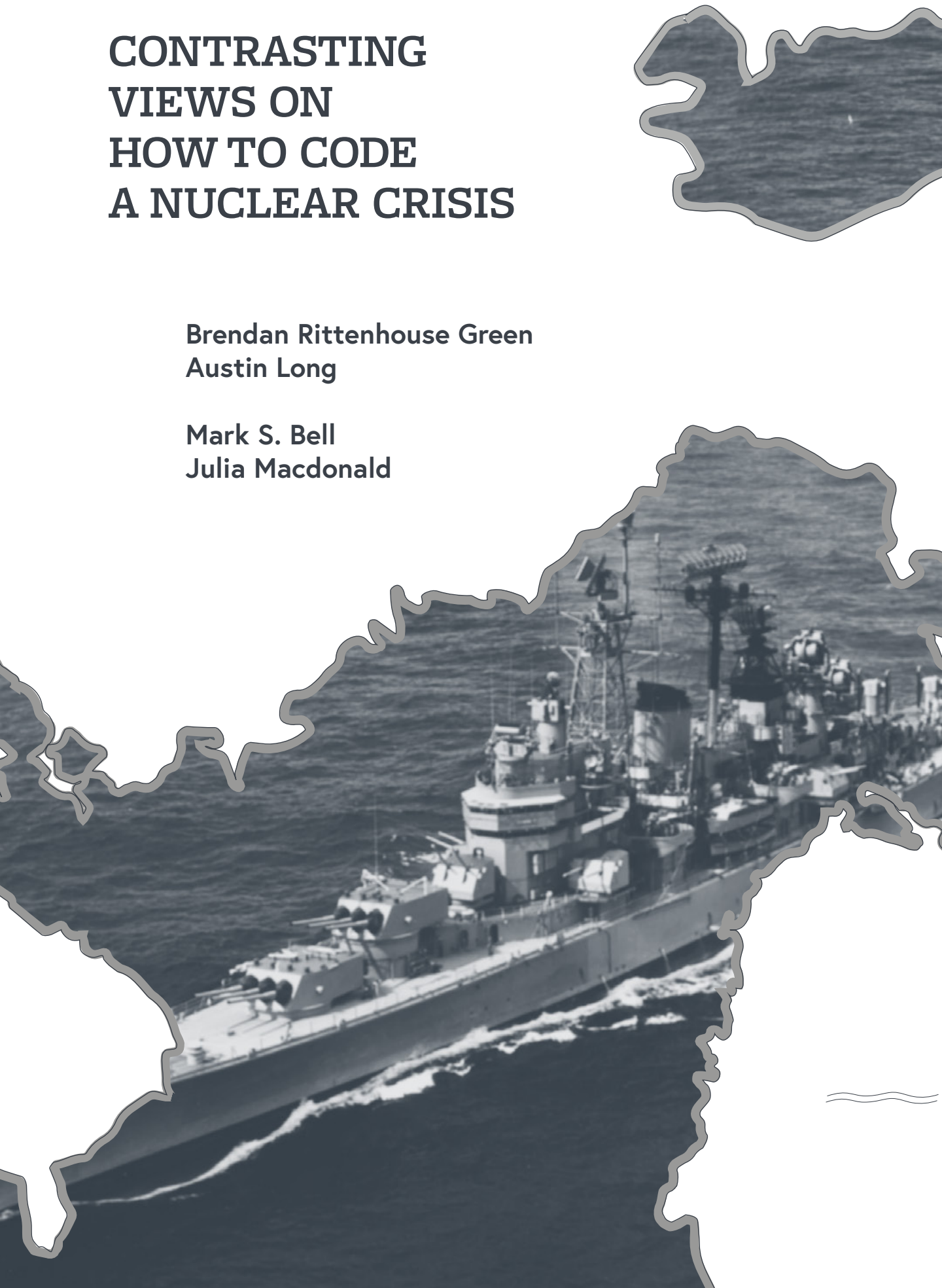




CONTRASTING VIEWS ON HOW TO CODE A NUCLEAR CRISIS

Brendan Rittenhouse Green
Austin Long

Mark S. Bell
Julia Macdonald



In this issue's correspondence section, Brendan Rittenhouse Green and Austin Long offer up an alternative way to code nuclear crises in response to Mark S. Bell and Julia Macdonald's article in the February 2019 issue of *TNSR*. Bell and Macdonald, in turn, offer a response to Green and Long's critique.

In Response to “How to Think About Nuclear Crises”

Brendan Rittenhouse Green and Austin Long

In their article in the February 2019 issue of the *Texas National Security Review*, Mark S. Bell and Julia Macdonald make a cogent argument that all nuclear crises are not created equal.¹ We agree with their basic thesis: There really are different sorts of nuclear crises, which have different risk and signaling profiles. We also concur that the existence of a variety of political and military dynamics within nuclear crises implies that we should exercise caution when interpreting the results of cross-sectional statistical analysis. If crises are not in fact all the same, then quantitative estimates of variable effects have a murkier meaning.² We should not be surprised that, to date, multiple studies have produced different results.

