

# H-Diplo | Robert Jervis International Security Studies Forum

## Roundtable Review 15-53

Jacques Hymans, "The Bomb as God: A Metaphor that Impedes Nuclear Disarmament." *Security Studies* (2024): 1-29. DOI: <https://doi.org/10.1080/09636412.2023.2256655>

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 Introduction by William Walker, University of St. Andrews
 

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In a recent book, Vipin Narang listed twenty-nine states that had taken steps to acquire nuclear-weapon capabilities at one time or another.<sup>1</sup> Among them, nine completed the task by establishing extensive productive capacities, deploying nuclear forces, and engaging openly in nuclear deterrence and power plays. The other twenty had gone a distance, in some cases short and in others long, before abandoning the project or, recently in Iran's case, holding back from crossing the line while intermittently edging closer to it.<sup>2</sup>

Until a certain threshold is crossed, nuclear weapon programs have been shown to be reversible. In all but the Israeli case, passage over this threshold has involved the explosive testing of a nuclear warhead accompanied by emphatic declaration of intent to become a full-fledged, justified, recognized and autonomous nuclear-weapon state. Beyond the threshold, irreversibility appears to set in. None of the nine states that crossed it has abandoned nuclear weaponry, nor have they appeared to contemplate it seriously, in contrast to the twenty that have turned turtle. Non-proliferation policies have long reflected this reality. Once states cross the line, the game is assumed to be lost.

Nuclear irreversibility, or embeddedness as I have labelled it, is therefore an empirical reality.<sup>3</sup> It is a highly problematic and dangerous reality, as we are being reminded today as nuclear warmongering returns and nuclear arsenals expand in highly volatile political and technological environments. Yet this embeddedness, and transition to it, is a phenomenon that is surprisingly under-researched. There is a large literature on why and how states embark on nuclear weapon programs, on why some persevere and others do not, and on the various means of persuasion that governments (especially the US government) have adopted when trying to inhibit and derail them.<sup>4</sup> There is a much larger literature on how and why states behave as they do

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<sup>1</sup> Vipin Narang, *Seeking the Bomb: Strategies of Nuclear Proliferation* (Princeton: Princeton University Press, 2024).

<sup>2</sup> Among the twenty renouncers are states, notably Germany, Japan and South Korea, that have sheltered under the US nuclear umbrella. Their renunciation has been of possession, not deterrence, although their support for the latter has been troubled and routinely disavowed in Japan's case.

<sup>3</sup> See William Walker, "On Nuclear Embeddedness and (Ir)reversibility," Working Paper, Program on Science and Global Security, Princeton University, February 2020, <https://sgs.princeton.edu/sites/default/files/2020-02/walker-2020.pdf>.

<sup>4</sup> Besides providing a novel theory of proliferation strategies, Narang's *Seeking the Bomb* can be recommended for its summary of and references to studies of a range of countries' weapon acquisition programs. Other notable literature includes Scott D. Sagan, 'Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb', *International Security* 21:3 (Winter 1996-97), 54-86; Jacques Hymans, *The Psychology of Nuclear Proliferation: Identity, Emotions and Foreign Policy* (Cambridge: Cambridge University Press, 2006); Etel Solingen, ed., *Sanctions, Statecraft, and Nuclear Proliferation* (Cambridge: Cambridge University Press, 2012); and Shampa Biswas, *Nuclear Desire: Power and the Postcolonial Nuclear Order* (Minneapolis: University of Minnesota Press, 2014). For a history of and perspectives on nuclear proliferation, non- and counter-proliferation and the non-proliferation regime, see William Walker, *A Perpetual Menace: Nuclear Weapons and International Order* (London: Routledge, 2012).

when they have acquired nuclear forces—their relations with friends and foes, nuclear strategizing, decisionmaking processes, choices of weaponry, and much else.<sup>5</sup> And there is a substantial literature, mainly generated outside the governments of nuclear powers, on the steps and processes by which states might collectively embrace nuclear disarmament, and on the conditions that would have to be met and institutions created for it to occur and endure.<sup>6</sup> Although acknowledgement of embeddedness is implicit in much of the canon, there has been comparatively little effort to submit it to the thorough examination that other issues have received.

