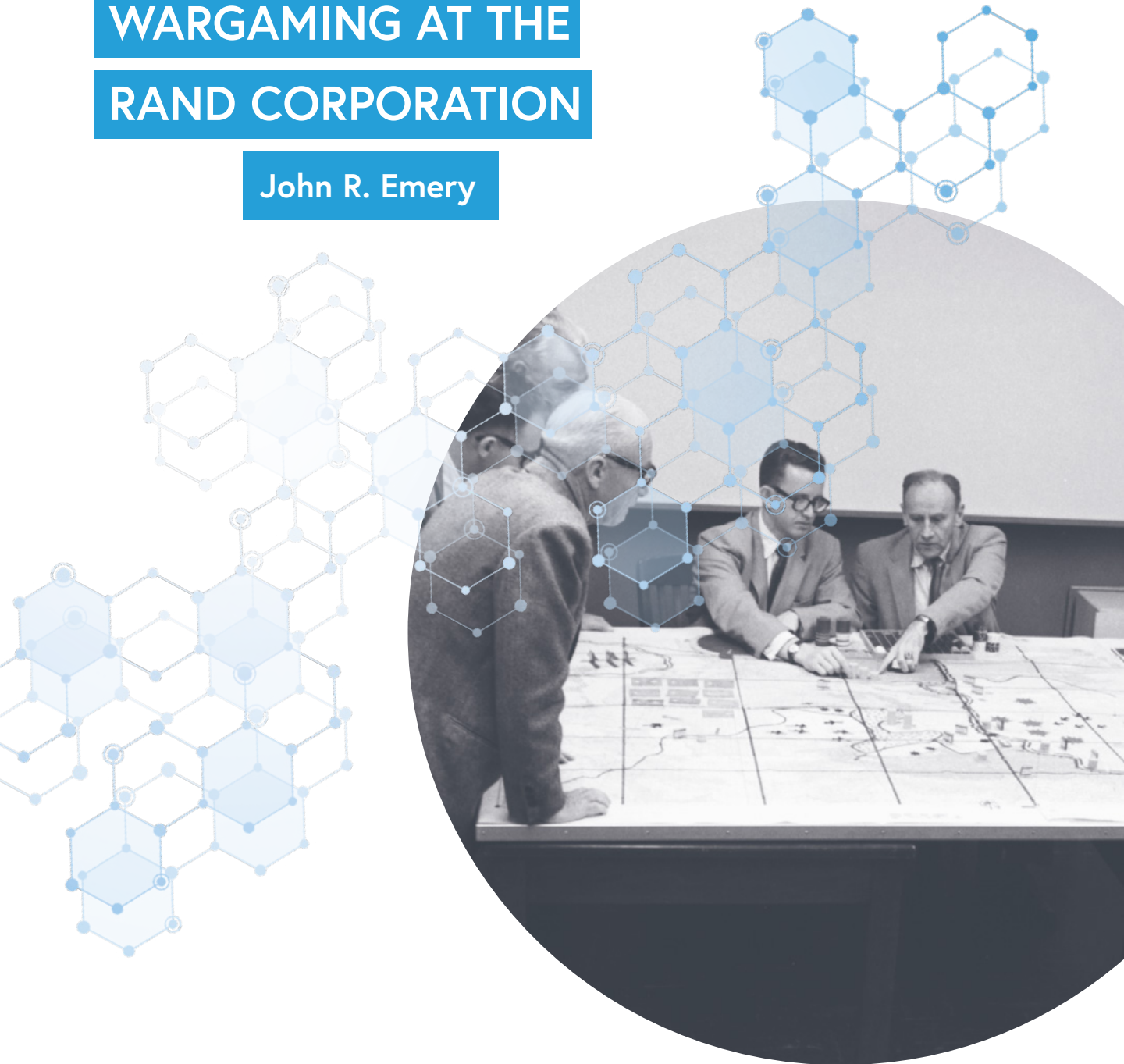# MORAL CHOICES WITHOUT MORAL LANGUAGE: 1950S POLITICAL-MILITARY WARGAMING AT THE RAND CORPORATION

John R. Emery

The RAND Corporation was the site of early-Cold War knowledge production. Its scientists laid the foundations of nuclear deterrence, game theoretic approaches to international politics, defense acquisition, and theories on the future of war. The popularized understanding of RAND as filled with cold, detached rationalists who casually discussed killing millions with no moral abhorrence misses the immense contestation in the early 1950s between the mathematics and the social sciences divisions, which sought to understand the impact of nuclear weapons on war and international politics. To do so, they created the first political-military simulations, called the "Cold War Games." The games had divergent outcomes, with the mathematicians quick to launch nuclear weapons and the social scientists acting with nuclear restraint. The key difference in the game models was a high degree of realism in the social science game that engaged the players' emotions. This immersive experience had lasting effects beyond the game itself as defense intellectuals bore the weight of decision-making and confronted the catastrophic consequences of using nuclear weapons. The role of emotion is central to both ethics and decision-making, and is essential for wargaming today, yet often remains excluded in rational theories of nuclear deterrence.

In 1961, the folk singer Malvina Reynolds recorded "The RAND Hymn," in which she described the work of the RAND Corporation scientists with the following lyrics:

Oh, the Rand Corporation's the boon of the world,
They think all day long for a fee.
They sit and play games about going up in flames;
For counters they use you and me, honey bee,
For counters they use you and me.

In 1960s popular culture, the RAND Corporation was the epitome of cold-blooded ruthlessness and rationalized unreasonableness, and was staffed with calculating deterrence theorists who casually discussed killing tens of millions. This was espe-

cially true in the public consciousness after the release of Stanley Kubrick's 1964 film *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb*.[1] Indeed, Fred Kaplan's book *The Wizards of Armageddon* described the RAND scientists as "rational analysts," who would "attempt to impose a rational order on something that many thought inherently irrational — nuclear war. They would invent a whole new language and vocabulary in their quest for rationality, and would thus condition an entire generation of political and military leaders to think about the bomb the way that the intellectual leaders of RAND thought about it."[2] However, this popularized and rather one-dimensional view of RAND misses the immense intellectual contestation that took place in the 1950s between the

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1   Christian Dayé, *Experts, Social Scientists, and Techniques of Prognosis in Cold War America* (London: Palgrave Macmillan, 2020), 28. See also Jenny Andersson, *The Future of the World: Futurology, Futurists, and the Struggle for the Post–Cold War Imagination* (New York: Oxford University Press, 2018); and Paul Erickson, et al., *How Reason Almost Lost Its Mind: The Strange Career of Cold War Rationality* (Chicago: University of Chicago Press, 2013).

2   Fred Kaplan, *The Wizards of Armageddon* (Stanford, CA: Stanford University Press, 1991), 10–11.

Mathematical Analytics Division (MAD) and the Social Sciences Division (SSD).

The division between the MAD and the SSD played out most evidently in each division's creation of a political-military wargame, which embodied their divergent approaches to how to incorporate elements of politics, economics, psychology, and culture into traditional military gaming. Was international politics a science that could be predicted via quantitative methodologies in wargaming? Or was it more of an art, best studied through qualitative means to gain an understanding of how intuition and judgment may be exercised in Cold War posturing? This was the fundamental divide between the MAD and the SSD. It was at the RAND Corporation that these individuals laid the intellectual groundwork for decades of U.S. nuclear policy and generations of academic research on the topic of deterrence. The MAD, or quantitative, approach became the dominant discourse of the Cold War. It utilized game theory and an economic modeling of deterrence to frame and conceptualize the bipolar international system. Yet, these assumptions about how best to understand the dilemmas of the time were not met without contestation, even within RAND. The alternative path not taken — at least in terms of RAND's Cold War thinking — was the more social scientific approach to understanding international politics, an approach that was relegated to the periphery both at RAND and in the wider academic community.

This battle between epistemic approaches to the Cold War manifested in the mid-1950s with the creation of the "Cold War Game," affectionately dubbed "COW." The competing versions of the game in the MAD and the SSD were attempts to gamify the dilemmas of the nuclear era and international politics, with each side bringing to bear its assumptions about the world and how best to study it scientifically. While the MAD's version was ultimately a failure because it was unable to produce useful and accurate operationalizations of human behavior for game theoretic matrices, the game that the SSD created in response was highly successful in that its model was adopted at universities and at the State Department. Hence, this origin story of the political-military gaming that came out of the SSD at RAND and its subsequent prolif-

eration throughout the Cold War was, according to historian Daniel Bessner, the department's "most lasting contribution to the theory and practice of international relations."[3]

One might expect the archives at the RAND Corporation to be filled with cold, calculating game theoreticians who were more concerned with the logical consistency of their models than the ethical concerns of the implications of nuclear weapons. While there certainly were elements of this in the MAD archives, the SSD archives demonstrate a profoundly complex and nuanced understanding of the dilemmas — both strategic and ethical — that the early nuclear era presented. Ethical considerations were, in general, rarely discussed at RAND.[4] Moral language was almost *de facto* excluded from the highly rational discourse of the early defense intellectuals. Yet, moments of ethical reflexivity and moral judgment emerged in the process of physical play of the SSD's Cold War Game in the mid-1950s. (The physical play of the games is essential for understanding ethics and is an important contrast to the human-computer and computer-based wargames that arose shortly after at RAND.)

