Stanton Nuclear Security Fellows Seminar

PANEL 1: Nuclear Conflict Decision-Making

1. Tyler Bowen, MIT SSP

The Logic of Escalation and the Benefit of Conventional Military Preponderance

On what issue am I working on and why is it important?

What is the value of maintaining conventional power preponderance for the United States? The United States spends over $700 billion a year on its military, far more than any other country. Since the end of the Cold War, there has been a fierce debate within foreign policy circles over whether this is a wise investment. Many IR scholars, especially those in the tradition of realism, call for a military force that is smaller in size and less dispersed around the world. Others say that a large U.S. military that is engaged around the globe provides stability and security and economic benefits that flow back to the United States. At stake in this debate is whether the United States needs a large and engaged conventional military force to protect its allies and keep its major adversaries, China and Russia, in check. Figuring out which perspective on the role of American conventional military preponderance is correct has far reaching implications for force structure, grand strategy, and U.S. policy towards China and Russia.

What is the big question that I am seeking to answer about that issue?

Given the role of nuclear deterrence in providing security, what is the value of conventional military superiority? The United States has nuclear weapons sufficient for a second strike, as do its major rivals, Russia and China. The possibility of nuclear war makes a large conventional war unlikely. In addition, the United States can leverage the threat of nuclear escalation to protect its allies abroad from Russian or Chinese aggression. States can use nuclear deterrence to achieve security goals without the use of conventional military power. Past leaders of nuclear states, especially Dwight Eisenhower and Nikita Khrushchev, have recognized and utilized in their foreign policies the substitution of nuclear deterrence for conventional strength. In this world, what is the value-added of conventional military power?

How do I plan to answer my question? What methods will I use and what evidence or cases do I explore?

I use a mixed methods approach to answer this question, combining quantitative techniques with qualitative analysis via case studies. I look at the value of conventional military superiority within disputes among nuclear-armed states. To do this, I start with a quantitative of all disputes or crises between nuclear states, with the universe of cases drawn from the International Crisis Behavior (ICB) dataset. I measure the conventional military balance between states in each dispute in the area where the dispute takes place by averaging their level of quantitative and technological superiority in six categories of military strength: troops, tanks, tactical combat aircraft, transport aircraft, principle

surface combatants, and submarines. I then correlate this measure with dispute outcomes and control for major variables such as the nuclear balance, regime type, and resolve.

I use case studies of four major crises involving the United States, three from the era of bipolarity and one from a time of unipolarity. I explore how the conventional military balance shaped U.S. success in the Cuban Missile Crisis, the Berlin Crises of 1958-59 and 1961, the Taiwan Strait Crises of 1954-55 and 1958, and the Gulf War of 1990-91. The quantitative overview illustrates the patterns between the conventional balance and dispute outcomes, while the case studies provide causal process observations. Finally, I look at Iraq in the Gulf War to see how the theory described below applies to non-nuclear adversaries and to the unipolar era. If it can, my research can go even farther in explaining the logic of conventional power preponderance.

What is my answer to the question I am asking? What is my argument or conclusion, even if it is tentative at this point?

I argue that a variety of conventional capabilities confers a benefit in nuclear crises. By variety, I mean that a state has several options for conventional escalation such that they can enter into a certain level of conventional conflict and win. In what I call Variety of Capabilities theory, I posit that states with more conventional options for escalation have more bargaining power in a dispute. Conventional superiority is therefore defined by whose military can fight more types of conventional conflict successfully. I use the metaphor of the ladder of escalation to illustrate my logic. Along the escalation ladder, you have rungs that constitute the level of conventional conflict to which you can escalate and win. You also have a point of resolve such that, after you cross that point, the costs and risks of fighting become higher than the benefits of winning the dispute.

The key is to avoid the choice between backing down or escalating past your point of resolve. In this negative decision-making space, policymakers face heavy incentives to back down in a nuclear world. The more options for conventional escalation you have, the more likely you are to avoid this space. In addition, the more conventional options you have the more likely you are to put your adversary into a negative decision-making space. It is this coercive benefit of conventional variety that leads to states with more conventional options for escalation to have greater success in nuclear disputes. Furthermore, there are incentives to back down even if the use of nuclear weapons is not a threat, meaning that this logic can apply to non-nuclear adversaries as well.

The implication of this logic is that the benefit of possessing a greater variety of conventional capabilities should be larger in disputes over peripheral issues than in those over core issues. The reason is that the cost of backing down is larger over core issues than peripheral ones. This makes threats to use nuclear weapons rather than conceding more credible in core disputes, giving a greater role to nuclear deterrence. In peripheral disputes, however, nuclear deterrence is likely to be less effective, increasing the importance of conventional capabilities. This presents a paradox wherein the greatest utility of conventional power lies in achieving peripheral interests.

