear states the focus was simply on the fact that there were nuclear weapons that might, under a small set of circumstances, be used to inflict devastation. This contrasts with the handwringing within some nuclear armed states about the effects of small shifts in nuclear capabilities, deployments, or rhetoric.³² My discussion of non-nuclear state decision-making can facilitate a fuller analysis comparing nuclear and non-nuclear state perceptions alongside one another. Such a study can have important implications, including for how scholars understand efforts at nuclear signaling in nuclear monopoly.

Third, Gibbons, Kaplow, and Post highlight the possibility that the expectations and dynamics of nuclear use have “changed over time” (quote from both Gibbons and Kaplow).³³ I briefly discussed but did not systematically assess temporal issues (9, 21-23, 56-57, 147). Gibbons and Kaplow point to the nuclear taboo strengthening.³⁴ Kaplow also identifies the development of new conventional capabilities and coercive techniques. Both hypotheses expect more conflict over time as non-nuclear weapon states (NNWS) increasingly doubt nuclear use will occur. The source of skepticism is either because costs of use have increased (strengthening nuclear taboo) or there are lower benefits (new non-nuclear tools). One can therefore incorporate these into my argument’s general framework. Indeed, I included a portion of the taboo logic, noting that non-nuclear states may highlight international public opposition and “even attempt to manipulate international condemnation ... in the belief that this type of negative blowback will create a strategic disincentive for nuclear use” (10, see also 9, 21, 29, 34). Yet if conflict in nuclear monopoly generally increased over time the taboo may be a sufficient explanation.

³¹ For example, Todd S. Sechser and Matthew Fuhrmann, “Response,” H-Diplo/ISSF Roundtable XI-15, 2019: 12; Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton: Princeton University Press, 2014); Jasen J. Castillo, “Deliberate Escalation: Nuclear Strategies to Deter or to Stop Conventional Attacks,” in Kelly M. Greenhill and Peter Krause, editors, *Coercion: The Power to Hurt in International Politics* (Oxford: Oxford University Press, 2018): 291-311, 293.

³² Small changes in nuclear posture and rhetoric may matter more to lower level officials or when both sides have nuclear weapons. My analysis is limited to a small number of cases and senior officials in nuclear monopoly.

³³ See also Michael Horowitz, “The Spread of Nuclear Weapons and International Conflict: Does Experience Matter?” *Journal of Conflict Resolution*, 53:2 (April 2009): 234-257.

³⁴ Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons since 1945* (Cambridge: Cambridge University Press, 2007).

As a very rough assessment of the potentially increasing role for the nuclear taboo, I utilized the Correlates of War dataset to examine the rate of war and militarized interstate disputes in nuclear monopoly over time.³⁵ Rather than increasing, conflict has modestly decreased when accounting for the number of nuclear armed states each year.³⁶ This is the case when counting pairs of states at war, in militarized disputes, and non-nuclear initiators of those militarized disputes. The decline of conflict in nuclear monopoly is either steeper or essentially the same as between non-nuclear states.³⁷ This analysis is of course very incomplete, but it suggests that non-nuclear armed states are not necessarily more emboldened to challenge and resist nuclear opponents over time. My argument does not predict a decline in conflict. The book's framework identifies factors that could explain that trend, such as changes in the costs and benefits of nuclear use, the availability of specific non-nuclear state strategies, and/or conventional power dynamics. It could also be that the political disputes were resolved, or a nuclear state's non-nuclear opponent acquired its own nuclear arsenal. This speculative discussion points to the importance of additional research into the evolving role of the different mechanisms at work in nuclear monopoly.