The archival material from this period, as well as biographical sources, reveals that RAND was not full of Dr. Strangeloves, but rather predominantly men (with notable exceptions like Roberta Wohlstetter), many of whom had fled from or lived through the horrors of World War II. Once the United States had decided to use nuclear weapons on Hiroshima and Nagasaki and the Soviet Union had tested its own RDS-1 nuclear device in August 1949, nuclear theorizing was not something that many thought of in a cavalier way. Yet, it also remained dependent on how they thought of the future, such as the extent to which they viewed nuclear war as possible, probable, or almost inevitable. This would determine what they considered to be a logical response in a scenario of nuclear brinksmanship. These views were mixed among those at RAND, in constant flux, and often not in line with how they presented their beliefs publicly.

How did one strike, as RAND alumnus Albert Wohlstetter put it in 1958, "The Delicate Balance of Terror" to avoid catastrophe?[5] One cannot necessarily take defense intellectuals at their word. As Ron Robin argues in his book, *The Cold War They*

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3   Daniel Bessner, *Democracy in Exile: Hans Speier and the Rise of the Defense Intellectual* (Ithaca, NY: Cornell University Press, 2018), 223.

4   Although I found no evidence of ethical discussions at RAND, Hugh Gusterson's ethnographic work on the Lawrence Livermore National Laboratory in the late 1980s and early 1990s would indicate that even then the scientists would tend to think about ethics in private. There, rather than ignore the ethical dilemmas of their work, weapons scientists learned to resolve these dilemmas in particular, socially patterned ways. They were all thinking about the ethics of their work privately, all the time convinced that their colleagues were not. It was a matter for the private sphere rather than the professional. See Hugh Gusterson, *Nuclear Rites: A Weapons Laboratory at the End of the Cold War* (Los Angeles: University of California Press, 1996), 41–53.

5   Albert Wohlstetter, "The Delicate Balance of Terror," RAND Corporation, 1958, P-1472, https://www.rand.org/pubs/papers/P1472.html.

Made, Albert Wohlstetter made a confessional statement in a 1985 interview that defined "the ostensibly dangerous Soviets as useful idiots, a comfortable enemy meant to fill the role of an indispensable adversary that a vacillating American society so sorely needed."[6] Indeed, Robin writes that Wohlstetter was "comfortable with risking destabilizing strategies" to address what he viewed as a remote possibility of Soviet nuclear aggression because "he had never really believed in the *probability* of such a catastrophic event," even though "the likelihood of an existential Soviet threat bordered on the fictitious."[7] This highlights some of the limits of the study of discourse in that the policies advocated by some at RAND may not have been what they truly believed to be the best strategy. However, in the study of the Cold War Games, one can look to the outcomes of the games to begin to understand the mechanisms of ethics and decision-making.

The general view of RAND defense intellectuals often falls into one of two camps. In much of the canonical literature on nuclear strategy there is a belief that these men were luminaries who saved the world from catastrophe.[8] In contrast, they have also been viewed as evildoers devoid of a moral compass, as evident in popular culture and much of the post-Cold War literature on RAND. Wohlstetter assessed in 1991 that early literature "romanticized the way scientists at RAND were supposed to use game theory — an arcane subject beyond the kin of ordinary men — to arrive at authoritative decisions affecting the lives of us all. A vast exaggeration." The more polemical popular view, according to Wohlstetter, was that of "heartless scientists at RAND, playing games and using game theory, [who] were leading the world to destruction. After the controversy of the H-bomb split the former members of the Manhattan Project, this view may have become the dominant one."[9]

Given that nuclear war did not break out, it is easy to look back at early defense intellectuals and pass judgment on their theorizing. But that neglects the immense uncertainty and fear of the moment. As Wohlstetter noted, "When a man spends years in an attempt to think soberly and professionally about enormous disasters such as nuclear war, even though his objective is to avoid them, it's possible he might become callous." Nevertheless, "there is nothing essential or inevitable about such a process and the function as a whole is nonetheless humane."[10] Humans are not monolithic and the immense stress of the nuclear moment was indeed too much for some. Each defense intellectual coped in his or her own way with the trauma of the time. Some reacted with gallows humor. Herman Kahn, during a briefing with Strategic Air Command officers, famously blurted out that, "In a real sense you people don't have war plans, you've got *war-gasms*." This was a joke in response to a memo written by and circulated by Bernard Brodie, inspired by his own psychoanalysis.[11] Others, like Jim Lipp, calculated that in the best of circumstances nearly two million people would be killed with the use of a (then) theoretical hydrogen bomb in Europe. That idea made Lipp "nearly throw up" and request to be taken off the project.[12]

Thus, many at RAND still made moral choices, even if they didn't use moral language to grapple with the staggering implications of the destructive power of nuclear weapons. There was always the option to refuse to participate or to consider radical alternatives to those that RAND's funder, the U.S. Air Force, may have been seeking. Nevertheless, ethical practical judgment crept into decision-making through the process of wargaming in the mid-1950s. However, the level of emotional engagement of the players depended on a high level of realism from the game designers, which allowed the players to feel the weight of decision-making.

Before turning to each individual wargame, and its assumptions, design, and scenarios, it is important to note their contrasting outcomes. The MAD game went nuclear multiple times and in one game "the U.S. and S.U. began with H-bombings as early moves. The third player, a synthetic Middle East, then proceeded to occupy the U.S. and S.U."[13] In contrast, the SSD game never went nuclear and instead the process of play had a cooling effect on

6   Ron Robin, "Roundtable 10-17 on *The Cold War They Made: The Strategic Legacy of Roberta and Albert Wohlstetter*," *H-Diplo ISSF*, Nov. 19, 2018, https://issforum.org/roundtables/10-17-wholstetter.

7   Ron Robin, *The Cold War They Made: The Strategic Legacy of Roberta and Albert Wohlstetter* (Cambridge, MA: Harvard University Press, 2016), 171–72.

8   For example, see Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York: Palgrave Macmillan, 1995).

9   Albert J. Wohlstetter, "Mathematics and RAND in the 1950s," Oct. 18, 1991, Box 120 Folder 25, Hoover Institution Archives, 4.

10   Albert J. Wohlstetter, "Notes: SAC Vulnerability 1961 June-July," July 3, 1961, Box 113 Folder 2, Hoover Institution Archives, 1–2.

11   Cited in Sharon Ghamari-Tabrizi, *The Worlds of Herman Kahn: The Intuitive Science of Thermonuclear War* (Cambridge, MA: Harvard University Press, 2005), 238.

12   Kaplan, *Wizards of Armageddon*, 77–84.

13   Digby Box 004–Strategic Objectives Committee, Minutes, "1960 Committee Meeting of May 17, 1954"–RAND Corporation Archives, 1.

the participants. As W.P. Davison noted when reflecting on the SSD's game:

> But most of all, 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. 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.[14]

That this ethical restraint during the SSD game was distinct from the publications and classroom presentations of the same participants is worthy of further exploration. While wargame designs are always unique and can drive players to make certain decisions instead of others, comparing the two RAND games can shed light both on the explicit discursive reasoning for their decision-making and on the players' intuitive judgment about the impact of nuclear weapons on international politics.

As I argue in this paper, the SSD's political-military game engaged the ethical intuitions of the participants and led to restraint in the use of nuclear weapons within the game. The MAD players, in contrast, were quick to use nuclear weapons as the game made a high degree of simplifying assumptions about the world. Consequently, the players did not engage in nuclear restraint in the same way. Ultimately, the two wargames offer an early empirical test for the divergent epistemological approaches to understanding the uncertainties of the nuclear era, the problems of predicting an unknown future of war with novel technologies, and the role of emotion and morality of decision-making in the nuclear era.

The article proceeds in the following manner: First, I discuss Carol Cohn's notion of technostra-

tegic language and the role it played in shaping the discourse of defense intellectuals throughout the Cold War. The effect of technostrategic language was to exclude discussions of ethics and emotion from the rational world of the defense intellectuals at RAND. Next, I examine the role of emotion in ethical decision-making through an Aristotelian ethics of practical judgment and David Hume's concept of empathy. I highlight how the emotional engagement of the players was correlated to the level of realism present in the game's design and was pivotal for the outcome of nuclear restraint in the SSD game. I then proceed to trace the design, play, and results of the Cold War Games of the MAD and the SSD respectively. I argue that the SSD's political-military game engaged the emotions and the ethical intuitions of the players and enabled them to make moral choices even in the absence of explicit moral language. Next, I examine the effects of the SSD game and how its model proliferated to the Massachusetts Institute of Technology (MIT), the State Department, and beyond, impacting the theory and practice of international relations throughout the Cold War. I conclude by highlighting some important lessons that these original political-military games at the RAND Corporation have for the renaissance in wargaming that is taking place in the social sciences today.

In this article, I offer an empirical test from early in the nuclear era on how various epistemological assumptions led to differing outcomes in wargaming at RAND in the 1950s. A high degree of realism present in the SSD's Cold War Game triggered nuclear restraint by engaging the emotions of the players and therefore their ethical intuitions in contrast to the MAD game, which privileged high levels of abstraction for the sake of mathematical certainty. I challenge the one-dimensional view of the RAND scientists in the early-Cold War period by showing the immense epistemological differences between the MAD and the SSD. The former represented the more positivist view with rigid quantification building accurate scientific depictions of the world, while the latter was focused more on reflexivity and understanding the messiness of the social world.[15] These cases demonstrate the role of emotion in nuclear restraint and how wargames with a high level of realism can help to cultivate an ethics of practical judgment that was absent in the more mechanistic MAD game.

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14   Davison, W.P. 1958, "A Summary of Experimental Research on 'Political Gaming,'" RAND Corporation Archives, D-5695-C, Oct. 1, 1958, 8.