Nevertheless, the article also highlights an alternate hypothesis for nuclear scholarship's inconsistent findings about crisis outcomes and dynamics: Nuclear crises are intrinsically hard to interpret. The balance of resolve between adversaries — one of the most important variables in any crisis — is influenced by many factors and is basically impossible to code *ex ante*. The two variables identified as critical by Bell and Macdonald for determining the shape of a crisis — the nuclear balance and the controllability of escalation — are only somewhat more tractable to interpretation. The consequence is that nuclear crises are prone to ambiguity, with coding challenges and case interpretations often resolved in favor of the analyst's pre-existing models of the world. In short, nuclear crises suffer from an especially pernicious interdependence between fact and theory.³

To the extent that this problem can be ameliorated — although it cannot be resolved entirely — the solution is to employ the best possible conceptual and measurement standards for each key variable. Below we provide best practices for coding the nuclear balance, with particular focus on Bell and Macdonald's interpretation of the Cuban Missile Crisis. We argue that, following much of the extant literature, Bell and Macdonald make interpretive choices that unintentionally truncate the history that underlies their coding of the nuclear balance in this case. In our view, they incorrectly conclude that the United States had no military incentives to use nuclear weapons first in 1962.

Below, we analyze their interpretation of the Cuba crisis by examining two indicators that might be used to establish the nuclear balance: the operational capabilities of both sides and the perceptions of key U.S. policymakers. We conclude by drawing out some broader implications of the crisis for their conceptual framework, offering a friendly amendment.

What Were the Operational Capabilities on Both Sides in 1962?

Bell and Macdonald's characterization of the nuclear balance in the Cuban Missile Crisis is a central part of their argument, as it is their sole empirical example of a crisis that “was not characterized by incentives for deliberate first nuclear use.” They base this assertion on a brief overview of the balance of U.S. and Soviet strategic forces in 1962, followed by a claim that “[t]he U.S. government did not know where all of the Soviet warheads were located, and there were concerns that U.S. forces were too inaccurate to successfully target the Soviet arsenal.”⁴

Yet, any calculation of the incentives for deliberate

1 Mark S. Bell and Julia Macdonald, “How to Think About Nuclear Crises,” *Texas National Security Review* 2, no. 2 (February 2019): 40–64, <http://dx.doi.org/10.26153/tsw/1944>.

2 Bell and Macdonald, “How to Think About Nuclear Crises,” 42, 63.

3 For an excellent treatment of this problem in the international relations context, see Robert Jervis, *Perception and Misperception in International Politics* (Princeton, NJ: Princeton University Press, 1976), 154–72.

4 Bell and Macdonald, “How to Think About Nuclear Crises,” 55.



first use must be based on the full context of the military balance. This hinges on the operational capabilities of both sides in the crisis, which includes a concept of operations of a first strike as well as the ability of both sides to execute nuclear operations. The available evidence on operational capabilities suggests that a U.S. first strike would have been likely to eliminate much, if not all, of the Soviet nuclear forces capable of striking the United States, as we summarize briefly below.

Any concept of operations for a U.S. first strike would have been unlikely to rely solely, or even primarily, on relatively inaccurate ballistic missiles, as Bell and Macdonald imply. In a sketch of such an attack drafted by National Security Council staffer Carl Kaysen and Deputy Assistant Secretary of Defense Harry Rowen during the Berlin Crisis of 1961, the strike would have been delivered by a U.S. bomber force rather than with missiles. As Kaysen and Rowen describe, all Soviet nuclear forces of the time were “soft” targets, so U.S. nuclear bombers would have been more than accurate enough to destroy them. Moreover, a carefully planned bomber attack could have exploited the limitations of Soviet air defense in detecting low flying aircraft, enabling a successful surprise attack.⁵ Kaysen would retrospectively note that U.S. missiles, which were inaccurate but armed with multi-megaton warheads, could also have been included in an attack, concluding, “we had a highly confident first strike.”⁶

Kaysen’s confidence was based on his understanding of the relative ability of both sides to conduct nuclear operations. In terms of targeting intelligence, while the United States may not have known where all Soviet nuclear warheads were, it had detailed knowledge of the location of Soviet long-range delivery systems. This intelligence came from a host of sources, including satellite reconnaissance and human sources. U.S. intelligence also understood the low readiness of Soviet nuclear forces.⁷ As Kaysen would later note, “By this time we knew that there were no goddamn missiles to speak of, we knew that there were only 6 or 7 operational ones and 3 or 4

more in the test sites and so on. As for the Soviet bombers, they were in a very low state of alert.”⁸

Of course, Kaysen’s assessment of the balance of forces in 1961 might have been overly optimistic or no longer true a year later during the Cuban Missile Crisis. Yet, other contemporary analysts concurred. Andrew Marshall, who had access to the closely held targeting intelligence of this period, subsequently described the Soviet nuclear force, particularly its bombers, as “sitting ducks.”⁹ James Schlesinger, writing about four months before the crisis, noted, “During the next four or five years, because of nuclear dominance, the credibility of an American first-strike remains high.”¹⁰ The authors of the comprehensive *History of the Strategic Arms Competition*, drawing on a variety of highly classified U.S. sources, reach a similar conclusion:

[T]he Soviet strategic situation in 1962 might thus have been judged little short of desperate. A well-timed U.S. first strike, employing then-available ICBM [intercontinental ballistic missile] and SLBM [submarine-launched ballistic missile] forces as well as bombers, could have seemed threatening to the survival of most of the Soviet Union’s own intercontinental strategic forces. Furthermore, there was the distinct, if small, probability that such an attack could have denied the Soviet Union the ability to inflict any significant retaliatory damage upon the United States.¹¹

The Soviet nuclear-armed submarines of 1962 were likewise vulnerable to U.S. anti-submarine warfare, as they would have had to approach within a few hundred miles of the U.S. coast to launch their missiles. As early as 1959, Chairman of the Joint Chiefs of Staff Gen. Nathan Twining testified that while “one or two isolated submarines” might reach the U.S. coast, in general, the United States had high confidence in its anti-submarine warfare capabilities.¹² The performance of these capabilities during the Cuban Missile Crisis, when multiple Soviet submarines were

5 See Memorandum for General Maxwell Taylor from Carl Kaysen, “Strategic Air Planning and Berlin,” Sept. 5, 1961, from National Archives, Record Group 218, Records of the Joint Chiefs of Staff, <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB56/BerlinC1.pdf>.

6 Marc Trachtenberg, David Rosenberg, and Stephen Van Evera, “An Interview with Carl Kaysen,” MIT Security Studies Program (1988), 9, http://web.mit.edu/SSP/publications/working_papers/Kaysen%20working%20paper.pdf.

7 Austin Long and Brendan Rittenhouse Green, “Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy,” *Journal of Strategic Studies* 38, no. 1–2 (2015): 44–46, <https://doi.org/10.1080/01402390.2014.958150>.

8 “An Interview with Carl Kaysen,” 9.

9 Quoted in Long and Green, “Stalking the Secure Second Strike,” 46.

10 James R. Schlesinger, “Some Notes on Deterrence in Western Europe,” (Santa Monica, CA: RAND Corporation, June 30, 1962), 8.

11 Ernest R. May, John D. Steinbruner, and Thomas M. Wolfe, *History of the Strategic Arms Competition 1945–1972*, v.1 (Washington D.C.: Government Printing Office, 1981), 475.

12 Quoted in Scott Sagan, “SIOP-62: The Nuclear War Plan Briefing to President Kennedy,” *International Security* 12, no. 1 (Summer 1987): 34, <https://www.jstor.org/stable/2538916>.

detected and some forced to surface, confirms their efficacy, as Bell and Macdonald acknowledge in their description of an attack on a Soviet submarine during the crisis.¹³

How Was the Nuclear Balance Perceived in 1962?

Bell and Macdonald offer three data points for their argument that U.S. policymakers did not perceive meaningful American nuclear superiority during the Cuban Missile Crisis. First, Secretary of Defense Robert McNamara and other veterans of the Kennedy administration attested retrospectively that nuclear superiority did not play an important role in the Cuba crisis.¹⁴ Second, President John F. Kennedy received a Joint Chiefs of Staff briefing on the Single Integrated Operational Plan (SIOP) — the U.S. plan for strategic nuclear weapons employment — in 1961, which reported that Soviet retaliation should be expected under all circumstances, even after an American pre-emptive strike.¹⁵ Third, the president expressed ambivalence about the nuclear balance on the first day of the Cuba crisis.¹⁶

But this evidence is a combination of truncated, biased, and weak. The retrospective testimony of Kennedy administration alumni is highly dubious. McNamara, National Security Advisor McGeorge Bundy, and others were all highly motivated political actors, speaking two decades after the fact in the context of fierce nuclear policy debates on which they had taken highly public positions, as Bell and Macdonald acknowledge in a footnote.¹⁷ The problems with giving much weight to such statements are especially evident given the fact that, as Bell and Macdonald acknowledge,¹⁸ these very same advisers made remarks during the Cuba crisis that were much more favorably disposed to the idea of American nuclear superiority.¹⁹

The Joint Chiefs of Staff briefing to Kennedy on SIOP-62 is evidence, contrary to Bell and Macdonald's interpretation, of American nuclear superiority in 1962. Bell and Macdonald make much of the briefing's caution that "Under any circumstances—even a preemptive attack by the US—it would be expected that some portion of the Soviet long-range nuclear force would strike the United States."²⁰ But interpreting this comment as evidence that the United States did not possess "politically meaningful damage limitation" capabilities makes sense only if one has already decided that the relevant standard for political meaning is a perfectly disarming strike.²¹ Scott Sagan, in commenting on the briefing, underscores that "although the United States could expect to suffer some unspecified nuclear damage under any condition of war initiation, the Soviet Union would confront absolutely massive destruction regardless of whether it struck first or retaliated."²²

Crucially, the Joint Chiefs of Staff argued for maintaining a U.S. first-strike capability in a memorandum to McNamara commenting on his plans for strategic nuclear forces for fiscal years 1964–68. This memorandum, sent shortly after the crisis, argues that the United States could not, in the future, entirely eliminate Soviet strategic forces. Yet, the memorandum continues: "The Joint Chiefs of Staff consider that a first-strike capability is both feasible and desirable, although the degree or level of attainment is a matter of judgment and depends upon the US reaction to a changing Soviet capability."²³ In short, not only did the Joint Chiefs of Staff conclude the United States had a meaningful first-strike capability in 1962, they believed such a capability could and should be maintained in the future.