How does my work fit into existing work on this subject?

My work provides a challenge to the "tripwire" theory of conventional military power within a nuclear context. This theory is drawn from the work of Thomas Schelling, who argues that conventional forces do not need to be able to win or even draw a stalemate in a conventional conflict in order to be effective. They merely need to engage a country's resolve and thereby make nuclear use more credible in a crisis. In so doing, conventional forces constitute a "threat that leaves something to chance," heightening the nuclear danger and achieving deterrence.

Variety of Capabilities theory builds on this bargaining logic but adds a crucial correction. If the key for certain nuclear bargaining tactics is to put the onus of escalation on you adversary, then have multiple conventional options is a good way to do that. It therefore provides a role for conventional military superiority within classic models of nuclear crisis bargaining. In addition, my theory also provides a better explanation for why nuclear states are preoccupied with and attempt to gain superiority in the conventional balance. They perceive a benefit to conventional military capabilities in relations with their major adversaries, whether by bolstering nuclear deterrence or by giving policymakers an option for when deterrence fails.

In the broader picture, my project changes our understanding of how to think about the value of conventional superiority and the scope of nuclear deterrence. Conventional variety is the mechanism through which states with aggregate conventional superiority translate their power into outcomes. Because of this, the true measure of a state's military power is their ability to win at lower and higher levels of conventional conflict in various regions, not just their overall level of defense spending, troops, equipment, etc. It also shows that there is a limit to the effectiveness of nuclear threats in achieving national interests. Indeed, for many issues, they cannot be relied as the sole, or even main, source of security. A state needs conventional options to achieve its interests when nuclear deterrence is not effective and even to make nuclear deterrence into an effective tool of foreign policy.

What policy implications flow from my work? What concrete recommendations can I offer to policymakers?

This project shows policymakers that forward-deployed forces and a large force structure, key components of a grand strategy of deep engagement, provide a tangible security benefit to the United States. This should not lead to an automatic enactment of a deeply engaged grand strategy, however. Rather, it should spur policymakers to focus on the tradeoffs between pursuing the benefits of conventional military superiority and the costs of maintaining that superiority. Is defense spending posing too high a burden on the U.S. economy? Would U.S. security be better served in the long run by shifting government spending to other areas? Should policymakers put greater emphasis on domestic prosperity or national security? These issues become even more stark when one considers that the largest value-added for conventional military superiority comes in the achievement of peripheral interests.

What do I think is the weakest or most vulnerable aspect of my study and what sort of feedback will be most useful to me?

The most vulnerable aspect of my study regards the application of my theory to cases of nuclear crises. In the Cuban Missile Crisis and the Taiwan Strait Crises, the archival evidence points to a link between the ability to use conventional force and success in the dispute. The application to Berlin and the Gulf War is more convoluted. In the former, the U.S. was inferior in the balance of conventional variety, but it did have substantial conventional forces in Europe. Is it believable to say that NATO had some conventional options in 1961, even if it had fewer than the Soviets? In the latter, is conventional variety a good tool for explaining U.S. success in the Gulf War?

2. William d'Ambruoso, BCSIA

Fatal Fatalism: Major War as a Self-Fulfilling Prophecy

On what issue are you working and why is it important? What is the big question that you are seeking to answer about that issue?

I am taking a crack at the age-old "why war" question with a special emphasis on the role of uncertainty in the lead-up to major war. Observers of international politics have traditionally assigned a crucial role to the concept of uncertainty in explanations of international outcomes, especially violent ones. Uncertainty makes one state question whether another's defenses are truly defensive, leading to security dilemmas. States cannot be certain of other states' present or future intentions, scholars argue. Leaders must prepare for worst-case scenarios. Without uncertainty, Stag Hunts would not be interesting game-theoretic explorations of the difficulties of cooperation with fellow potential rabbit-baggers, but rather dull models of peace, cooperation, and venison. Together with anarchy, uncertainty is supposedly quite the troublemaker.

Yet my initial inquiry into whether leaders profess uncertainty about adversaries' intentions on the eve of war has led me to doubt the conventional wisdom. My questions are thus: To what extent are key figures uncertain of adversaries' overall intentions on the eve of war? To what extent are they nearly certain that war cannot be avoided? Finally, what difference do nuclear weapons make in gauging the importance of uncertainty?

How are you going to answer your question? What methods will you use and what evidence or cases will you explore?

Using primary and secondary sources, I'll be taking a close look at private and public statements by key figures in the lead-up to major wars (like the two World Wars) and near-misses (e.g., the Cuban Missile Crisis).