15   For a detailed discussion of philosophy of science and epistemologies of wargaming, see Elizabeth M. Bartels, "Building Better Games for National Security Policy Analysis: Towards a Social Scientific Approach," RAND Dissertation (2020) RGSD-437, 44–53, https://www.rand.org/pubs/rgs_dissertations/RGSD437.html.

Technostrategic Language:
The Exclusion of
Ethical Considerations?

Carol Cohn explored the world of the nuclear defense intellectual in depth in the mid-1980s in her famous participant-observation study, "Sex and Death in the Rational World of Defense Intellectuals."[16] Cohn's study examined how nuclear defense intellectuals at the end of the Cold War used what she termed "technostrategic" language. It was a language filled with abstraction and euphemism that humanized insentient weapons and excluded human suffering from the tidiness of the hypothetical scenarios created by their theories. According to Cohn, this world relied heavily on gendered assumptions and euphemisms that set the parameters of legitimate debate. For example, to raise humanitarian concerns about nuclear weapons was considered non-rational, emotional, and inexpert — it was not the topic at hand. Such discussions of nuclear weapons, nuclear strategy, and nuclear war were "carefully and intricately reasoned, occurring seemingly without any sense of horror, urgency, or moral outrage" at the possibility of mass casualties. For Cohn, it was a paradox that such likeable and admirable men could casually discuss the possibility of millions of deaths around the coffee pot and often did so with a kind of gallows humor, using metaphors that were both off-putting and seductive. How then did "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," come to divorce war from its human consequences in the nuclear era?[17]

Cohn offers a pertinent example of how technostrategic language constructs a logically coherent worldview that does not accurately represent reality with regard to the concept of "limited nuclear war." Such a war has never actually taken place. It is a conceptual system based upon mathematical modeling and assumptions about how such a war might play out. It is "an abstract world in which hypothetical, calm, rational actors have sufficient information to know exactly what size nuclear weapon the opponent has used against which targets" and can respond with a precisely calibrated attack. In this view, decision-makers are free of emotion, are perfectly informed, and respond rationally based on a mathematical formula of megatonnage. They are "free of political pressures from the populace, free from madness or despair or any of the myriad of other factors that regularly affect human decision making."[18] Thus, to enter into this rational world is to construct an abstracted world that is removed from reality. It is to be judged by that world's internal logic rather than its probability of occurring. While this was certainly the dominant discourse by the end of the Cold War when Cohn undertook this study, it was far more contested in the 1950s even within RAND. Although both wargames were designed to abstract the immense complexity of the world while using highly technostrategic language, a divergence in outcomes between the quantitative and qualitative Cold War Games raises questions about whether using technostrategic language means that ethics are completely or necessarily excluded.

One of the limitations to understanding the key drivers of decision-making, especially historical decision-making, is that humans are very bad at explaining *why* they made the decisions that they did. Discourse both reflects and shapes the way one thinks about and discusses the world, and the early Cold War period is no exception. Reid Pauly's archival research on MIT's political-military games (1958–1972) that grew out of RAND's SSD game found that "elite wargame players rarely made explicit arguments about the immorality of nuclear weapons."[19] Similarly, no explicit arguments about the ethics or morality of war were made in either of the RAND games based on the available archival record. It may seem as though technostrategic discourse reigned supreme and ethics was eliminated from discussions of nuclear use or deterrence. Nevertheless, the SSD game was able to highlight the emotion of international politics in a way that MAD was not. Players felt the burden of decision-making under the threat of nuclear weapons, as if it were more than just a game. By being made to feel the weight of decision-making even in a simulated environment, the SSD players engaged their ethical intuitions and avoided launching a nuclear weapon.[20]

16   Carol Cohn, "Sex and Death in the Rational World of Defense Intellectuals," *Signs* 12, no. 4 (Summer 1987): 687–718, https://www.jstor.org/stable/3174209.

17   Cohn, "Sex and Death," 690.

18   Cohn, "Sex and Death," 709.

19   Reid B.C. Pauly, "Would U.S. Leaders Push the Button? Wargames and the Sources of Nuclear Restraint," *International Security* 43, no. 2 (Fall 2018): 188, https://doi.org/10.1162/isec_a_00333.

20   For the centrality of how affect and emotion shapes decision-making, see Robin Markwica, *Emotional Choices: How the Logic of Affect Shapes Coercive Diplomacy* (Oxford: Oxford University Press, 2018).

Ethics, Emotion, and Practical Judgment

Comparing two wargames that took place at the same time during the early Cold War period at the same location offers a strong test of how divergent epistemologies can shape decision-making. While ethical discourse was not present in either case, the highly abstract world constructed by the MAD differs immensely from the more free-play model of the SSD game, which had a high degree of realism and more buy-in from the players and didn't allow psychology and culture to be assumed away in favor of the logical consistency of the model. While the MAD favored eliminating judgment from the game, focusing instead on inputs and outputs, the SSD recognized that the mathematicians were not eliminating judgment, only burying it in their operationalization of the game's variables. Indeed, the social scientists thought that it was ludicrous to dismiss the roles of history, culture, psychology, and emotion in international politics.

> The SSD players were not making cold, detached, utilitarian calculations, but rather they were exercising a kind of Aristotelian ethical practical judgment.

One would expect to see restraint in both games of the SSD and MAD if they were acting solely out of self-interest or a logic of deterrence alone. However, these logics of deterrence cannot account for the emotional weight of decision-making described by the players in a game environment. As Frank C. Zagare and D. Marc Kilgour argue in *Perfect Deterrence*, nuclear deterrent threats are not credible because acting on them represents every actor's worst outcome.[21] So, while actors in the Cold War Games could restrain themselves for ethical reasons, it is equally, if not more, plausible that they did so out of self-interest. However, the divergent outcomes of the MAD and SSD games open the door for the role of affect and ethical practical judgment in a way that deterrence logic and self-interest alone can not account for.

The SSD players were not making cold, detached, utilitarian calculations, but rather they were exercising a kind of Aristotelian ethical practical judgment. As intellectual historian Stephen Toulmin argues, the use of case analysis — or casuistry — from Aristotle's *Nicomachean Ethics* was such that "[t]he Good has no universal form, regardless of the subject matter or situation: sound moral judgment always respects the detailed circumstances of specific kinds of cases."[22] Unlike a rule-based moral reasoning, like that of deontology or utilitarianism, ethics is a field, not for theoretical analysis, but for practical wisdom, and it is a mistake to treat it as a universal or abstract science.[23] Hence, the emphasis that the SSD game designers put on practical judgment resulted in a simulated environment that engaged the players' ethical intuitions in a way that the highly abstracted, mechanized, and more "universal" mathematical reasoning in the MAD game did not.

A key component of Aristotle's ethics in *Nicomachean Ethics*, according to one of his translators, Joe Sachs, is that "ethical choices can never be deductions from any rules, principles, or general duties, but always require a weighing of particular circumstances and balancing of conflicting principles in a direct recognition of the mean."[24] Thus, practical judgment — or *phronesis* — is the active condition by which someone discerns the right means to the right end in a particular circumstance.[25] According to Sachs,

the intellectual virtue of practical judgment and the whole of virtue of character are mutually dependent and must develop together, since the right end is apparent only to someone of good character, while the formation of good character requires the repeated choice of the right action, which is impossible without practical judgment.[26]

As Aristotle writes, "it is not possible to be good in

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21   Frank C. Zagare and D. Marc Kilgour, *Perfect Deterrence* (Cambridge: Cambridge University Press, 2000).

22   Stephen Toulmin, *Cosmopolis: The Hidden Agenda of Modernity* (Chicago: University of Chicago Press, 1990), 31–32.

23   Toulmin, *Cosmopolis*, 76.

24   Aristotle, *Nicomachean Ethics*, trans. Joe Sachs (Newburyport, MA: Focus Publishing, 2002), 210.

25   Aristotle, *Nicomachean Ethics*, 1144a 6–9.

26   Aristotle, *Nicomachean Ethics*, 209, 1144b 18–32, 1145a 4–6.

the governing sense without practical judgment, nor to have practical judgment without virtue of character." The notion of the mean — *meson* — for Aristotle is, according to Sachs, "the balanced choice that precisely achieves its end. In matters of feeling and action its precision is not quantitative, or subject to calculation, but a judgment made directly by sense-perception, looking to what is beautiful."[27]

Practical judgment alone is not sufficient for ethical behavior. According to Hume's *Treatise of Human Nature,* emotion is also necessary for ethical decision-making. Emotion is essential for empathy and is necessary for decision-making that is what Hume called "other-regarding." Neglecting the civilian casualties of nuclear strikes is a way to suppress emotion and act in a way that does not consider the impact on others. According to Hume:

> The general rule reaches beyond those instances, from which it arose; while at the same time we naturally sympathize with others in the sentiments they entertain of us. Thus self-interest is the original motive to the establishment of justice: but a sympathy with public interest is the source of the moral approbation, which attends that virtue.[28]

The recognition of the other through what we would today call empathy is central to Hume's theory of moral judgment. When empathy is in play, our idea of another person's pain or pleasure results in us also feeling pain or pleasure. Thus, the capacity for empathy in the case of a wargame rests in the emotion that can be evoked by that game. When it comes to nuclear weapons, the particular revulsion to indiscriminate killing felt by the players in the SSD game is a reasonable indicator that one possesses a capacity for empathy. Empathy is the ability to experience the feelings of others rather than being solely self-interested. By taking up the "human" factors of history, culture, psychology, and emotion, the SSD scientists also subtly took up the concern of human flourishing, from which Aristotle derives the virtues. By taking up human flourishing in this way, the scientists implicitly took up a concern for others, but one that avoids unnecessary reliance on abstractions. In the games played at RAND, it is sufficient that the SSD players were concerned that escalation in the

game may encourage escalation in the real world. Ultimately, reason cannot be separated from emotion. As much as MAD wanted to objectively and mathematically analyze decision-making, emotion is central to how humans interact in the world. Moreover, emotion is central for ethical action, as Valerie Morkevicius argues: "emotions can help us to act morally ... By informing our moral intuition, generating empathy and holding us accountable for our choices, our emotions — as expressions of our inner soul or conscience — actually guide us toward more ethical behavior."[29]

Ultimately the SSD wargame's high degree of realism and avoidance of unnecessary abstraction allowed the players to recognize the consequences of their actions were they to take place in the real world. Their repulsion toward escalation was not motivated purely by self-interest, but by behavior that took into account the effects on others throughout the process of play. In contrast, the MAD players did not have such a reaction because they stripped any humanizing elements from their calculations in the game. They not only dehumanized their targets, but themselves as decision-makers, reducing human action to that of an "analogue computer."[30] The capacity for empathy in wargaming comes from being made to feel the weight of decision-making and exercising ethical practical judgment in a simulated environment with a high degree of realism rather than abstraction. In the end, while technostrategic language left little room for ethical deliberations at RAND, the divergent epistemologies and game designs led to opposite outcomes. In what follows, I explore the design, assumptions, and results of each of the Cold War Games and the reactions to them.