A final issue is whether my book predicts more conflict in nuclear monopoly than occurs. Gibbons writes that the "long and detailed list of costs associated with nuclear use highlights the limited value of these weapons for any type of employment during a conflict and thus made me wonder about the credibility of the threat of use." One implication of this is that more non-nuclear states should confront nuclear opponents. I expect the benefits of nuclear use to be more likely to outweigh the costs during fighting as the nuclear state faces major losses. Nuclear strikes become more credible in such situations, which should thus be rare. For example, the relatively powerful Soviet Union backed down during the Berlin Blockade rather than escalate. More broadly, wars in nuclear monopoly were generally limited for the nuclear side (143-144). Gibbons's skepticism about my discussion of the Iraqi case reflects this credibility concern as well, but I provide evidence that Iraqi officials internally discussed nuclear use on multiple occasions which influenced specific policies (56-62).

Greenhill comes at the issue from a different direction. As she points out, "it seems as though we ought to see more of these wars" if dissatisfied non-nuclear states can leverage strategies to challenge nuclear opponents. The issue becomes less puzzling if "some non-nuclear weapon states feel they have no choice but to go to war, in spite of real nuclear threats."

I found myself nodding along with Greenhill's discussion on this point. As I wrote, "in many of the cases the underlying political trends or actions by the nuclear armed state were directly or indirectly threatening to the NNWS, which led to ... high resolve" (6). Non-nuclear states often perceived a declining window of opportunity to arrest what they saw as negative developments. Domestic political considerations independent of nuclear state actions could also incentivize action, and I agree that the Falklands War can fit within that category (168-174). Yet "high resolution alone was not sufficient to cause NNWS leaders to ignore nuclear weapons" (6, also 57, 63). This is not to say that a non-nuclear weapon state must always limit its means and aims. Its inability in some cases to do much more credibly reduces the danger to the nuclear side and there are several additional factors it can point to that mitigate the risk of nuclear strikes (24, 30, 83, 143). To Greenhill's discussion I would add that non-nuclear weapon states require some baseline level of military capabilities to act (23-25,

³⁵ Zeev Maoz, Paul L. Johnson, Jasper Kaplan, Fiona Ogunkoya, and Aaron P. Shreve, "The Dyadic Militarized Interstate Dispute Dataset Version 3.0: Logic, Characteristics, and Comparisons to Alternative Datasets," *Journal of Conflict Resolution* 63:3 (2019): 811-835. I utilized the Dyadic MIDs and Dyadic Wars 4.01 data, https://correlatesofwar.org/data-sets/MIDs/dyadic_mid_4_01.zip/view, accessed May 18, 2021.

³⁶ Data and results available at www.paulavey.com/research.

³⁷ This is not to claim conflict is disappearing, see Tanisha M. Fazal and Paul Poast, "War Is Not Over: What the Optimists Get Wrong about Conflict," *Foreign Affairs* 98:6 (November/December 2019): 74-83.

35).³⁸ In sum, nuclear weapons are one but not the only factor in shaping the non-nuclear weapon state's strategy and behavior (12).

The list of non-nuclear states that have possessed a strong motive for and ability to act is likely small. This can, alongside the strategies I outline and dynamics restraining powerful non-nuclear states, help explain the paucity of war in nuclear monopoly. What I did not do, as Greenhill rightly gets at, was systematically compare non-nuclear states with and without some essential motive and capability to determine if those factors were prerequisites for action. My suspicion is that they are, and the cases I examine are consistent with that assertion. But a strong claim would go beyond what my analysis supports. My argument is limited to showing that within disputes determined non-nuclear states can identify and leverage strategies tied to the costs and benefits of nuclear use.

As Gibbons, Greenhill, Kaplow, and Post make clear, there is still a great deal about the dynamics of nuclear monopoly left to learn. Their insightful comments and questions point to important avenues to investigate to grapple with the scope of the nuclear shadow.

³⁸ Though the focus here is on military confrontations, a broader assessment of coercive abilities includes non-military tools. For example, Kelly M. Greenhill, *Weapons of Mass Migration: Forced Displacement, Coercion, and Foreign Policy* (Ithaca: Cornell University Press, 2010); Greenhill and Krause, eds. *Coercion*.