Most of the evidence I am seeking is abundant and readily available. Even the primary sources are generally accessible through university library systems. This abundance also presents a danger: Scholars are likely to find evidence for any particular thesis they choose to promote. A few strategies can overcome the oversupply problem. First, I must be clear about what disconfirming evidence looks like to show that alternative explanations are taken seriously. If leaders are professing bewilderment about adversaries' intentions on the eve of war, this does not support the thesis that I will present, and I need to weigh this evidence against that which corroborates my thesis. A transparent method of comparison would improve the persuasiveness of my case. Second, I can break down a large literature on the causes of a war into different viewpoints and show that each is compatible with my argument. For instance, the World War I literature is enormous, and I am currently coping with this problem by categorizing the explanations for the war roughly into two (or possibly three) groups: the "Blame Germany" camp and the "Blame Everyone/No one" camp. Authors from both camps indicate a key role for fatalism in the lead-up to war.

Thankfully, nuclear war remains more in the theoretical than empirical realm, but there are strategies for studying the close calls. When we break open the state and look at the key players inside, one hypothesis to test is whether the most hawkish elites are also the most fatalistic in high-stakes nuclear crises. For instance, Robert McNamara recalls that Curtis LeMay recommended airstrikes during the Cuban Missile Crisis because he believed "that ultimately we're going to confront [the communists] in a conflict with nuclear weapons. And, by God, we better do it when we have greater superiority than we will have in the future."

What is your answer to the question you are asking?

I argue that the leaders who choose to begin modern, high-damage wars are nearly certain that their adversary's intentions are and will continue to be malign, and that war is inevitable. The war question then shifts from if to when, and war planning, mobilization, and possibly striking first replace inquiries about whether such a war should occur at all.

Belief in war's inevitability is evident in the run-up to both world wars, especially among those most responsible for making the fateful first leap. In the years, months, and days before World War I, the most consequential figures in the German government were sure that Russia was going to surpass their own country in capabilities in a few years. But they didn't wonder what Russia would do with their newfound comparative strength; they were resigned to the worst. The Russians and French, for their part, mobilized because they were sure that that a German-initiated war was inevitable, and Germany could not be persuaded to hold back.

Twenty-five years later, Hitler expanded east not merely because he was a crazy racist, though this important factor should be mentioned. He also began a major war because he was certain that the Soviet Union and Germany were destined to collide. In the Pacific, Japan was not quite convinced that the United States would directly attack the Japanese mainland when its leadership was deciding how to deal with the U.S. oil embargo. The Japanese leadership did conclude, however, that a fundamental conflict of interest could not be avoided, war was highly likely, and the mere continuation of economic warfare against the Japanese would destroy their empire soon enough. Fatalism, not uncertainty, caused these wars.

A few hypotheses accompany the main argument. First, the sooner a supposedly unavoidable war is expected, the more likely a leader will be to call for war in the present. Second, the greater the anticipated damage, the more leaders will want to be sure that war cannot be avoided before jumping into the fire. This second hypothesis implies that the argument should pertain especially to nuclear war. Nuclear initiation is so risky, and the risks are so obvious, that sane leaders would not make such a choice unless they were sure that they couldn't not.

How does your work fit into the existing work on your subject?

Realist international relations theorists and others that explore the security dilemma emphasize uncertainty in the lead-up to war. Canonical works on the security dilemma by John Herz, Herbert Butterfield, and Robert Jervis give uncertainty a major role. Card-carrying realist John Mearsheimer

makes uncertainty one of his five bedrock assumptions of realism. Dale Copeland's brand of realism also features uncertainty, which he believes to be the key difference between realists and constructivists.

My findings suggest that the theoretical obsession with uncertainty is overblown. Realist accounts have strained credulity by suggesting that rational leaders will sometimes opt for major war in the present rather than face an uncertain future. Major war is awful for many reasons. Choosing to start one guarantees its occurrence. Only the most heavily discounted future combined with high levels of confidence in one's reality appraisal – rather than uncertainty about the future – make choosing a high-damage war in the present a rational move. The immense destruction promised by nuclear warfare only compounds the matter.

My argument can be considered an extension of constructivism. Constructivists hold that anarchy does not lead inexorably to security dilemmas and war. Instead, anarchy is indeterminate, and security dilemmas and other hallmarks of power politics are institutions and mechanisms for problem-solving in international relations, originating in and sustained by ideas and practices. The recurrence of war, then, is a self-fulfilling prophecy: Leaders who think that the world is a dangerous and unforgiving place are likely to hold up their half of the security dilemma or other model of preparation for war, inspire the same in others, and prove their pessimism right. While constructivists like Alexander Wendt are making a theoretical point about the background causes of all wars, I demonstrate that, helped along by certain factors (like level of destruction promised by a given war), fatalism can be a proximate cause as well. The world wars of the Twentieth Century were preordained by leaders who saw war as a near-certainty, and part of their reasoning was derived from a more war-saturated culture than we see today.