A MAD Game to Play

The original Cold War Game was developed by the mathematical analytics division at RAND with significant input and guidance from Alexander Mood, Olaf Helmer, and J. O'Connell. The game was highly formalized with limited moves and was played in the systems research laboratory. The "[systems research laboratory] and MAD hoped that the game could be developed to the point where it could be used as a testing device for real

27   Aristotle, *Nicomachean Ethics*, 209, 1144b 30–32; 1106b 8–16; 1109b 23, 1126b 3–4; 1115b 12–13, 1122b 6–7.

28   David Hume, "Of the Origin of Justice and Property," in *Treatise on Human Nature*, Sect. II, 1740, 499, https://davidhume.org/texts/t/3/2/2.

29   Valerie Morkevicius, "Tin Men: Ethics, Cybernetics and the Importance of the Soul," *Journal of Military Ethics* 13, no. 1 (May 2014): 3–19, https://doi.org/10.1080/15027570.2014.908011.

30   Digby Box 008—COW Notes by J. O'Connell, 1955, "Helmer's Speech" [DRAFT] (1955), RAND Corporation Archives, 1.

cold-war strategies."[31] Ultimately, the game was, according to O'Connell, an attempt to "explore the possibilities of developing a new research tool in political science by applying war-games techniques to international politics."[32] Analyzing military activity boiled down to the understanding of elementary assumptions and their anticipated effects, which could then be predicted in advanced gaming exercises. The uncertainties of nuclear exchange in a complex world were believed to be analyzable, quantifiable, and ultimately predictable. These epistemological assumptions were summarized by Mood in his 1954 paper "War Gaming as a Technique of Analysis." In taking into account the fast methodological developments in mathematics of the previous few years, he argued that wargaming had been "modified to make it a method for solving problems previously thought to be beyond analysis and answerable only by appeal to the judgment of experts."[33] Helmer described the early conceptions of the game in May 1954 as having a goal of "explor[ing] international relations and the interactions between production, trade, and trade agreements on the one hand, and military potential and alliances on the other." The discussion notes on developing wargaming went on to acknowledge that there were immense "difficulties in constructing a game to answer questions in these areas." Although Helmer did acknowledge that "our ability to predict in the political sciences in general was not very good."[34]

In the lead up to the wargame, there were debates on how best to capture the nuances of human psychology and the complexity of the social world within the MAD. According to historian Christian Dayé, RAND mathematician Robert Specht argued at the time that the tenuous balance between replicability and realism haunted the MAD in designing its early political-military games. On the one hand, if realism was prioritized, the complexity of the world quickly overwhelmed the gamers and replicability suffered as a consequence. On the other hand, easy replicability implied over-simplification and deluded the degree of realism in the game. Mood took a very different view of wargaming than Specht and thought that it could be used to scientifically test war plans, which implied that

it was replicable. This of course would require a fixed set of rules and simplified scenarios so that they could be manipulated and tested. This, in turn, would require quantifying the variables in the game.[35] Indeed, the operationalization of key variables and inputs into the game was the only place where judgment could be exercised. Hence, it was Helmer's belief that political experts should only be used in setting up the model or supplying input data, but not in "exercising intuitive judgment in the application of the model" or in acting as a player in a multi-person game. This would require setting up a complete systems-analytical model in which "[n]o extraneous intuitive judgment is called for" and realism in the bargaining process is produced by constraints rather than by deliberate simulation by the players.[36]

In his opening remarks of the MAD game, Helmer identified the overall goals, purposes, and objectives of applying wargaming to international relations: "War-gaming is so intimately associated with the construction of mathematical models and the creation of behavioral simulation that the structure of our subject in fact specifically calls for the talents of a mathematical analyst and an experimental psychologist." When it came to nuclear exchange, everything was theoretical since there had never been an actual nuclear war. Helmer noted:

> Whenever we are war-gaming, some aspect of military warfare, we are doing so as a substitute for experimentation. Actual experimentation, which would involve for instance, the dropping of bombs on armies and factories, is of course impossible, so we set up a model situation which, by way of numerous analogues, simulates the real situation as closely as possible."[37]

Thus, the epistemological assumptions of many of the mathematics and systems analysts at RAND began to pervade the game: namely, a belief that scientific *prediction* of the Cold War and a nuclear war was desirable, and indeed, possible.

What that looked like in game play was something like this, according to Helmer: "if the player responsible let us say, for the U.S. in the game were

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31   Digby Box 008—COW Notes by J. O'Connell, 1955, "The Cold War Game—A Formal Definition [DRAFT]," RAND Corporation Archives, 1.

32   Digby Box 008—"The Cold War Game—A Formal Definition," 1.

33   Cited in Dayé, *Experts, Social Scientists,* 85.

34   Digby Box 004—"1960 Committee Meeting of May 17, 1954," 1.

35   Dayé, *Experts, Social Scientists,* 89–91.

36   Digby Box 008—The Bovine Quadrupled, "Memorandum from Olaf Helmer to John D. Williams," M-154–(1-11-1955), RAND Corporation Archives, 4.

37   Digby Box 008—"Helmer's Speech," 1.

to follow a prescribed overall strategy and if the other players by their actions simulated as closely as possible the reactions of other countries, the outcome of the game should be usable to predict the consequences of U.S. strategy under consideration."[38] Hence, human judgment and emotion were to be eliminated in the process of play for the sake of creating a more scientific way of war. The epistemological bias toward rationality was rigid. This rule-bound notion of rationality broke with a long philosophical tradition of the necessity and desirability of mindfulness.[39] Indeed, Helmer assumed that human judgment only came in during the game design and that while playing, "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." Humans were essentially computers that, given certain inputs, would produce predictable outputs. If they "simulate the real situation reasonably well" then their actions would have "simulated the strategic decisions apt to occur in the analogous real-life situation."[40] Thus, the epistemological assumptions of the game were to quantify and simulate adequately the complexities of the international system in order to model the world mathematically and have predictable outcomes with regard to Cold War nuclear brinksmanship.

The game developed by MAD was highly focused on integrating economic and political moves into wargaming. Economic action in the game amounted to the "manipulation of the countries' rudimentary (five-commodity) economies and to the negotiation and consummation of international trade." While the designers initially considered having individual players represent various countries, they quickly determined that by "having each player represent a power focus rather than a country, it was possible to have the players jointly manage nineteen countries."[41] It was designed to be a highly formalized and ideally iterative game that was played over the course of two weeks in order to simplify the world

into "quantities that players can manipulate" with variables such as military forces, crop yields, resource allocation, and national priorities.[42] The political moves in the MAD game then focused on "the negotiation of alliances and the acquisition of control of countries by players; in addition, underground organizations could be used to sabotage military effort, hamper economies by strikes, and attempt the overthrow of legitimate governments." Finally, the military rules permitted the "acquisition of foreign bases, peacetime deployment of military forces, and conventional as well as atomic warfare."[43] While it appears as though there was a robust ability for players to make political, economic, and military moves throughout the game, in reality the constraints of play were immense and issues such as accidental or unauthorized nuclear launch were never theorized.

There was a vociferous debate early on in the game as to whether or not to use a chip-and-board model like many wargames that had come before. Those who ran the systems research laboratory "objected to the board-and-chip representation" because it detracted from realism in the gameplay by making it "just a game." After testing a round with chips, the MAD felt that the chip-and-board representation was most desirable while the systems research laboratory was concerned that the players would become too focused on handling chips rather than "playing a long-range strategy."[44] They ultimately agreed on a more complex console that involved using a pegboard with chips and pegs for a decision board. The board unfortunately remains opaque due to the limited accounts of the game in an accessible form in the archives.

Results and Reaction

While the play of the two-week game was recorded in its entirety, unfortunately a device to access the 1954 recordings was not in existence at RAND. Nevertheless, there are some compelling results of the MAD game that the archival record can shed light on. Most relevant to examining the

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38   Digby Box 008—"Helmer's Speech," 2.

39   Specifically, reason during the Cold War was viewed as being computational or even algorithmic. In contrast, the idea that machines might reason better than human minds was alien to Enlightenment thinkers. They viewed mindfulness as essential to reason in at least two ways. First, because judgments, inferences, and decisions can be right or wrong, they must be checked consciously: Reason follows laws deliberately, rather than being simply subject to them. Machines cannot do this (neither, according to older conventional wisdom, could other animals). Second, the deliberations of reason encompass both complexity and contingency, the latter a particularly stubborn obstacle to automation. For an in-depth look at this evolution in the Cold War, see Erickson, et al., *How Reason Almost Lost Its Mind*, 8.