As for Kennedy's personal views, it is important not just to consider isolated quotes during the

13 Bell and Macdonald, "How to Think About Nuclear Crises," 56. See also, May, Steinbruner, and Wolfe, *History of the Strategic Arms Competition*, 475; and Owen Coté, *The Third Battle: Innovation in the US Navy's Silent Cold War Struggle with Soviet Submarines* (Newport, RI: Naval War College, 2003), 42.

14 Bell and Macdonald, "How to Think About Nuclear Crises," 55, 59.

15 Bell and Macdonald, "How to Think About Nuclear Crises," 55.

16 Bell and Macdonald, "How to Think About Nuclear Crises," 55.

17 Bell and Macdonald, "How to Think About Nuclear Crises," 59, fn 96. For more on Bundy, see, e.g., McGeorge Bundy et al., "Nuclear Weapons and the Atlantic Alliance," *Foreign Affairs* 60, no. 4 (Spring 1982): 753–68, <https://www.foreignaffairs.com/articles/united-states/1982-03-01/nuclear-weapons-and-atlantic-alliance>.

18 Bell and Macdonald, "How to Think About Nuclear Crises," 55.

19 Matthew Kroenig, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters* (Oxford: Oxford University Press, 2018), 88.

20 Sagan, "SIOP-62," 50.

21 Bell and Macdonald, "How to Think About Nuclear Crises," 55.

22 Sagan, "SIOP-62," 36, and esp. n. 49.

23 Joint Chiefs of Staff Memorandum 907-62 to McNamara, Nov. 20, 1962, in *Foreign Relations of the United States (FRUS), 1961-1963*, Vol. 8, 387–89, quotation on 388, <https://history.state.gov/historicaldocuments/frus1961-63v08/d109>.



Cuban crisis — after all, he made several comments that point in opposite directions.²⁴ One has to consider the political context of the Cuban affair writ large: the multi-year contest with the Soviets over the future of Berlin, and effectively, the NATO alliance. Moreover, Kennedy had deliberately built Western policy during the Berlin crisis on a foundation of nuclear superiority. NATO planning assumed that nuclear weapons would ultimately be used, and probably on a massive scale.²⁵

As Kennedy put it to French President Charles de Gaulle in June of 1961, “the advantage of striking first with nuclear weapons is so great that if [the] Soviets were to attack even without using such weapons, the U.S. could not afford to wait to use them.” In July, he told the Joint Chiefs of Staff that “he felt the critical point is to be able to use nuclear weapons at a crucial point before they use them.” In January of 1962, expecting the Berlin Crisis to heat up in the near future, he stressed the importance of operational military planning, and of thinking “hard about the ways and means of making decisions that might lead to nuclear war.” As he put it at that meeting, “the credibility of our nuclear deterrent is sufficient to hold our present positions throughout the world” even if American conventional military power “on the ground does not match what the communists can bring to bear.”²⁶

But the president recognized that this military strength was a wasting asset: The development of Soviet nuclear forces meant that the window of American nuclear superiority was closing. For this reason, Kennedy thought it important to bring the Berlin Crisis to a head as soon as possible, while the United States still possessed an edge. “It might be better to let a confrontation to develop over Berlin now rather than later,” he argued just two weeks before the Cuba crisis. After all, “the military balance was more favorable to us than it would be later on.”²⁷ Two months after the crisis, his views were little different. Reporting on a presidential trip to Strategic Air Command during which Kennedy was advised that “the really neat and clean way to

get around all these complexities [about the precise state of the nuclear balance] was to strike first,” Bundy “said that of course the President had not reacted with any such comments, but Bundy’s clear implication was that the President felt that way.”²⁸

Broader Implications

Our argument about the nuclear balance during the Cuban Missile Crisis, if correct, requires some friendly amendments to Bell and Macdonald’s framework for delineating types of nuclear crisis.

Our discussion of the operational capabilities and policymaker perceptions during the Cuba crisis underscores that Bell and Macdonald’s first variable — “the strength of incentives to use nuclear weapons first in a crisis”²⁹ — probably ought to be unpacked into two separate variables: military incentives for a first strike, and political bargaining incentives for selective use. After all, whatever the exact nuclear balance was during 1962, the United States was certainly postured for asymmetric escalation. The salience of America’s posture is thrown into especially bold relief once the political context of the crisis is recognized: The Cuban affair was basically the climax of the superpower confrontation over Berlin, in which American force structure and planning was built around nuclear escalation. Indeed, this is how policymakers saw the Cuba crisis, where the fear of Soviet countermoves in Berlin hung as an ever-present cloud over discussions within the Executive Committee of the National Security Council.³⁰

According to Bell and Macdonald, either kind of incentive is sufficient to put a case into the “high” risk category for deliberate use. But in truth, political incentives to use nuclear weapons selectively — even if only against military targets — are ever present. They are just seldom triggered until matters have gone seriously awry on the battlefield. In short, we believe Bell and Macdonald were right to expend extra effort looking for military first-strike incentives, which add genuinely different

24 For example, consider his remark, just after the peak of the crisis, that “My guess is, well, everybody sort of figures that, in extremis, everybody would use nuclear weapons,” before strongly implying massive U.S. preemption would be preferable to tactical use. See ExComm Meeting, Oct. 29, 1962, in Ernest R. May and Philip Zelikow, eds., *The Kennedy Tapes: Inside the White House During the Cuban Missile Crisis* (Cambridge, MA: Harvard University Press, 1997), 657.