Many realists are sympathetic to the idea that nuclear war is highly unlikely, deterrence can be robust, and intentional nuclear war will only come about by self-fulfilling prophecy. Nuclear revolution Scholars, including Robert Jervis and Kenneth Waltz, would probably find much to agree with what I am arguing. Younger nuclear scholars like Vipin Narang and Keir Lieber might be more skeptical. But while they anticipate a lower threshold for non-accidental nuclear use, they are still arguing that unless a nuclear state faces a major, regime-threatening attack of either the conventional or nuclear variety, the nuclear silence will likely hold. I agree.

Still, the shear variety of estimates of the likelihood of nuclear war, and the various nuclear threshold estimates, suggests that nuclear deterrence does not fall from the sky. It is a practice that must be developed, rehearsed, and internalized. This culture of deterrence opens the door for what I am calling Constructivist Nuclear Deterrence. Nina Tannenwald argues that a strong norm prohibits nuclear use, but she and other constructivists hold that materialist explanations are not wrong, just incomplete. My work aims to fuse materialist and ideational explanations, arguing that while nuclear weapons may have an inherent lean in the direction of deterrence, they do not come with self-evident instructions, and we can build a culture of deterrence that makes major war increasingly unthinkable.

What policy implications flow from your work? What concrete recommendations can you offer to policymakers?

I'll emphasize the nuclear implications here. Citing the threat from new and potential nuclear powers, many deterrence theorists today emphasize the problem of credibility in deterring asymmetric opponents. These theorists, and some practitioners such as those at the Pentagon, are thinking creatively about the various ways in which an asymmetric nuclear war might begin, but they may be too quick to dismiss the lessons from history's other major wars, plus the real danger of accidental war. If great powers today develop more flexible arsenals covering every potential credibility gap, they run a much greater risk of convincing opponents that war is in the offing, which is how modern high-damage wars are most likely to occur. By contrast, a smaller arsenal that does not strive for dominance at every rung of the escalation ladder will minimize the potential for accidents while continuing to deter major war (as evidence from the United States' history of being deterred by other countries' smaller nuclear arsenals demonstrates). Most crucially, paired with a stated and practiced commitment to no first use (a reality that does not spontaneously materialize, as realists sometimes mistakenly contend), small arsenals that keep nuclear weapons squarely in the deterrence rather than the war-fighting column are also the world's best chance for avoiding what constructivists correctly view as the greater threat: war by self-fulfilling prophecy.

What do you think is the weakest or most vulnerable aspect of your study and what sort of feedback would be most useful to you?

Will my book teach smart readers something that they don't already know? Am I characterizing the new nuclear deterrence scholars fairly? Should I generate more sophisticated policy recommendations, and if so, what should they be?

3. John Emery, CISAC

Quantifying the Unthinkable: How the 1950s RAND Wargames Buried Psychological and Ethical Factors in Decision-Making

Issue and Importance: How can psychological and ethical influences in decision-making be captured in nuclear wargames? This project takes an in-depth look at some of the first political-military wargames at the RAND Corporation from November 1954-April 1956 known as "The Cold War Game" (CWG). Based on extensive archival research at RAND Corporation in Santa Monica, CA, this project identifies the methodological and epistemological issues faced by early systems analysts in attempting link political and economic issues to traditional military wargaming in the nuclear era. The CWG sought to both quantify the non-rational or social dimensions of nuclear decision-making as well as develop psychological insights, to recognize the ways that propaganda and psychology were used as techniques of warfare alongside the quantitative and supposedly rational analytics of game theory. While it failed to meet its own objectives of both "political realism" and rigorous scientific experimentation for real Cold War strategies, it did succeed in its educational goals of intellectual clarification throughout the process of play. The CWG then migrated to MIT pioneered by Professor Lincoln Bloomfield, which became the basis for Reid Pauly's study of these wargames.[1] Pauly analyzed the 26 Lincoln Bloomfield political-military wargames at MIT from 1958-1972 and concluded that aversion to cross the nuclear threshold in wargames "comport most strongly with the logics of deterrence, practicality, and reputation" rather than "explicit arguments about the immorality of nuclear weapons." My question is to ask *how* ethical arguments came to be sidelined throughout the Cold War, by taking an in-depth look at one of the first political-military games devised at RAND, which was the foundation for Bloomfield's series of games. Given the resurgence in wargaming as method in political science and its continued salience for policy-makers and practitioners, these foundational understandings can shed light on contemporary dilemmas. Ultimately, this particular case study of political-military nuclear wargaming raises important questions on the difficulties abstraction, quantification, and social science generally in how we conceptualize novel technologies and nuclear threats in the international system today.