In part, the subject has been neglected due to its inconvenience for governments in nuclear-weapon states that have found themselves obliged by custom, law, and necessity to advocate nuclear disarmament, not least at the quinquennial Nuclear Non-Proliferation Treaty (NPT) Review Conferences.<sup>7</sup> A significant reason for the phenomenon's comparative neglect is, however, that most scholars and practitioners, especially within the nuclear-weapon states, consider that it needs no explanation. Its existence is obvious, rooted as it is in the nature of the industrialized states system, the eternal struggle for security and advantage within it, the unique qualities of nuclear weapons, and the absence of the deep trust and strong international institutions and means of enforcement without which states are loath to drop their guard.

But is it so obvious? Is it not very puzzling? Why has a small minority of states devoted such immense resources to nuclear weaponry, risking individual and universal destruction, when nuclear deterrence has questionable reliability and effect, when unmanageable crises can occur and accidents can happen, and when nuclear weapons have no evident use on the battlefield?

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<sup>5</sup> A valuable introduction to nuclear deterrence theory and practice is Lawrence Freedman and Jeffrey Michaels, *The Evolution of Nuclear Strategy*, 4<sup>th</sup> Edition (London: Palgrave Macmillan, 2019). On extended deterrence, see Stéfanie von Hlatky and Andreas Wenger, eds., *The Future of Extended Deterrence* (Washington, DC: Georgetown University Press, 2015). For a critique of nuclear deterrence, Jonathan Schell's *The Abolition* (London: Pan Books, 1984) remains compelling. On its ethics, see Sohail H. Hashmi and Steven P. Lee, eds., *Ethics and Weapons of Mass Destruction: Religious and Secular Perspectives* (Cambridge: Cambridge University Press, 2004), and Joseph S. Nye, "Nuclear Ethics Revisited," *Ethics and International Affairs*, 37:1 (Spring 2023): 5-17. The masterwork on political realism's agonies in the nuclear age is Campbell Craig, *Glimmer of a New Leviathan: Total War in the Realism of Niebuhr, Morgenthau and Waltz* (New York: Columbia University Press, 2003).

<sup>6</sup> Extending across the nuclear age, this inquiry has included the Acheson-Lilienthal Report (1946), Canberra Commission on the Elimination of Nuclear Weapons (1996), reports and papers issued by the Carnegie Endowment for International Peace, and proposals (focused more on normative change than process realization) by supporters of the Humanitarian Initiative and Treaty on the Prohibition of Nuclear Weapons (TPNW).

<sup>7</sup> The necessity arises partly from the non-proliferation norm's strained legitimacy if the practice of nuclear deterrence is confined to the few and becomes prolonged.

## “The Bomb as God” Metaphor

These are the questions that Jacques Hymans addresses in his impressive article on “The Bomb as God” metaphor. His inquiry originated in the Workshop on the Embeddedness of Nuclear Weaponry, held by Princeton University’s Program on Science and Global Security in February 2019, in which he and a number of other nuclear scholars participated. In the working paper prepared for it, I suggested ways of thinking about embeddedness and irreversibility (and their opposites). Six main reasons were proposed as to why the attachment to nuclear weapons becomes so strongly tethered after the threshold to armament is crossed.<sup>8</sup> My supposition was that embeddedness arose from the six contributing factors’ summation and interaction. Together, they made the obstacles to disarmament appear insurmountable without fundamental changes in the international system or within the states that comprise it, or without a shock of such magnitude—notably a nuclear war—that compelled governments (if they still existed) fundamentally to reconsider their stances. Imagining and foreseeing the nuclear apocalypse have never proved sufficient.

While taking his lead from the working paper, Hymans moves the discussion on to another plane, arguing that “Nuclear embeddedness is not a synonym for a state’s decision to keep its arsenal; rather, it refers to a state’s failure to calculate whether it should keep its arsenal” (1). He suggests that, capping all other influences, this evasion arises from “the sedimentation of the metaphor of the Bomb as God in a state’s political culture” (2). Such metaphorization places the bomb’s possession beyond rational calculation, “effectively [blocking] a state from seeing its way clear to nuclear renunciation, whether unilateral, regional, or global” (2). It closes eyes and minds to that possibility, and to the proper and responsible weighing of its advantages and disadvantages.