25 For excellent accounts of Kennedy’s Berlin policy and his views on nuclear superiority, which we draw upon heavily, see Marc Trachtenberg, *A Constructed Peace: The Making of the European Settlement, 1945-1963* (Princeton, NJ: Princeton University Press, 1999), chap. 8; Francis J. Gavin, *Nuclear Statecraft: History and Strategy in America’s Atomic Age* (Ithaca, NY: Cornell University Press, 2012), chaps. 2–3.

26 Trachtenberg, *A Constructed Peace*, 292, 293, 294, 295.

27 Trachtenberg, *A Constructed Peace*, 353, 351.

28 Legere memorandum for the record of the White House daily staff meeting, Dec. 10, 1962, National Defense University, Taylor Papers, Chairman’s Staff Group December 1962-January 1963; quoted in *FRUS 1961-1963*, Vol. 8, 436. <https://history.state.gov/historicaldocuments/frus1961-63v08/d118>.

29 Bell and Macdonald, “How to Think About Nuclear Crises,” 43.

30 See, e.g., Trachtenberg, *A Constructed Peace*, 353, n. 3.

sorts of risk to a crisis. We argue that operational capabilities and policymaker perceptions in the Cuba crisis show that such incentives are more common than generally credited.

So, we would build on Bell and Macdonald's central insight that different types of nuclear crisis have different signaling and risk profiles by modestly amending their framework. We suggest that there are three types of nuclear crisis: those with political bargaining incentives for selective nuclear use (Type A); those with risks of both selective use and non-rational uncontrolled escalation (Type B); and those with political risks, non-rational risks, and military incentives for a nuclear first strike (Type C).

Type A crises essentially collapse Bell and Macdonald's "staircase" and "stability-instability"

We argue that, following much of the extant literature, Bell and Macdonald make interpretive choices that unintentionally truncate the history that underlies their coding of the nuclear balance in this case.

models, and are relatively low risk.³¹ Any proposed nuclear escalation amounts to a "threat to launch a disastrous war coolly and deliberately in response to some enemy transgression."³² Such threats are hard to make credible until military collapse has put a state's entire international position at stake. Outcomes of Type A crises will be decided solely by the balance of resolve. We disagree with Bell and Macdonald's argument that the conventional military balance can ever determine the outcome of a nuclear crisis, since any conventional victory stands only by dint of the losing side's unwillingness to escalate. But the lower risks of a Type A crisis mean that signals of resolve are harder to send, and must occur through large and not particularly selective or subtle means — essentially, larger conventional and nuclear operations.

Type B crises are similar to Bell and Macdonald's "brinkmanship" model.³³ These have a significantly greater risk profile, since they also contain genuine risks of uncontrolled escalation in addition to political risks. Crisis outcomes remain dependent on the balance of resolve, but signaling is easier and can be much finer-grained than in Type A crises. The multiple opportunities for uncontrolled escalation mean that there are simply many more things a state can do at much lower levels of actual violence to manipulate the level of risk in a crisis. For instance, alerting nuclear forces will often not mean much in a Type A crisis (at least before the moment of conventional collapse), since there is no way things can get out of control. But alerting forces in a Type B crisis could set off a chain of events where states clash due to the interaction between each other's rules of nuclear engagement, incentivize forces inadvertently threatened by conventional operations to fire, or misperceive each other's actions. Any given military move will have more political meaning and will also be more dangerous.

Type C crises are similar to Bell and Macdonald's "firestorm" model.³⁴ These are the riskiest sorts of nuclear crisis, since there are military reasons for escalation as well as political and non-rational risks. Outcomes will be influenced both by the balance of resolve and the nuclear balance: either could give states incentives to manipulate risk. Such signals will be the easiest to send, and the finest-grained of any type of crisis. But because the risk level jumps so much with any given signal, the time in which states can bargain may be short.³⁵

In sum, Bell and Macdonald have made an important contribution to the study of nuclear escalation by delineating different types of crisis with different risk and signaling profiles. We believe they understate the importance of American nuclear superiority during the Cuban Missile Crisis, and that these coding problems highlight some conceptual issues with their framework. In the end, though, our amendments appear to us relatively minor, further underscoring the importance of Bell and Macdonald's research. We hope that they, and other scholars, will continue to build on these findings. ↩

31 Bell and Macdonald, "How to Think About Nuclear Crises," 46, 47–49.

32 Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966), 97.