40   Digby Box 008— "Helmer's Speech," 1–2.

41   Digby Box 008—"Memorandum from Olaf Helmer to John D. Williams," 2.

42   Bessner, *Democracy in Exile,* 215.

43   Digby Box 008—"Memorandum from Olaf Helmer to John D. Williams," 2.

44   Digby Box 008—"The Cold War Game—A Formal Definition," 6.

Table 1: MAD table on effects of an H-bomb attack

Effect of H-attack		Cap. Loss	Pop. Loss	Mil. Loss
Level 1	if attacker was not hit previously, that year, and target country was not hit last year	50%	30%	30%
Level 2	otherwise	30%	15%	15%
Level 3	all cases	60%	40%	30%

In all cases 25% of effective population to emergency service next year. If more than one attack in same year, use maximum.[47]

ethical intuitions of players, the MAD division appears to have had no trouble in going nuclear. As noted previously, in early iterations of the game, the United States and the Soviet Union opened one round of the game with an exchange of hydrogen bombs.[45] In the final round of the game, the "play began with the present and was carried through the equivalent of about two years, terminating with the outbreak of atomic war."[46] It is clear that the players had few qualms about crossing the nuclear threshold in this simulated environment, although it's not certain why. Perhaps it was due to a lack of buy-in from the players, the game not being realistic enough, the players intentionally pushing the boundaries, or the abstraction of calculable and predictable hydrogen bomb casualties and losses. However, I argue that the level of abstraction and the absence of realism in the game may have led the players to disengage their ethical intuitions and casually launch nuclear weapons. The horrors of a nuclear blast were rendered certain, quantifiable, and predictable, with known losses expressed as percentages.

The MAD game designers quantified the effects of an H-bomb attack by dividing the effects of going nuclear into capital losses, population losses, and military losses. These were put into Table 1.

In the absence of further discussion of these attacks in the documentary record, what we can infer from this table is that the effects were viewed as discrete, quantifiable, and predictable. Thus, the inherent uncertainties of a hypothetical nuclear exchange became measurable and certain in a way that allowed the MAD players to essentially tame chance through an array of simplifying assumptions to fit economic losses or population losses from nuclear attacks within game theoretic matrices. The players from MAD in the end epitomized Cohn's defense intellectual that she encountered decades later.

The game design was rebuffed by the social scientists. In Helmer's letter to John D. Williams, taking stock of the reactions to the MAD Cold War Game, he noted that the SSD was particularly critical: "[C]ritics from the Social Sciences Division, which was in no way involved in the preparation of this game, were vociferous in their rejection of the underlying political model for its lack of realism."[48] One of the reasons for this lack of realism was that the MAD had always "played the game entirely in the open, with each player permitted to see as much of the other players' boards as the physical layout permitted him to. In the systems research laboratory's view, this not only destroyed any possible realism and turned COW into 'just a game' with little relation to the real world," it made it impossible for referees to control the flow of information going to the players.[49] Helmer, however, attempted to rebuff criticism about a lack of realism, arguing, "The prime objection of unrealism, seemed to be somewhat beside the point since realism, at least in detail, had been neither aimed for nor claimed."[50]

The criticism of the lone political scientist among the players was that "the game did not allow for any real political action," which Helmer admitted would be "devastating if justified." Helmer defended the political moves in the game:

45   Digby Box 004–"1960 Committee Meeting of May 17, 1954," 1

46   Digby Box 008–"Memorandum from Olaf Helmer to John D. Williams," 2.

47   Digby Box 008–The Cold War Game, "Basic Cycle" – How to Make Military Moves (1955), RAND Corporation Archives, np.

48   Digby Box 008–"Memorandum from Olaf Helmer to John D. Williams," 2.

49   Digby Box 008–"The Cold War Game–A Formal Definition [DRAFT]," 8.

50   Digby Box 008–"Memorandum from Olaf Helmer to John D. Williams," 3.

If, as this same player pointed out, international politics is a struggle for power in the sense of preserving, extending and subverting governmental authority then this game was full of political action. The struggle for power, by negotiation of contracts and alliances, by threats and bribes and intrigues, by psychological warfare, by internal subversion and outright military aggression, went on throughout the game.[51]

Nevertheless, the game was aimed at excluding the players' judgment from the beginning, only allowing judgment for the game designers in crafting clear rules with predictable consequences. Moreover, the fundamental assumption of the time was that the game designers were not seeking realism — ultimately computers would solve the problem of overly simplifying the world in a game model. Mood contended in 1954 that "modern high-speed computers will enable the number of factors which can be included in a game to be increased tremendously, if necessary, without adding to the complexity of the game from the player's standpoint. The computer can be made to make a host of minor decisions on the basis of certain general instructions from the players."[52] Thus, the result of the MAD game was ultimately to expand gaming at RAND toward more computer-based games with human-computer interfacing, in order to quantify the uncertainties of war in the nuclear era.

Ultimately, the MAD game was deemed an educational experience that did not yield any definitive scientific results about how decision-makers would act in the Cold War. Indeed, in spite of criticism from the SSD, Helmer believed that the MAD game had "raised our hope that a multi-person game can be used as the basic structure for a fruitful systems-analytical model of international politics," although he was sure to add that "there was hardly any criticism of the multi-person game structure as such as a model for the cold war."[53] Paul Kecskemeti perhaps best summarized the SSD's rejection of the quantitative supremacy epitomized by RAND's MAD: "[I]n all social science, no matter how 'quantified' the correlations are that we establish among phenomena, the basic data themselves always involve interpretation

and hence judgment."[54] The MAD game embodied everything that Cohn had criticized about the abstraction, technostrategic language, and willingness to casually discuss killing millions of people with no sense of horror, urgency, or engagement of emotion or ethical intuition. Ultimately, the game dehumanized not just the potential targets of nuclear weapons, but the nuclear strategists as well, by abstracting away their capacity to empathize with the human suffering that would result from using a nuclear weapon.

The Social Scientific Cold War Game

According to Bessner, the social scientists at RAND considered the MAD game's "entire design ridiculous." The social world was not made up of game theoreticians, rather, "Culture, psychology, politics, and emotions — all of which were unquantifiable, unformalizable, and unpredictable — were what mattered in international relations," yet those factors were abstracted or ignored by the game designers. Consequently, Hans Speier, Herbert Goldhamer, Joseph Goldsen, and Victor Hunt in the SSD decided to make their own "Cold War Game" simulation, which they defiantly also abbreviated as COW. The SSD's version would model international politics in explicitly qualitative terms, with the implication, according to Bessner, that the "SSD's simulation would (or should) replace" MAD's flawed design. This was, in essence, a reaction to the general privileging of quantification and formal modeling at RAND. The SSD's wargame would rely on players' "qualitative knowledge of a given nation's politics, culture, and society, that is, on history. It would further emphasize judgment and insight" as opposed to abstraction and quantification.[55] In order to account for unpredictable and "non-rational" behavior, the SSD pushed back on the quantitative notion that humans acted as if they were computers (as advocated by Helmer). Instead they preferred to examine the issues of psychology, culture, and international politics in qualitative terms.

The SSD created their game with a deep recognition that the exercise of human judgment was essential. As Bessner argues, unlike the other RAND wargames, the SSD's simulation "endorsed the

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51   Digby Box 008–"Memorandum from Olaf Helmer to John D. Williams," 3.

52   Cited in Dayé, *Experts, Social Scientists,* 92.

53   Digby Box 008–"Memorandum from Olaf Helmer to John D. Williams," 2.

54   Paul Kecskemeti, "The 'Policy Sciences': Aspiration and Outlook," *World Politics* 4, no. 4 (July 1952): 528–29, https://doi.org/10.2307/2008964.

55   Bessner, *Democracy in Exile,* 215.

idea that political life was, by definition, unquantifiable." But this did not mean that they rejected rationalism outright. Speier and his SSD colleagues argued that "by reproducing the irrational dynamism of international politics, the political simulation was a heuristic that was more scientific than RAND's other models and methods."[56] For Speier and his colleagues in the SSD, effective policy analysis and recommendations sprung from embracing the limits of knowledge and taking uncertainty seriously. Hence, Herbert Goldhamer remarked that despite the increased concern at RAND with "the political consequences of military action and the military consequences of political action," a further step seemed increasingly necessary and was integrated into the planning and execution of the SSD's game. He continued, "What is involved is the realization that the interpenetration of the political and military aspects of our conflict with the Soviet Union cannot, with full adequacy, be dealt with in a fragmented way in which the preoccupation enters into various RAND studies." In short, the goal was a more holistic view of "strategy as being neither military nor political, but as being inextricably compounded of military and political actions."[57]

The SSD's game sought to reflect the dilemmas of thinking about international politics, deterrence, and war in the Cold War setting. The game was not a traditional wargame as it sought a high level of political realism by avoiding "a variety of simplifying assumptions and special restrictions" and by allowing for more free-form play that was adjudicated by referees and the Committee on Nature.[58] While all the rules of the SSD game are outlined in Appendix I, it is important to understand a few key aspects of the game for our purposes. In his paper "Towards a Cold War Game," Goldhamer explained what the SSD's game might look like. The players would assume the identities of members of the executive branches of the United States, the Soviet Union, and a selection of European countries such as France and West Germany. Unlike the MAD version, where each player had a power or economic focus and played all 19 countries simultaneously, the players in the SSD game would be area experts and play as if they were decision-mak-

ers to the best of their judgment. As Bessner notes, in contrast with the other games played at RAND, the decision-making authority was located "in the individual, rather than the model, equation, or computer simulation."[59] The game would have no defined rules or limits on action other than that a move could not be deemed unreasonable by the game referees because of a nation's history of decisions or the use of technologies or weapons the country did not, in reality, possess.