In presenting his case, Hymans introduces the reader, with characteristic rigor, to cognitive metaphor theory, which is concerned with effects of conceptual metaphors on thought and action, at individual and collective levels. He suggests that the bomb’s frequent linguistic association with godly characteristics—all powerful, possessing a special aura, beyond comprehension—confirms the metaphor’s appropriateness. He draws attention to the culture that has evolved around nuclear weaponry in the nuclear-armed states, and to the manner in which the Bomb as God metaphor’s cultural sedimentation strongly affects the choices that policymakers consider to be available.

Hymans sets out to provide empirical evidence in support of his thesis. He draws especially upon US, Indian, Pakistani and North Korean behaviors and their linguistic habits when referring to their nuclear weapons and policies. He notes the metaphor’s presence in the organizational cultures of their nuclear establishments, which have often been referred to as nuclear priesthoods. Shifting from the institutional to the individual level of analysis, he rests his case especially on the testimonies of three nuclear “apostates,”

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<sup>8</sup> William Walker, “On Nuclear Embeddedness and (Ir)reversibility,” The six reasons were headed: [Production and Operational] Estate formation, Politico-military activation, Security dilemmas/paradoxes, Identity formation, Construction of narratives and consolidation of beliefs, and International recognition. The published paper drew upon the Workshop’s discussions.

American, British, and French individuals who had significant careers in the military nuclear field during which they dutifully accepted nuclear orthodoxy. After leaving the service, they spoke out against it, aligning themselves firmly with proponents of disarmament and against the forces of denial and repression that they had experienced.

Hymans does not advocate nuclear renunciation in his article, despite clear sympathies in that direction. Rather, he insists that “no state can claim to be a responsible nuclear power unless it is continually assessing the relative pros and cons of a wide range of renunciation options...and building whatever technical capabilities may be necessary to implement an eventual renunciation decision” (28). This echoes the opinion of Toby Dalton and George Perkovich who castigate the nuclear armed states for failing to engage, individually and collectively, in serious examination of the pros and cons and means and objectives of nuclear disarmament, while so frequently obstructing NGOs and other states’ efforts to engage with it.<sup>9</sup> Without such examination, their “unequivocal undertaking to accomplish the total elimination of their nuclear arsenals” lacks credibility and sincerity.<sup>10</sup>

#### Four Responses to Hymans’s Article

H-Diplo is here publishing Matthew Evangelista, James Lebovic, Reid Pauly and Anna Weichselbraun’s commentaries on Hymans’s article, together with Hymans’s response.

Evangelista expresses his appreciation of Hymans’s “well-informed and richly suggestive essay.” In the main, his essay consists of a reiteration and elaboration of strands of Hymans’s argument. He is particularly impressed by the discussion of nuclear apostasy and suggests adding Daniel Ellsberg, the nuclear strategist who worked in the US government and who breached security rules and defied authority when leaking the Pentagon Papers in 1971. Evangelista also notes the absence of Israel in Hymans’s article, an interesting case given its deep attachment to nuclear weaponry but formal denial of possession, the “policy of opacity” described by Avner Cohen (the UK is another interesting case that is largely absent from the discussion).<sup>11</sup>

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<sup>9</sup> Toby Dalton and George Perkovich, ‘Thinking the Unthinkable: Disarmament in North Korea and Beyond’, *Livermore Papers on Global Security* No. 8, July 2020.

<sup>10</sup> This is the pledge made unanimously by Parties to the NPT, including the five nuclear-weapon states among them, in Action 3 of the 64-point Action Plan adopted at the NPT Review Conference in 2010. [https://www.international.gc.ca/world-monde/issues\\_development-enjeux\\_developpement/peace\\_security-paix\\_scurite/action\\_plan-2010-plan\\_d\\_action.aspx?lang=eng](https://www.international.gc.ca/world-monde/issues_development-enjeux_developpement/peace_security-paix_scurite/action_plan-2010-plan_d_action.aspx?lang=eng).

<sup>11</sup> Avner Cohen, *The Worst-Kept Secret: Israel’s Bargain with the Bomb* (New York: Columbia University Press, 2010). There has been a long tradition of anti-nuclear activism in the UK, including within two of its major political parties (the Labour Party and Scottish National Party). The public debate in 2006-07 about the Trident system’s renewal was essentially about whether to maintain or disband the UK’s nuclear deterrent, given the UK’s sole reliance upon this submarine-based force. For Prime Minister Blair’s government, the primary question was how to manage that public debate, which it consented to for party political reasons, so as to gain the UK Parliament’s stamp of

Israel would thereby disavow the relevance of “thinking through nuclear renunciation as a practical policy option” that is Hymans’s mark of embeddedness.