33 Bell and Macdonald, "How to Think About Nuclear Crises," 46, 49.

34 Bell and Macdonald, "How to Think About Nuclear Crises," 46, 49–50.

35 Schelling, *Arms and Influence*, 102.



In Response to a Critique

Mark S. Bell and Julia Macdonald

We thank Brendan Rittenhouse Green and Austin Long for their positive assessment of our work and for engaging with our argument so constructively.³⁶ Their contribution represents exactly the sort of productive scholarly debate we were hoping to provoke. As we stated in our article, we intended our work to be only an initial effort to think through the heterogeneity of nuclear crises, and we are delighted that Green and Long have taken seriously our suggestion for scholars to continue to think in more detail about the ways in which nuclear crises differ from one another. Their arguments are characteristically insightful, offer a range of interesting and important arguments and suggestions, and have forced us to think harder about a number of aspects of our argument.

In this reply, we briefly lay out the argument we made in our article before responding to Green and Long's suggestion that we underestimate the

incentives to launch a nuclear first-strike during the Cuban Missile Crisis and their proposal of an alternative typology for understanding nuclear crises.

Our Argument

In our article, we offer a framework for thinking through the heterogeneity of nuclear crises.³⁷ While the existing literature on such crises assumes that they all follow a certain logic (although there is disagreement on what that logic is), we identify factors that might lead nuclear crises to differ from one another in consequential ways. In particular, we argue that two factors — whether incentives are present for nuclear first use and the extent to which escalation is controllable by the leaders involved — lead to fundamentally different sorts of crises. These two variables generate four possible “ideal type” models of nuclear crises: “staircase” crises (characterized by high first-use incentives and high controllability), “brinkmanship” crises (low first-use incentives and low controllability), “stability-instability” crises (low first-use incentives and high controllability), and “firestorm” crises (high

36 This work was supported by U.S. Air Force Academy (USAF) and Defense Threat Reduction Agency (DTRA) Project on Advanced Systems and Concepts for Countering WMD (PASC) award FA7000-19-2-0008. The opinions, findings, views, conclusions or recommendations contained herein are those of the authors and should not be interpreted as necessarily representing the official policies or endorsements, either expressed or implied, of USAFA, DTRA or the U.S. Government.

37 Mark S. Bell and Julia Macdonald, “How to Think About Nuclear Crises,” *Texas National Security Review* 2, no. 2 (February 2019): 40–64, <http://dx.doi.org/10.26153/tsw/1944>. For additional applications of our framework, see Mark S. Bell and Julia Macdonald, “Toward Deterrence: The Upside of the Trump-Kim Summit,” *War on the Rocks*, June 15, 2018, <https://warontherocks.com/2018/06/toward-deterrence-the-upside-of-the-trump-kim-summit/>; Mark S. Bell and Julia Macdonald, “How Dangerous Was Kargil? Nuclear Crises in Comparative Perspective,” *Washington Quarterly* 42, no. 2 (Summer 2019): 135–48, <https://doi.org/10.1080/0163660X.2019.1626691>.

first-use incentives and low controllability).

Each of these ideal types exhibits distinctive dynamics and offers different answers to important questions, such as, how likely is nuclear escalation, and how might it occur? How feasible is signaling within a crisis? What factors determine success? For example, crises exhibiting high incentives for nuclear first use combined with low crisis controllability — firestorm crises — are particularly volatile, and the most dangerous of all four models in terms of likelihood of nuclear war. These are the crises that statesmen should avoid except under the direst circumstances or for the highest stakes. By contrast, where incentives for the first use of nuclear weapons are low and there is high crisis controllability — the stability-instability model — the risk of nuclear use is lowest. When incentives for nuclear first use are low and crisis controllability is also low — brinkmanship crises — or when incentives for first use are high and crisis controllability is also high — the staircase model — there is a moderate risk of nuclear use, although through two quite different processes. For the brinkmanship model, low levels of crisis controllability combined with few incentives for nuclear first use mean that escalation to the nuclear level would likely only happen inadvertently and through a process of uncontrolled, rather than deliberate, escalation. On the other hand, high levels of crisis controllability combined with high incentives for nuclear first use — characteristic of the staircase model — mean that escalation would more likely occur through a careful, deliberate process.

First-Use Incentives in the Cuban Missile Crisis

First, Green and Long address the extent of incentives for launching a nuclear first strike during

the Cuban Missile Crisis. In short, they argue that there were substantial military incentives for America to strike first during the crisis and that these were understood and appreciated by American leaders.³⁸

While space constraints meant that our analysis of the nuclear balance in the Cuban Missile Crisis was briefer than we would have liked, we certainly agree that the United States possessed nuclear superiority over the Soviet Union during the crisis.³⁹ The debate between us and Green and Long is, therefore, primarily over whether the nuclear balance that we (more or less) agree existed in 1962 was sufficiently lopsided as to offer meaningful incentives for nuclear first use, and whether it was perceived as such by the leaders involved. In this, we do have somewhat different interpretations of how much weight to assign to particular pieces of evidence. For example, we believe that the retrospective assessment of key participants does have evidentiary value, although we acknowledge (as we did in our article) the biases of such assessments in this case. Given the rapidly shifting nuclear balance, we place less weight on President John F. Kennedy's statements in years prior to the crisis than on those he made during the crisis itself,⁴⁰ which were more consistently skeptical of the benefits associated with U.S. nuclear superiority at a time when the stakes were at their highest.⁴¹ We also place somewhat less weight than Green and Long on the 1961 analysis of Carl Kaysen, given doubts about whether his report had much of an effect on operational planning.⁴² And finally, we put less weight on the Joint Chiefs of Staff document from 1962 cited by Green and Long in support of their argument, given that it acknowledges the U.S. inability to eliminate Soviet strategic nuclear forces — thus highlighting the dangers of a U.S. nuclear

38 One minor correction to Green and Long's argument: The Cuban Missile Crisis is not the "sole empirical example" in our article of a crisis characterized by a lack of incentives for first use. In the article we also argue that the 2017 Doklam Crisis between India and China lacked strong incentives for first use, and we suspect there are plenty more crises of this sort in the historical record. Bell and Macdonald, "How to Think About Nuclear Crises," 60–61.