In order to account for the uncertainties and unpredictable consequences that wargames normally involve, Goldhamer came up with the Committee on Nature. This committee would inject "independent" elements into the game not introduced by the players. In essence, these were "side events" that resulted from players' actions. The events would introduce consequences to keep the players from focusing too closely on strategy and neglecting the unpredictability of politics. Thus, according to Goldhamer, the "role of 'Nature' was to provide for events of the type that happen in the real world but are not under the control of any government: certain technological developments, the death of important people, non-governmental political action, famines, popular disturbances, etc."[60] Goldhamer explains that the "Nature Committee thus performs a vital function since without it reality would be reduced to government initiated action."[61] Indeed, Goldhamer and Speier believed that the committee accounted for the unpredictability of international politics: "In political life many events are beyond the control of the most powerful actors, a fact designated in political theories by such terms as '*fortuna*,' 'chance,' 'God's will,' 'changes in the natural environment,' etc. We tried to simulate this fact by the moves of 'Nature.'"[62]

Injecting nature, along with the referees, made the game more time-consuming. But allowing players a greater level of realism in the game would "permit the participants to learn something about the consequences of certain types of actions taken in conjunction with a variety of events." The game was slow by design to give players space for debate and discussion, to let them push back against nature or the referees, and to give them the

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56   Bessner, *Democracy in Exile*, 224.

57   Goldhamer Box 006– Herbert Goldhamer, "Introductory Remarks for Cold War Session: Notes for a Briefing to Board of Trustees, May 2, 1957," RAND Corporation Archives, 6–7.

58   Herbert Goldhamer, (1954), "Toward a Cold War Game," RAND Corporation Archives, D(L)2603, 1.

59   Bessner, *Democracy in Exile*, 218.

60   Herbert Goldhamer and Hans Speier, "Some Observations on Political Gaming," RAND Corporation, P-1679-RC, April 30, 1959, 5, https://www.rand.org/content/dam/rand/pubs/papers/2008/P1679.pdf.

61   Goldhamer, "Toward a Cold War Game," 4.

62   Goldhamer and Speier, "Some Observations on Political Gaming," 11.

opportunity to find the right questions in thinking through complex dilemmas in the Cold War setting. Thus, the aim of the game, according to Goldhamer, was "not to move on rapidly from point to point ... but to clarify by discussion the intellectual issues raised in the course of the play. It is precisely through such discussion that many of the most fruitful results may become available." Therefore, in contrast to the MAD game, the emphasis was on player judgment: "The need to make 'intuitive' decisions on many concrete political matters and to defend them should stimulate the formulation of more coherent and rigorous propositions about those aspects of political life involved in cold war activity." Thus, Goldhamer envisioned it as an intellectual exercise and *not* "the development of a game useful for testing cold war strategies in an effective and relatively speedy manner."[63]

The SSD played the game four times between February 1955 and April 1956. The first two rounds of the game were highly collaborative and involved testing and designing its parameters before the more intensive third and fourth rounds were played. According to Goldhamer and Speier, the first two rounds lasted only a few days in

early 1955. The third round lasted four weeks in the summer of 1955, with a dozen RAND staff members devoting approximately half of their time to it. The fourth round was conducted during the month of April 1956. Three senior foreign service officers from the Department of State participated, along with specialists from RAND's social science, economics, and physics divisions. Unlike in the first three rounds, in the fourth round all 13 team members both from RAND and the State Department devoted practically all their time to the game.[64] The players and their roles are outlined in Appendix II. A variety of regional, technical, and practical expertise were represented in the fourth round, especially with the integration of officials from the State Department. There was a U.S. team, a Soviet team, and a Western European team, as well as the referees, the Committee on Nature, and a team of advisers known as the Consultants on Special Problems for the fourth intensive round.

The SSD game was a free-play game in that the "government teams were not limited to any prescribed set of moves, as is the case in a game like chess and in some war games; nor did the game contain any pre-established prescriptions automatically

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63   Goldhamer, "Toward a Cold War Game," 6–9.

64   Goldhamer and Speier, "Some Observations on Political Gaming," 6–7.

entailing certain consequences from particular types of moves."[65] Hence, "all government teams were to act in the manner they judged 'their' governments would behave in circumstances prevailing at any given time of the game ('predicted strategy')." However, the American team was less restricted. It was permitted to pursue any strategy it judged to be optimal and was "not required to follow the foreign policy line of any administration or to have special regard for the constraints placed upon American foreign policy in reality by domestic considerations. The game was thus designed to permit tests of a wide range of U.S. strategies."[66] The absence of fixed rules was, according to Goldsen, "more than offset by the gain in realism." [67] One particular lesson drawn from the early rounds of preliminary play was that the news events kept creeping into the game. Later rounds of the game took place in the not-too-distant future, to avoid a presidential statement or a Soviet development from interfering with the decisions the players made.

How then did the game design account for the uncertainty of international politics? The game's referees, in their representation of "nature," would "rule that a move or exchange of moves produced specified reactions in other countries among the public at large or among designated groups. These reactions would be brought to the attention of the relevant teams who would take them into account as best they could in deciding what if anything to do next."[68] In addition, the moves were made in secret, through the referees, who could exercise their judgment to leak partial information, misinformation, or the whole move to the opposing team in order to inject into the game the uncertainty inherent to international politics. Accordingly, the benefit of the SSD game, in addition to its realism, was that by embracing uncertainty and historical contingency, it was more nuanced.

In analyzing the game, I want to highlight the interplay between history, temporality, and assumptions of international politics. First and foremost, the SSD game recognized that international politics is not a zero-sum game. Different countries and cultures weigh pros and cons and acceptable losses and necessary gains in international relations in ways that were not fully known by the players. As Goldsen recognized, there was a conflict of "scales which vary from country to country." What was considered an acceptable number of casualties was different in the United States and in the Soviet Union. Moreover, "for all countries the time span in which payoffs are presumed to accrue varies greatly." While this assessment may well have been a projection of what the defense intellectuals *thought* the Soviets believed at the time, it remained an improvement from the MAD game. The fact that there was a recognition that one

> Ultimately, the SSD's game, with its emphasis on realism, expert practical judgment, and free play, enabled the participants to engage a kind of emotional and ethical intuition that the rationalists in MAD attempted to exclude from their game.

should account for the historical perspective of both a country and its leader in assessing international politics was a large step forward in the SSD game. Thus, as Goldsen noted, the "United States may tend to be impatient with delay, frustration, or tension: it wants to get things done, and the sooner the better. The communists may be more content to make haste more slowly and in addition be much more willing to sacrifice many human and other values in order to achieve a few choice aims." Furthermore, the SSD attempted to account for the democratic constraints of U.S. decision-making as opposed to that of the Soviet Union: "The dictator can more easily put his aims in rank-order and use coercive means to suppress those internal elements in his society whose demands and priorities differ from his."[69]

In congruence with the qualitative assumptions of the game, the questions raised by the game ultimately forestall "any precise or formal solution"

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65   Goldhamer and Speier, "Some Observations on Political Gaming," 11.

66   Goldhamer and Speier, "Some Observations on Political Gaming," 5–6.

67   Goldhamer, "Toward a Cold War Game," 6.

68   Joseph M Goldsen, (1956) "The Political Exercise: An Assessment of the Fourth Round," D-3640-RC, (5/30/1956), RAND Corporation Archives, 51, (emphasis mine).

69   Goldsen, "The Political Exercise: An Assessment of the Fourth Round," 52–53.

that cannot be quantifiably measured. As Goldsen eloquently noted:

> No government is absolutely free to impose its will upon the world; all operate under some constraints, all must operate with incomplete information about the present and the future, and all must expect the unexpected to interfere with their best-laid plans. World political history is replete with examples of Pyrrhic victories and conversely with situations thought to be defeats at the time which turned out to be 'blessings in disguise.' How to allow for such considerations in evaluating real or game-simulated political developments is a formidable problem indeed.[70]

Here, Goldsen gets to the heart of the epistemological divide between the MAD and the SSD. History is full of uncertainty and retrospective interpretations. The folly of the MAD game was that it assumed away all the complexity of the social world and international politics and instead put forward a tidy model of supposedly objective inputs with computer-like outputs. The qualitative disposition of the SSD, in contrast, was a belief in the necessity of expert judgment. This in turn carved out a space for an ethic of practical judgment in decision-making in the SSD game that was not present in the MAD version.

A couple of examples from the game are worth noting because they highlight its high degree of realism and its acknowledgment of the possibility of casualties — a topic not discussed in the MAD game. The Soviet Union team had decided to continue with military modernization while pursuing a "peaceful" foreign policy. They pressed forward on economic, cultural, and political fronts, while making no "sensationally aggressive moves." This presented a dilemma for the NATO alliance: The move caused the U.S. and European players to seriously question the "whole strategic concept for war in Europe, with NATO countries indicating that they were unwilling to make heavy budgetary expenditures until they were convinced that the weapons and tactics would make sense in the future." There was a deep concern about Soviet missile capabilities and the difficulties of an effective active defense in Europe, as well as a "growing awareness of the huge casualties that would result from atomic

warfare in Europe."[71] The degree to which the Soviet team's more "peaceful approach" divided NATO gave the players unique clarity concerning the precariousness of the alliance and the genuine ethical dilemmas of a potential war in Europe.