Big Question: How does abstraction and technostrategic language in political-military gaming legitimize certain kinds of arguments of deterrence and practicality and constrain ethical arguments for nuclear non-use? Since the process of game play itself did have a tempering effect on even the most bellicose strategists, I ask how the process of physical wargaming makes restraint implicit and allow for more ethical conduct, while simultaneously excluding ethical arguments as "non-rational?"

Methods and Cases: In order to answer these questions, I am looking to the specific case of the CWG and the proliferation of the political-military wargaming method from the site of 1950s RAND Corporation. Taking a holistic look at the players, their assumptions of game design, and broader contestations at RAND between the mathematics/economics divisions and the newly formed social sciences division yields insights on the process of play and its impacts on decision-makers. In this

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[1] Pauly, Reid B.C. 2018. "Would U.S. Leaders Push the Button? Wargames and the Sources of Nuclear Restraint," *International Security*, Vol. 43 (2): pp. 151–192.

project, I aim to examine what Hugh Gusterson calls the "production and contestation of power, knowledge, and belief at the local level in order to understand national and global political processes." [2] Through interpretivist methods, I aim to understand the production of ideology rather than the production of policy per se, and thus utilize Clifford Geertz's lens of cultural analysis of a "continual dialectal tacking between the most local of local details and the most global of global structure in such a way as to bring them into simultaneous view" at the site of the origins of political-military wargaming. Moreover, I draw upon the work of Carol Cohn to discuss how "technostrategic language," which "reflects and shapes the nature of the American nuclear strategic project, [such] that it plays a central role in allowing defense intellectuals to think and act as they do," has shaped assumptions of wargaming. Thus, the technostrategic discourse was such that the games were "carefully and intricately reasoned, occurring seemingly without any sense of horror, urgency, or moral outrage."[3] For example, one RAND futurologist Olaf Helmer lamented that wargaming was a substitute for experimentation, because "actual experimentation, which would involve for instance, the dropping of bombs on armies and factories, is of course impossible."[4]

However, while ethical arguments were explicitly excluded from rational game play, a kind of restraint came forward in the process of play. These interpretivist methods of *Verstehen* and thick description allow me to take an in-depth look at the contestation and failures of early political-military wargames and how these foundational assumptions proliferated and were codified in the academy and with policymakers both with the MIT games and subsequent computerized "Monte Carlo" nuclear wargames at RAND. Given the "renaissance" in political science wargaming today to analyze novel technologies, the origins and methods of wargaming as a substitute for experimentation are worthy of exploration.[5]

Answer to Question: The tentative answers to my study are that CWG was both a failure in achieving initial goals and a success in its educational insights garnered. First, it was a failure in that the goal of "political realism" was not achieved. Even with a more "free play" model of gaming, human decision-making was limited to unrealistic and mechanical moves as Olaf Helmer noted: "the human participating in the game acts as something like an analogue computer, in the sense that he takes the place of a black box, into which his artificial environment feeds certain stimuli, to which he reacts behaviorally by producing strategic decisions."[6] There was indeed no scientific breakthrough in their attempts to quantify uncertainty and have the game map onto the real world and was thus not a useful device for testing Cold War strategies. Secondly, the CWG failed in the realm of insights for psychological warfare. The game was intended to help understand the psychological aspects of players so that the RAND Corporation, the military, or other sovereign interests could anticipate and react efficiently to future military conflicts. This dual purpose of the game was crucial: it is important to recognize the ways that propaganda and psychology were used as techniques of warfare alongside the quantitative and

[2] Gusterson, Hugh. 1996. Nuclear Rites: A Weapons Laboratory at the End of the Cold War. University of California Press, p. 5.
[3] Cohn, Carol. 1987. "Sex and Death in the Rational World of Defense Intellectuals." Signs 12 (4): 687–718.
[4] Digby Box 008– COW Notes by J. O'Connell, 1955, "Helmer's Speech" [DRAFT]. RAND Corporation Archives, p. 1.
[5] Lin-Greenberg, Erik, Reid B.C. Pauly, and Jacqueline Schneider. 2020. "Wargaming for Political Science Research" SSRN Scholarly Paper. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3676665. Lin-Greenberg, Erik. 2019. "(War)Game of Drones: Remote Warfighting Technology and Escalation Control (Evidence from Wargames)." SSRN Scholarly Paper. https://papers.ssrn.com/abstract=3288988.
[6] Digby Box 008–The Bovine Quadrupled, M-154–"Helmer's Speech" (1955) RAND Corporation Archive, p, 2.

supposedly rational analytics of game theory. Players would be analyzed not only on the logistical insights gleaned through these exercises, but also by their psychological outlook, however the endless recordings of the game stretched on for days and was too much data to be analyzed or quantified effectively. There is an inherent tension in the fact that the game design and play did two things simultaneously. On the one hand, it forestalled ethical rationales as de facto excluded from the 'rational' calculations of moves within the game. However, on the other hand, the process of play itself did have a tempering effect on players that tamed even the most bellicose strategists.