39 Bell and Macdonald, "How to Think About Nuclear Crises," 55.

40 The quote from the crisis that Green and Long cite does not really support their argument. Green and Long state: "consider [Kennedy's] remark, just after the peak of the crisis, that 'My guess is, well, everybody sort of figures that, in extremis, everybody would use nuclear weapons,' before strongly implying massive U.S. preemption would be preferable to tactical use." In fact, consider the full quote: "My guess is, well, everybody sort of figures that, in extremis, everybody would use nuclear weapons. The decision to use any kind of a nuclear weapon, even the tactical ones, presents such a risk of it getting out of control so quickly." Kennedy then trails off but "appears to agree" with an unidentified participant who states, "But Cuba's so small compared to the world." This suggests that Kennedy was expressing deep skepticism of any sort of nuclear use remaining limited, as well as doubts about the merits of taking such risks over Cuba, rather than making any sort of clear comparison between the merits of tactical use and massive pre-emption as Green and Long suggest. Ernest R. May and Philip Zelikow, eds., *The Kennedy Tapes: Inside the White House During the Cuban Missile Crisis* (Cambridge, MA: Harvard University Press, 1997), 657.

41 For a recent analysis of Kennedy's behavior during the Cuban Missile Crisis that concludes that he was deeply skeptical of the benefits of nuclear superiority during the crisis, see James Cameron, *The Double Game: The Demise of America's First Missile Defense System and the Rise of Strategic Arms Limitation* (New York: Oxford University Press, 2018), 29–37.

42 For example, see Francis Gavin's assessment that "little was done with" Kaysen's plan, a claim which echoes Marc Trachtenberg's earlier assessment that "it is hard to tell, however, what effect [Kaysen's analysis] had, and in particular whether, by the end of the year, the Air Force was prepared in operational terms to launch an attack of this sort." Francis J. Gavin, *Nuclear Statecraft: History and Strategy in America's Atomic Age* (Ithaca, NY: Cornell University Press, 2012), 38; Marc Trachtenberg, *History and Strategy* (Princeton, NJ: Princeton University Press, 1991), 225.



first strike — as well as focuses on future force planning in the aftermath of the crisis.

We would also note that our assessment that U.S. nuclear superiority in the Cuban Missile Crisis did not obviously translate into politically meaningful incentives for first use is in line with standard interpretations of this case, including among scholars that Green and Long cite. For Marc Trachtenberg, for example, “[t]he American ability to ‘limit damage’ by destroying an enemy’s strategic forces did not seem, in American eyes, to carry much political weight” during the Cuban Missile Crisis.⁴³ Similarly, the relative lack of incentives for rational first use in the crisis motivated Thomas Schelling’s assessment that only an “unforeseeable and unpredictable” process could have led to nuclear use in the crisis.⁴⁴

likely left a number of American cities destroyed (and potentially more), even in the aftermath of a U.S. first strike, nonetheless provided strong military incentives for first use. By contrast, our view is that the threshold should be somewhat higher than this, though lower than Green and Long’s characterization of our position: We do not, in fact, think that the relevant standard for political meaning “is a perfectly disarming strike.”

Part of our motivation in wanting a threshold higher than “any damage limitation capability” is that it increases the utility of the typology we offer by allowing us to draw the line in such a way that a substantial number of empirical cases exist on either side of that threshold. Green and Long, by contrast, seem more satisfied to draw the line in such a way that cases exhibiting very different

incentives for first use — a crisis with North Korea today compared to the Cuban Missile Crisis, for example — would both be classified on the same side of the threshold.⁴⁶ Green and Long’s approach would ignore the important differences between these cases by treating both crises as exhibiting strong incentives for nuclear first use. This would be akin to producing a meteorological map that rarely shows rain

because the forecaster judges the relevant threshold to be “catastrophic flooding.” There is nothing fundamentally incorrect about making such a choice, but it is not necessarily the most helpful approach to shedding light on the empirical variation we observe in the historical record.

An Alternative Typology of Nuclear Crises

Second, Green and Long offer an alternative typology for understanding the heterogeneity of nuclear crises. Green and Long argue that there are three types of crisis: “those with political bargaining incentives for selective nuclear use (Type A); those with risks of both selective use and non-rational uncontrolled escalation (Type B); and those with political risks, non-rational risks, and military incentives for a nuclear first strike (Type C).” This is

[T]o the extent that their typology differs from our own, it does so in ways that are not necessarily helpful in shedding light on the variation across nuclear crises that we observe.