The second example is the maddening frustration that the French team caused the U.S. players. According to Goldsen, "The instability of French commitments and the fluctuating composition of its government made the life of the U.S. Team, as in reality, a frustrating one. The game succeeded in re-producing, almost all too well, the tensions, divergencies, and shakiness of the alliance." At the same time, however, detailed discussions among the NATO allies produced an analysis of the present situation and of the measures that might be required in order to "pump some life and effectiveness into the alliance." This analysis, which was "judged to be a most useful product of the game, pointed to the circumstances and conditions which might make it possible for the European members to accept and for the U.S. to offer a sharing of nuclear weapons and delivery systems as well as other modern weapons."[72] Thus, the reality with which the social scientists were able to game out the Cold War yielded incredibly useful policy insights into how to balance a tenuous NATO alliance with the issues explored in these examples. Beyond these insights, the issues of emotional intelligence, psychological insight, and ethical practical judgment are the more obscure results of the game, to which I now turn.

Results of the SSD Game

Unlike the MAD version, the SSD political-military game never went nuclear. Both in the documentary record and in the secondary literature on the game, this outcome is attributed to the result of sound practical judgment, a high degree of realism, and an emotional sense of the weight of decision-making — what I call moral intuition. As Goldhamer and Speier concluded, one of the greatest benefits of

> the political games we played was to give players a new insight into the pressure, the uncertainties, and the moral and intellectual difficulties under which foreign policy decisions are made. This, of course, is in part a tribute to the earnestness and the sense of responsibility with which the participants played their roles, since otherwise

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70   Goldsen, "The Political Exercise: An Assessment of the Fourth Round," 52–54.

71   Goldsen, "The Political Exercise: An Assessment of the Fourth Round," 9.

72   Goldsen, "The Political Exercise: An Assessment of the Fourth Round," 29–30.

these pressures and perplexities would not have made themselves felt.[73]

As Bessner found in a *post hoc* working paper by Ewald Schnitzer, the players understood that "the necessity of weighing constantly the consequences of one's moves ... in the political universe has a beneficial effect on [their] political judgment."[74] This practical judgment was, as Davison observed, "a sense of crushing responsibility." Even the most bellicose players found themselves acting "with equal caution when they assumed the burden of policy-making in the game."[75]

Aaron Trammell's analysis of the SSD game brings to light one of the most relevant aspects of the ethical dimensions of playing the game: "Players had a sense of consequence, and more importantly, pressure while playing *The Cold War Game*: And while these were certainly factors that pertained to military planning in the real world, they were not necessarily the by-products of simulation or conventional military analysis."[76] Hence, according to Trammell,

> The game had a cooling effect upon its participants. Instead of advocating for radical policy change, they were forced to recognize the tactical landscape of foreign policy as a field of eggshells, where foul policy decision would yield substantial (and possibly apocalyptic) effects. ... Strategic decisions are not only analytic, they are also emotional, and any real analysis must take into account the moods produced by war in addition [to] its geographies and technologies.[77]

What is most interesting is that this type of emotional intelligence or ethical intuition lasted *beyond* the play of the game. Again, as Davison points out, "Participants thus tended to judge foreign policy decisions in the real world differently after the game than they had done before it."[78] This was also true of this version of political-military gaming that proliferated to MIT and beyond, which is explored in more detail below.

Ultimately, the SSD's game, with its emphasis on realism, expert practical judgment, and free play, enabled the participants to engage a kind of emotional and ethical intuition that the rationalists in MAD attempted to exclude from their game. The process of play and the high degree of realism allowed players to fully immerse themselves and take on the burden of decision-making to really feel its weight and engage with restraint in the game because of the gravity of nuclear weapons. This burden was carried with them beyond the game and had a lasting impact. According to Davison, in a subsequent version of this game at MIT, one graduate student who played the part of the United States (and was a staunch Democrat) "burst out during the evaluation session at the end of the game: 'For the first time in my life I sympathize with John Foster Dulles.'"[79] Aristotle's ethic of practical judgment and Hume's role of sympathy and emotion is central to decision-making and is something that needed to be seen in action — not in an abstract thought experiment, but in the concrete messiness of the world. When that wasn't feasible, a well-designed political-military simulation appears to have yielded a similar result.

The social scientists at RAND clearly had much to offer, as these contrasting games demonstrate. The challenge was getting the more mathematically-minded defense intellectuals to listen to their conclusions. As Robert Jervis noted in a roundtable on Bessner's book,

> Perhaps most interesting were Speier's efforts at RAND to counterbalance the strong role of the physicists and economists by insisting that analyses that lacked any consideration of culture, psychology, and individual decision-making were at best incomplete and usually misleading. He then developed games that relied more on role-playing than algorithms, and these became popular in Washington and still are in wide use.[80]

According to Bessner, "the epistemological gap between the SSD and RAND's other divisions proved too wide to bridge, and throughout the 1950s

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73   Goldhamer and Speier "Some Observations on Political Gaming," 18.

74   Bessner, *Democracy in Exile,* 219.

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

76   Aaron Trammel, "The Ludic Imagination: The History of Role-Playing Games, Politics, and Simulation, in Cold War America 1954-1984," PhD Diss. Graduate School-New Brunswick Rutgers, The State University of New Jersey, 2015, 108.

77   Trammel, "The Ludic Imagination," 109.

78   Davison, "A Summary of Experimental Research on 'Political Gaming,'" 8.

79   Davison, "A Summary of Experimental Research on 'Political Gaming,'" 8.

80   Robert Jervis, "Roundtable 10-18 on Democracy in Exile: Hans Speier and the Rise of the Defense Intellectual," *H-Diplo ISSF,* Nov. 26, 2018, https://issforum.org/roundtables/10-18-speier.

the social scientists remained on the organization's fringes. But the story of the political game was not one of failure. In fact, it proved to be the SSD's most lasting contribution to the theory and practice of international relations."[81] The game then proliferated in a number of ways that had a lasting impact on both elite and academic players for years to come.

Proliferation of the SSD's War Game

The success of the SSD's Cold War Game was not so much in its impact at RAND as it was in it becoming a model for wargaming in international politics. First, in 1956 Speier presented the game at a Social Science Research Council summer seminar.[82] The following year, he did the same at the Center for Advanced Study in the Behavioral Sciences. By 1958, the State Department had begun investigating the possibility of using it at its Foreign Service Institute's educational program, because "[o]ne of the State Department participants in the fourth round was so impressed with the training potentialities of the technique."[83] In 1959, Speier discussed it at the U.S. Military Academy at West Point, while Goldhamer lectured on the game at the Army War College and presented it at the American Political Science Association's annual meeting. Concurrently, Goldsen was promoting the game at Yale and Princeton. Perhaps most consequentially, Davison took a leave of absence from RAND to become a visiting professor at MIT. There, he directed a political game that came to the attention of Lincoln Bloomfield, a professor of political science and former State Department official associated with MIT's Center for International Studies. Between 1958 and 1959, Bloomfield, with the aid of RAND's Paul Kecskemeti, directed a game that, as he and a colleague recounted, "revolved around a hypothetical international crisis stemming from the demise of the Polish Government." Bloomfield then adopted the SSD model, which Reid Pauly explores in his article "Would U.S. Leaders Push the Button?" examining 26 political-military wargames played between 1958 and 1972.

Pauly's study of Bloomfield's MIT political-military games draws stark conclusions about ethics and crossing the nuclear threshold. In his analysis of the strategic elites playing the games (i.e., diplomats, military officials, and civilian nuclear strategists), he found that these players were reluctant to press the button to use nuclear weapons in these wargames. This finding holds for games played against both nuclear-armed and nonnuclear-armed adversaries, as well as in cases when nuclear use would have been tactically advantageous. Only two out of 26 games in his MIT sample crossed the nuclear threshold (though two is far too many). According to Pauly, the players' aversions to nuclear use

> comport most strongly with the logics of deterrence, practicality, and reputation. Deterrence logic abounds in wargames, but when it was not operating, practicality and reputation still kept players from using nuclear weapons. Strict ethics arguments and precedent concerns for the long-term benefits of the tradition of nonuse are uncommon. Moreover, elite players were more reluctant to cross the nuclear threshold than were non-elites.[84]

By disentangling testable aversions to nuclear use (i.e., the nuclear taboo, deterrence, practicality, reputation, etc.) in the MIT cases and using political-military wargames as a novel source of data on elite behavior, Pauly's research has shown that a sense of the consequences and appropriateness of nuclear use are potent in elite nuclear deliberations. Does that mean that there is an elite nuclear taboo? According to Pauly, elite wargame players are

> indeed sensitive to the appropriateness of nuclear use and feel a common responsibility to avoid nuclear war. The purest form of the nuclear taboo might predict that ethically based opposition to the use of nuclear weapons would inhibit use on its own. I find instead that elite wargame players rarely made explicit arguments about the immorality of nuclear weapons; they did, however, express apprehension about global, domestic, allied, or peer reputational costs.[85]

Thus, Pauly's findings confirm two elements from the SSD's Cold War Game. First, that the process of gameplay itself tempers players and makes

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81   Bessner, *Democracy in Exile,* 223.