The success of the game was both its proliferation to MIT, but also the useful ethical insights garnered. Although ethics was rarely an explicit reason to avoid crossing the nuclear threshold – supported by Pauly's (2018) conclusions – the process of play itself had a cooling effect. The archives definitively revealed that, according to an internal RAND report, "the players quickly gained a sense of the awful consequences that might result from an ill-advised move. In the game, as in the real world, international relations were conducted under the shadow of the terrible destructiveness of modern weapons. Participants acquired a sense of crushing responsibility, and for this reason the game was sometimes exhausting. As a result of this sense of responsibility, players often tended to be extremely cautious [in crossing the nuclear threshold]. Those who in the classroom, or in publications may have advocated 'bold, imaginative policies' and criticized free-world leaders for timidity usually found themselves behaving with equal caution when they assumed the burden of policy-making in the game. Participants thus tended to judge foreign policy decisions in the real world differently after the game than they had done before it."[7] Hence, this study helps to explain *why* Pauly found evidence of the factors aversion to cross the nuclear threshold in wargames comport most strongly with the logics of deterrence, practicality, and reputation and not those of ethics, as it became buried, nevertheless, present through the process of physical play itself. Ultimately, certain types of educational wargames both reify the abstraction that Cohn warned about and complicate it by assuming the burden and consequences of actions.

Fit with Existing Work: There is a growing "renaissance" in wargaming today in political science to explore novel technologies or issues in the international system, thus the methods of wargaming as a substitute for experimentation are worthy of exploration. The literature is quickly expanding in this field of inquiry. This study adds to the conclusions of Pauly's (2018) study of the MIT political-military games were so telling about the motivations and intentions of players not wanting to cross the nuclear threshold, this study examines the origins of political-military wargaming that were foundational to that important study and have yet remained underexplored.[8] Moreover, the particular environment of RAND in the 1950s bears a family resemblance to the dilemmas of today with new technologies of war, and novel methods in advanced computing that maps on neatly to the uncertainties of nuclear exchange and early systems analysis or game theory of that particular time and context.[9] Finally, as the ethical

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[7] Davison, W.P. "A Summary of Experimental Research on 'Political Gaming,'" 1958, RAND Corporation Archives, D-5695-C, p. 8.

[8] Bartels, Elizabeth M. 2020. "Building Better Games for National Security Policy Analysis: Towards a Social Scientific Approach." RAND Corporation.

[9] Ghamari-Tabrizi, Sharon. 2000. "Simulating the Unthinkable: Gaming Future War in the 1950s and 1960s." *Social Studies of Science*, Vol. 30 (2), p.

questions of nuclear wargaming remain, I look to analyze early assumptions about game design and the contestation of game as art versus game as science to see how particular game design and philosophical assumptions enables certain discourses of deterrence and excludes others of ethics.[10] Thus, this project offers both an in-depth look at the origins of this method and interjects with the larger questions of how abstraction and technostrategic language enables and constrains decision-making options for players within various game designs.

Alternative Arguments: Some alternative arguments are that, while this particular game may demonstrate one outcome subsequent games must be compared and contrasted for a more systematic understanding of the impact of wargaming on ethical and psychological factors. However in this study, it is through the deep contextual understanding of the interpersonal and disciplinary rivalries through the archives that allows this project to dissect the failures of these wargames and its future success at MIT. The question of how ethical arguments came to be excluded in nuclear wargaming can be attributed to a number of factors in both the Cold War sense of mutually assured destruction, the rise of game theory and computing power – both of which rely on abstract quantitative analysis – and that ethical arguments against nuclear weapons were always excluded as irrational. However, this paper sheds light on how the process of gaming itself can lend itself to temper bellicose strategists even if the ethical implications are forced to be implicit and not explicit.

Add/Change Understanding: This work sheds light on the foundational political-military games that led Pauly (2018) to stark conclusions about rationales for crossing the nuclear threshold. This has implications both for an understanding of early Cold War rationales and contestations for quantifying the unthinkable in nuclear exchanges and for the methodological and epistemological issues that are being explored by wargamers in political science today.