Regardless of whether participants in the Cuban Missile Crisis understood the advantages (or lack thereof) associated with nuclear superiority, in some ways, our disagreement with Green and Long is more of a conceptual one: where to draw the threshold at which a state’s level of nuclear superiority (and corresponding ability to limit retaliatory damage) should be deemed “politically meaningful,” i.e., sufficiently lopsided to offer incentives for first use. This is a topic about which there is certainly room for legitimate disagreement. “Political relevance” is a tricky concept, which reinforces Green and Long’s broader argument that “nuclear crises are intrinsically hard to interpret” — a point with which we agree.⁴⁵ But Green and Long seem to view *any* ability to limit retaliatory damage as politically meaningful, since they argue that a nuclear balance that would have

43 Marc Trachtenberg, “The Influence of Nuclear Weapons in the Cuban Missile Crisis,” *International Security* 10, no. 1 (Summer 1985), 162, <http://dx.doi.org/10.2307/2538793>.

44 Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966), 97.

45 Indeed, at the risk of adding even more complexity, the relevant threshold likely varies with the stakes of the crisis: Leaders are likely to view lesser damage limitation capabilities as politically relevant when the stakes are higher than they are when the stakes involved are lower.

46 For discussion of the North Korean case, see Bell and Macdonald, “Toward Deterrence,” and Bell and Macdonald, “How to Think About Nuclear Crises,” 61–62.

an interesting proposal and we have no fundamental objections to their typology.⁴⁷ After all, one can categorize the same phenomenon in different ways, and different typologies may be useful for different purposes. Space constraints inevitably prevent Green and Long from offering a full justification for their typology, and we would certainly encourage them to offer a more fleshed out articulation of it and its merits. Their initial discussion of the different types of signals that states can send within different types of crises is especially productive and goes beyond the relatively simple discussion of the feasibility of signaling that we included in our article. We offer two critiques that might be helpful as they (and others) continue to consider the relative merits of these two typologies and build upon them.

First, it is not clear how different their proposed typology is from the one we offer. At times, for example, Green and Long suggest that their typology simply divides up the same conceptual space we identify using our two variables, but does so differently. For example, they argue that they are essentially collapsing two of our quadrants (stability-instability crises and staircase crises) into Type A crises, while Type B crises are similar to our brinkmanship crises and Type C crises are similar to our firestorm crises. If so, their typology does not really suggest a fundamentally different understanding of how nuclear crises vary, but merely of where the most interesting variation occurs within the conceptual space we identify. The key question, then, in determining the relative merits of the two typologies, is whether there is important variation between the two categories that Green and Long collapse. We continue to think the distinctions between stability-instability crises and staircase crises are important. Although both types of crises are relatively controllable and have limited risk of what Green and Long call “non-rational uncontrolled escalation,” they have very different risks when it comes to nuclear use: lower in stability-instability crises and higher in staircase crises. The factors that determine success in stability-instability crises — primarily the conventional military balance due to the very low risk of nuclear escalation — do not necessarily determine success in staircase crises, in which the nuclear balance may matter. As a result, we think that collapsing these two categories is not necessarily a helpful analytical move.

Second, to the extent that their typology differs from our own, it does so in ways that are not necessarily helpful in shedding light on the variation

across nuclear crises that we observe. In particular, separating incentives for first use into “political bargaining incentives” and “military incentives” is an intriguing proposal but we are not yet fully persuaded of its merits. Given that one of Green and Long’s goals is to increase the clarity of the typology we offer, and given that they acknowledge the difficulties of coding the nuclear balance, demanding even more fine-grained assessments in order to divide incentives for first use into two separate (but conceptually highly connected) components may be a lot to ask of analysts. Moreover, given Green and Long’s assertion that “political incentives to use nuclear weapons selectively...are ever present,” their argument in fact implies (as mentioned above) that political incentives for first use are *not* a source of interesting variation within nuclear crises. We disagree with this conclusion substantively, but it is worth noting that it also has important conceptual implications for Green and Long’s typology: It means that their three types of crises all exhibit political incentives for nuclear first use. If this is the case, then political incentives for nuclear first use simply fall out of the analysis. In effect, crises without political incentives for nuclear first use are simply ruled out by definition. This analytic move renders portions of their argument tautologous. For example, they argue that the conventional balance cannot “ever determine the outcome of a nuclear crisis,” but this is only because they assume that there are always political incentives to use nuclear weapons first, and thus, “any conventional victory stands only by dint of the losing side’s unwillingness to escalate.” More broadly, this approach seems to us at least somewhat epistemologically problematic. In our view, it is better to be conceptually open to the existence of certain types of crises and then discover that such crises do not occur empirically, than it is to rule them out by definition and risk discovering later that such crises have, in fact, taken place.

In sum, while we are not fully persuaded by Green and Long’s critiques, we are extremely grateful for their insightful, thorough, and constructive engagement with our article and look forward to their future work on these issues. We hope that they, along with other scholars, will continue to explore the ways in which nuclear crises differ from one another, and the implications of such differences for crisis dynamics. ↪

Photo: [U.S. Navy](#)

47 We do, however, suggest that our labels offer somewhat more *joie de vivre* than the alphabetic labels that Green and Long offer.