Lebovic is unconvinced. His scepticism is shared by the dominant schools of thought and action in nuclear-weapon states. For them, nuclear embeddedness is not puzzling. It is the natural consequence of the quest for security and advantage in the competitive states system, of the security dilemma in a dynamic technological environment, of belief that deterrence’s benefits outweigh its risks and costs, and of concern that even its weakening, let alone discard, will open them to blackmail or worse by untrustworthy aggressors. Upon attainment of nuclear weaponry, they cannot escape behaving like physicist J. Robert Oppenheimer’s scorpions in a bottle. Lebovic also finds Hymans’s argument inconsistent, insofar as he appears to acknowledge the effectiveness of nuclear deterrence whilst contending that states’ belief in it is misplaced. Hymans responds by pointing out the inconsistency in Lebovic’s claims, in other writings, that while the goal of nuclear superiority is as fanciful as that of disarmament, many nuclear policymakers do pursue that illusory goal. Hymans therefore argues that the variable of a nuclear policy’s reasonableness cannot explain why the holders of nuclear weapons are so resistant to examining the option of renunciation, his main signifier of the Bomb as God metaphor’s influence.

Pauly’s and Weichselbraun’s commentaries are the most extensive. Pauly applauds Hymans’s emphasis on the significance of language in the field of nuclear policy, his desire to provide a bridge between security studies and nuclear culture literature, and his effort to assemble empirical evidence for his metaphor’s influence. In the last regard, however, he questions whether the declared commitments of leading figures in nuclear weapons states have always been as insincere as Hymans implies. Although total elimination may have seldom been in mind (President Ronald Reagan perhaps being an exception), their embrace of disarmament as a direction of travel, notably when seeking support for arms control and non-proliferation initiatives, has often been genuine. Despite being hedged with qualifications, their public advocacy of disarmament has also “energized the wider policy community” on occasion, an example being the 2007 article co-authored by former Secretaries of State Henry A. Kissinger and George P. Shultz, former Secretary of Defense William J. Perry, and former Senator Sam Nunn, all of whom were archetypal insiders.<sup>12</sup> Pauly might have added that their article created political space, not just for non-governmental organizations (NGOs), but for President Barack Obama to espouse the “the reduction and ultimate elimination of nuclear weapons” in his Prague speech of 2009 without fearing domestic opprobrium.<sup>13</sup>

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approval (the Scottish Parliament dissented but had no authority over this “reserved matter”). The UK government’s decision to renew Trident was taken in advance of the public debate without serious internal consideration of abolition, in accordance with Hymans’s thesis.

<sup>12</sup> George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, “Toward a Nuclear-Free World,” *Wall Street Journal*, January 15, 2008, <https://www.wsj.com/articles/SB120036422673589947>. It was also a non-partisan initiative since Nunn was a Democrat and the others Republicans.

<sup>13</sup> Barack Obama, *A Promised Land* (New York: Random. House, 2020), 348. It deserves mention that the “Gang of Four”’s unexpected interest in nuclear disarmament arose (temporarily) from post-9/11 anxiety about the dangers of undeterrable nuclear terrorism.

Inserting the adjective ultimate was, as always, a necessary qualifier, suggesting that Obama had also absorbed the Bomb as God metaphor.

Pauly also comments on the secrecy that surrounds nuclear weapons, a result of which is that “embeddedness might be policed by selecting out of the community those of insufficient faith.” He wishes, and I agree, that Hymans had written more systematically on the processes by which the metaphor’s sedimentation occurs. It would be “worth tracking variation in such sedimentation across individuals, generations, organizations and epistemic communities.” How and why sedimentation solidifies on and after crossing the threshold to armament was a central question, largely side-stepped by Hymans, in my working paper.