82   This paragraph is cited from Bessner, *Democracy in Exile,* 223, unless otherwise marked.

83   Davison, "A Summary of Experimental Research on 'Political Gaming,'" 7.

84   Pauly, "Would U.S. Leaders Push the Button?" 188.

85   Pauly, "Would U.S. Leaders Push the Button?" 188.

them hesitant to cross the nuclear threshold. Interestingly, even in the cases where nuclear weapons were used in the MIT Bloomfield games, it "happened at a time when US troops were threatened with serious defeat" and the participants regretted what had happened. One participant somberly reflected: "It is sobering and disturbing to realize that a handful of men, in the United States and the Soviet Union, can decide the fate of hundreds of millions, including many not in either country."[86] The weight and emotion of the game is palpable, even among those players who crossed the nuclear threshold. And its effects were enduring. Sharon Ghamari-Tabrizi cited a statement from Bloomfield that the game was so engaging and immersive that leaving the game was "like coming out of a deep sleep after a particularly vivid dream. It takes time for the carry-over of emotional content from the game to reality to wear off."[87] Indeed, Pauly notes that in a reflection on political-military wargames held at MIT, 64.9 percent of participants (n = 77) reported an "extreme" or "intense" degree of emotional involvement.[88]

Pauly's study also acknowledges that there were few discussions of ethics or morality throughout these games. This further supports my argument that technostrategic language excludes explicit ethical discussions as non-rational. Looking at the foundational political-military games at RAND helps explain *why* there is evidence of the factors that Pauly identifies as informing decisions and not of others like morality: The latter were considered private issues to grapple with alone.

That ethical discussions are often excluded from wargames is not a reflection of human nature. Rather, wargames force logics of deterrence, practicality, and reputation to the surface while suppressing moral considerations, because that is the dominant language used to explain the world. I argue that there is something about the process of playing the SSD game, with its high levels of realism, that can allow an ethics of practical judgment to quietly creep back in. This immersive environment that engages the players on a more holistic level — a better representation of decision-making under stress and uncertainty — comes from Speier's mentor Karl Mannheim. Bessner places the origins of the idea for the game with Mannheim, Speier's professor at Heidelberg University in We-

imar, Germany. Mannheim believed that the idea of an immersion activity "imbued students with political empathy and the skills to act as effective political agents."[89] From the classrooms of Heidelberg to the RAND Corporation, the U.S. Department of State, MIT, and beyond, political-military gaming was essential to America's understanding of the Cold War, deterrence, nuclear weapons, and the necessity of restraint. What I have elucidated in this article is the role that emotion and ethical practical judgment plays in wargame simulations.

Conclusion

While the story of the SSD's Cold War Game and its impact on international politics may seem a resounding success, the social scientists remained on the periphery at RAND as a game-theoretic modeling of deterrence during the Cold War became dominant. As Bessner notes:

> To understand Speier's importance, one must appreciate how tenuous the position of social science was in the early national security state. Though social scientists insisted they had contributed to the U.S. victory in World War II, this was hardly a widely accepted opinion. Indeed, many members of the postwar foreign policy establishment considered the social sciences to be a bit backward.[90]

Of course, the mathematicians were offering *answers* whereas the social scientists were raising *questions*. The latter was arguably more scientific than the former as it captured the nuance, uncertainty, and contradictions that characterize international relations. The prospect of having answers to the difficult ethical-political dilemmas of war and international politics is seductive, no matter how precarious or empirically falsifiable the underlying assumptions in the modeling. Yet, what this comparative case displays is that international politics is much more about exercising judgment in the face of uncertainty as opposed to gaining scientific answers to the complexities of the international system. The SSD game, with its immersive realism and free-play structure, led players to build habits of ethical restraint that stayed with them

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86   Pauly, "Would U.S. Leaders Push the Button?" 185.

87   Cited in Ghamari-Tabrizi, *The Worlds of Herman Kahn*, 164.

88   Pauly, "Would U.S. Leaders Push the Button?" 158

89   Bessner, *Democracy in Exile*, 205.

90   Daniel Bessner, "Roundtable 10-18 on Democracy in Exile: Hans Speier and the Rise of the Defense Intellectual," *International Security Studies Forum,* Nov. 26, 2018, https://issforum.org/tag/defense-intellectual.

beyond the game and impacted their behavior and outlook on the Cold War. Hence, the proliferation of the Cold War Game from the social scientists at RAND had a lasting positive impact on the practice of nuclear deterrence and international relations that has been underexplored.

When it comes to international politics in general and nuclear deterrence specifically, uncertainty reigns supreme. It can never be completely eliminated and thus is reliant on the exercise of judgment.[91] The SSD game, even while accounting for uncertainty and practical judgment, was still bounded by the dominant rationalities of RAND at the time and excluded issues such as the possibility of a nuclear accident,[92] misperception leading to a nuclear launch,[93] and the role of luck in general in avoiding nuclear catastrophe.[94] It is worth noting that the ideas that permeated the SSD were as much shaped by their experiences of the past (i.e., World War II) as they were by what they viewed as the possible future of war. As Benoît Pelopidas argues: "Both the chronology of future events and the expected consequences of catastrophic failure of nuclear weapons are beyond the realm of the knowable and affect the way scholars conceive present challenges."[95] These implicit beliefs about imagined futures act as blinders on all decision-making. Thus, the self-censorship at RAND was both a consequence of technostrategic language, as well as what was deemed within the realm of "rational" possible futures in the nuclear age.

The high degree of realism present in the SSD's Cold War Game triggered nuclear restraint by engaging the emotions of the players and therefore their ethical intuitions, in contrast to the MAD game, which privileged high levels of abstraction for the sake of mathematical certainty. What was lost in the process was a more cohesive vision of decision-making under uncertainty, all while ignoring the role of emotion in the realm of international politics. Not only are the outcomes of the game boxed in by initial assumptions in operationalizing variables that can fall out instantaneously in the real world, but a high level of abstraction produces a detached theorizing in which a kind of ethical practical judgment can also be lost. Reason cannot be separated from emotion and imagined futures are as powerful as the study of the past.[96]

These political-military games at RAND have important lessons for thinking through the implications of emotion, ethics, and the role of judgment in wargaming today. Given the current renaissance in wargaming — in the social sciences as well as in efforts to think through the dilemmas of AI and the future of war[97] — it is important to reflect on the issues raised by RAND in the 1950s and the lessons that can be drawn from them. First, reason and emotion are inextricably intertwined. They exist in a symbiotic relationship in terms of how we experience and interpret the world. Second, wargames with a high degree of realism can better represent decision-making in the real world by engaging the emotions of the players. Third, even when ethics is excluded from the conversation, facing the potential consequences of political-military action can lead to restraint. Finally, a conversation of realistic consequences and the uncertainties of the world is essential for an ethical assessment of possible consequences of nuclear threat and use. Wargames can be more than the division between art and science or quantitative and qualitative approaches, but a quest for understanding the *why* of decision-making, beyond the discursive reasons that players may give. The technostrategic language that Cohn wrote about in the 1980s re-

91   See Ken Booth and Nicholas J. Wheeler, *The Security Dilemma: Fear Cooperation and Trust in World Politics* (New York: Palgrave Macmillan, 2007).

92   See Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1993).

93   See William J. Perry, *My Journey at the Nuclear Brink* (Palo Alto, CA: Stanford University Press, 2015).

94   Benoît Pelopidas, "A Bet Portrayed as a Certainty: Reassessing the Added Deterrent Value of Nuclear Weapons," in *The War that Must Never Be Fought: Dilemmas of Nuclear Deterrence*, ed. George P. Shultz and James E. Goodby (Palo Alto, CA: Hoover Press, 2015), chap. 1; and Benoît Pelopidas, "The Unbearable Lightness of Luck: Three Sources of Overconfidence in the Manageability of Nuclear Crises," *European Journal of International Security* 2, no. 2 (July 2017): 240–62, https://doi.org/10.1017/eis.2017.6.

95   Benoît Pelopidas, "Nuclear Weapons Scholarship as a Case of Self-Censorship in Security Studies," *Journal of Global Security Studies* 1, no. 4 (November 2016): 331, https://doi.org/10.1093/jogss/ogw017.

96   For the importance of making nuclear war imaginable, see the work of Sharon Weiner and Moritz Kutt and their virtual reality simulations of nuclear crisis scenarios: "The Nuclear Biscuit," Science and Global Security, Princeton University, accessed Aug. 27, 2021, https://sgs.princeton.edu/thenuclearbiscuit.

97   Bartels, "Building Better Games for National Security Policy Analysis"; Ivanka Barzashka, "Wargaming: How to Turn Vogue Into Science," *Bulletin of the Atomic Scientists*, March 15, 2019, https://thebulletin.org/2019/03/wargaming-how-to-turn-vogue-into-science/; Aggie Hirst, "States of Play: Evaluating the Renaissance in US Military Wargaming," *Critical Military Studies* (January 2020), https://doi.org/10.1080/23337486.2019.1707497; Erik Lin-Greenberg, "WarGame of Drones: Remotely Piloted Aircraft and Crisis Escalation," *SSRN Scholarly Paper* (2019), https://papers.ssrn.com/abstract=3288988; Erik Lin-Greenberg, Reid B.C. Pauly, and Jacquelyn Schneider, "Wargaming for Political Science Research," *SSRN Scholarly Paper* (2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3676665; Stacie Pettyjohn, "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, (2019); and Andrew W. Reddie, et al., "Next-Generation Wargames," *Science* 362, no. 6421 (December 2018): 1362–64, https://doi.org/10.1126/science.aav2135.

mains pervasive in nuclear deterrence circles, but the revival of simulations and gaming in the social sciences offers an opportunity to reflect upon the importance of emotion and ethical practical judgment in international relations. Being made to feel the weight of decision-making is a necessary antidote to abstractions that allow policymakers to ignore the real consequences and human suffering that could come from pressing the button.

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