Most Important Contribution: In addition to the descriptive archival work on the contestations of political-military gaming at RAND in the 1950s, I argue that the understanding gained from the CWG tells us that even when ethical arguments are excluded, the process of play can garner restraint in even staunch advocates of aggressive policy. The issue at RAND both in the CWG and beyond was that the mathematicians were looking to solve ideal problems of nuclear war, an amorphous hypothetical to do the best job, that often did not map onto the empirical reality of the world. The issues of sacrificing "realism" for ideal game designs is essential for wargame design today. Ultimately, this particular case of nuclear wargaming sheds light on the difficulties of abstraction, quantification, and social science more generally in how we conceptualize new technologies and nuclear threats in the international system.

Policy Implications: There are many policy implications that stem from this work in that wargaming is such an essential part of policymakers planning and decision-making. Understanding how elements of game design impact the outcomes offers a word of caution to those that view wargaming more as science than art. Game design and goals are essential for policymakers to understand how slight

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[10] Pettyjohn, Stacie. 2019. "The Promise and Pitfall of Wargames: Differentiating Good from Bad Games," working paper prepared for MIT-Naval War College Co-Sponsored Workshop on Wargaming and the Implications for International Relations Research."; Reddie, Andrew W., Bethany L. Goldblum, Kiran Lakkaraju, Jason Reinhardt, Michael Nacht, and Laura Epifanovskaya. 2018. "Next-Generation Wargames." Science 362 (6421): 1362–64.

variations can impact outcomes. However, the greatest insight from this study of the CWG implies that the process of play itself has a tempering effect on bellicose policies and can aid them in thinking through potential consequences of actions. Furthermore, it highlights the difficulty in quantifying the uncertainty that the social world presents to both social scientists and policymakers. Hence, political-military games should always be viewed by policymakers as producing insightful tools, but not deterministic policy prescriptions.

Weaknesses/Feedback: The most vulnerable aspect of my study is the fact that it is a "thick description" of one case in particular and may not be generalizable. However, the feedback that would be most useful to me for this project is how to frame the study that offers deep theoretical insight into understanding the origins of political-military games that shaped Cold War decision-making, as well as provides tools for wargaming in political science today on the successes and failures of wargaming.

4. Rev. Brian Muzás, CFR

Religious Cultural Heritage and Presidential Nuclear Decisions

On what issue are you working and why is it important?

I want to understand the influence of religious cultural heritage (RCH) on nuclear decisions. If RCH is an important omitted variable, then typical understandings of nuclear decision-making are incomplete. The more complete understanding, the better one can assess current situations and imagine future scenarios, and the better one can design policy to deal with current events and possible future conditions.

What is the big question that you are seeking to answer about that issue?

The overall question is twofold: How are nuclear decisions made, and what considerations exert influence? Some writers stress factors like opportunity, interest, and politics. Others stress factors like psychology or norms. While such approaches make sense, these avenues have not adequately addressed the role of religious cultural heritage in nuclear decision-making. In a globalized world where the cultures of nine nuclear-armed states have been formed and informed by the practices and philosophies of five major world religions, this omission seems conspicuous and curious.

How are you going to answer that question? What methods will you use and what evidence or cases will you explore?

The analytical framework I adopt explores religious cultural heritage (RCH). RCH denotes a legacy of attributes inherited from past generations, maintained by the present generation, and preserved for future generations. Although that legacy includes physical artifacts, I focus on intangible culture such as stories, traditions, and knowledge. My project will explore the impact, at the individual level, of three knowledge-related intermediary connections between RCH and decision-making frameworks: ethical structure, philosophy of government, and concept of human nature. This threefold emphasis leads to the following original approach.

Methodologically, I propose to explore the influence of religious cultural heritage (RCH) on nuclear decisions by bringing together history, political science, and religious studies. I will apply this methodology to four U.S. presidents. With a solid focus on nuclear decision-making, I will draw on archival documents and appropriate secondary literature to examine Harry Truman, Dwight Eisenhower, Jimmy Carter, and Ronald Reagan – all of whom made nuclear decisions ranging from dovish to hawkish. The variety of decisions these leaders faced provokes questions, such as: At the individual level of analysis, why would the same leader make both aggressive and pacific nuclear decisions? Are all nuclear choices *sui generis*, or might religious cultural heritage help explain this apparent disparity? For these presidents and their varied experiences of RCH, I will establish patterns of thought and patterns of behavior to connect their philosophies of ethics, government, and human nature to their respective decision-making frameworks.

What is your answer to the question you are asking? That is, what is your argument or conclusion even if it is still tentative at this point?

I do not argue that RCH by itself determines nuclear choices. Nevertheless, RCH must be included among factors like opportunity, interest, politics, psychology, norms, and similar important considerations. In my sample of four presidents, I highlight how different presidents give different weights to different factors due to their specific experience of RCH while nevertheless recognizing the shared milieu of American Christianity.

Thus, I claim that accounting for RCH allows one to characterize the decision-making framework of the investigated presidents and to test that characterization against the historical data. The mainline Protestant presidents Truman and Eisenhower (respectively a Baptist and a Presbyterian) exhibit a just war framework with Truman having a more permissive and Eisenhower a more restrained approach to just means. The more idiosyncratic Carter and Reagan (respectively a Baptist and a Disciple of Christ by denomination but both of whom claimed to be born again) exhibit, in the case of the former, an interplay of prayer and work grounded in the Protestant work ethic reinforced by his mentor Admiral Rickover and, in the case of the latter, a balance of universal ideas through which decision-making data was filtered to result in concrete decisions.

How does your work fit into the existing work on your subject?

- *What alternative arguments or explanations exist and why is your answer superior?*
- *How does your work add to or change our understanding of the issue you are studying?*
- *What do you see as your most important contribution?*

As explained above, my argument does not repudiate earlier work but rather completes it by including an omitted variable. My book will make important, policy-relevant contributions to the literatures on nuclear decision-making, presidential biography, presidential religion, presidential decision-making, and presidential personality. First, including religious cultural heritage will complete and clarify analyses based on interest, opportunity, psychology, and other conventional factors in the nuclear literature. Second, I will remedy the lack of systematic treatment of RCH in American presidential biographies. Third, I will make systematic connections between RCH and presidential policy choices with a focus on nuclear policy. Fourth, I will discuss RCH as an independent explanatory factor rather than as a proxy for morality or other factors. Fifth, I will concentrate on RCH principles which underlie leadership rather than on leadership style. Such RCH analysis will yield fresh, pertinent insights in all above areas. Moreover, by focusing a formidable historical methodology which no one else has employed on an under-appreciated yet clearly important aspect of nuclear decision-making, I will not only cover gaps in the literature but provide an expandable basis for future analysis of other nuclear-armed and nuclear-aspirant states and their leaders.

What policy implications flow from your work? What concrete recommendations can you offer to policymakers?

Several implications follow from the above work: that RCH matters; that RCH is a source of knowledge and ideas that can be incorporated into philosophies of anthropology, ethics, and government; that one needs to understand these elements in combination in order to understand the framework that informs the interests, motivations, and calculations of states and state leaders.

Therefore, policy makers ought to be aware of RCH influences in their own states and on their own state leaders as well as the influences of RCH in other states and on other state leaders. Those who engage in international politics, especially nuclear issues, would be wise to become familiar with different RCH to better understand how different philosophies of human nature, ethics, and government can shape and be shaped in different cultural and political settings. Likewise, it is crucial to understand similarities and differences in concepts and vocabularies across different frameworks both for analysis of, and communication with, states and leaders.

What do you think is the weakest or most vulnerable aspect of your study and what sort of feedback would be most useful to you?

My target audience of nuclear policy experts is likely to be unfamiliar with the full range of substantive information and analytical tools proper to the study of RCH, philosophical anthropology, philosophy of government, and philosophical ethics. Moreover, I expect to have to persuade the target audience that my approach adds significant value. I am concerned because *first* I will have to introduce concepts that are not the standard coin of the realm and *then* show that they add value; I worry, because I must execute a two-step process, that the audience might disengage before I have the opportunity to showcase the strengths of my approach to best advantage. One the one hand, I do not want to short-change the introduction because I want the audience to appreciate the insights that this methodology affords when analyzing the past, present, and future at multiple levels of analysis; on the other hand, I do not want to get bogged down in step one lest I lose my audience before I get to the payoff in step two. I am not sure where the happy medium lies and would appreciate guidance.

I have a related concern: My work crosses disciplinary boundaries and fits most naturally into interdisciplinary settings, journals, and conferences. I understand how to approach interdisciplinary audiences who already appreciate the value of bringing together multiple elements from multiple fields. How best can I break into the "conventional" nuclear settings of scholarship and policy without seeming to come out of left field? I welcome advice on how to frame the insight that RCH allows one to grasp underappreciated elements of nuclear history as well as to make sure those elements are treated in the present and future.

Finally, I am not sure how best to situate my work. In the grand scheme of things, my approach could be widely employed across multiple geographical regions and multiple world religions. On the other hand, I could focus on a granular level and present the four case studies in a simple fashion. However, I tend to think it best to present my work at a midrange level as a resolution to the recurring paradox that the same president will make both hawkish and dovish decisions, and that the usual factors taken into

account do not comprehensively explain all of the decisions, but that this apparent inconsistency can be resolved by taking RCH into account. I will try out this approach in the slide deck and oral presentation, and I look forward to receiving feedback.