Weichselbraun draws attention to literatures that Hymans might have used when advancing his thesis, which she broadly supports. They include Donna Haraway and other feminist theorists’ perspectives on knowledge that is invariably “situated, partial and perspectival,”<sup>14</sup> always requiring scepticism about claims to objectivity, plus the writings of Benoît Pelopidas, Ursula Jasper, Carina Meyn and Kjølv Egelund amongst others on the nuclear policy discourses that inhibit and create animosity towards consideration of alternatives.<sup>15</sup> She is impressed by Hymans’s usage of his three apostates’ testimonies, observing the ruthless manner in which its quasi-religious adherents seek to marginalize and even punish all who betray the faith. She remarks also on liberalism’s presupposition, echoed in Hymans’s article, that reasoned debate provides the route to sound and responsible policy. This is contestable, in democracies as well as in autocracies, since alternatives cannot be debated truthfully with powerful groups whose collective minds are closed to them.<sup>16</sup> As she writes, “It is simply that you cannot debate the existence of God with religious zealots.”

Jacques Hymans’s article is rich in ideas and raises many questions that deserve serious attention inside and outside the academy. Some will be drawn more to his argument than others. Those inclined to dismiss it out of hand should pause, give it a careful reading and ponder its implications. The issues are too important

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<sup>14</sup> She cites Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, no. 3 (1988): 575–99

<sup>15</sup> Benoît Pelopidas, “The Oracles of Proliferation,” *The Nonproliferation Review* 18, no. 1 (2011): 297–314; Ursula Jasper, “Dysfunctional, but Stable—a Bourdieuan Reading of the Global Nuclear Order,” *Critical Studies on Security* 4, no. 1 (January 2, 2016): 42–56; Carina Meyn, “Realism for Nuclear-Policy Wonks,” *The Nonproliferation Review* 25, no. 1–2 (January 2, 2018): 111–28; Kjølv Egelund, “The Ideology of Nuclear Order,” *New Political Science* 0, no. 0 (February 15, 2021): 1–23.

<sup>16</sup> Neither the commentators nor Hymans pay due attention to, and consider implications of, the suppression of open debate in autocracies, and the vengeful manner in which such states and their leaders usually react to internal dissent. Their preoccupation is with nuclear-weapon states that are democracies.

and the insights too telling to be ignored. It is to be hoped that this discussion will encourage others to enter the debate on nuclear embeddedness on H-Diplo and elsewhere.<sup>17</sup>

### Contributors:

**Jacques E.C. Hymans** is an Associate professor of International Relations at the University of Southern California. Hymans's first book, *The Psychology of Nuclear Proliferation: Identity, Emotions, and Foreign Policy* (Cambridge University Press, 2006) won the International Society of Political Psychology's Alexander L. George Book Award and the Mershon Center for International Security Studies' Edgar S. Furniss Book Award. His second book, *Achieving Nuclear Ambitions: Scientists, Politicians, and Proliferation* (Cambridge University Press, 2012) won the Grawemeyer Award for Ideas Improving World Order, the American Political Science Association's Don K. Price Award for best book on science, technology and environmental politics, and the National Academy for Public Administration's Louis Brownlow Award for best book on public administration. Hymans's autobiographical essay for the H-Diplo/RJISSF "Learning the Scholar's Craft" essay series, "Identity, Emotions, and Nuclear Proliferation: My Dissertation Story," is available at <https://issforum.org/essays/PDF/E390.pdf>.

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**Matthew Evangelista** is President White Professor of History and Political Science at Cornell University. His first book on nuclear weapons has just been reissued: *Innovation and the Arms Race: How the United States and the Soviet Union Develop New Military Technologies* (Ithaca, NY: Cornell University Press, 1988). His more recent work has focused on the movie *Oppenheimer*: Review of *Oppenheimer*, *Cineaste* XLIX:1 (Winter 2023): 42-44, and its relationship to Vladimir Putin's nuclear threats: "Oppenheimer Envisioned the Tactical Use of Nuclear Weapons. Putin Now Threatens It," *Bulletin of the Atomic Scientists* (October 23, 2023); <https://thebulletin.org/2023/10/oppenheimer-envisioned-the-tactical-use-of-nuclear-weapons-putin-now-threatens-it/>.

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<sup>17</sup> I am myself considering writing on respects in which the "Bomb as Devil" also holds sway, indeed whether it is integral to the "Bomb and God" metaphor and its effects.



**James H. Lebovic** is Professor of Political Science and International Affairs at The George Washington University. He has published widely on defense policy, deterrence strategy, arms control, military budgets and procurement, foreign aid, democracy and human rights, international organizations, international conflict and cooperation, and military intervention. He previously authored seven books including *The False Promise of Superiority: The United States and Nuclear Deterrence, After the Cold War* (Oxford University, 2023), *Planning to Fail: The US War in Vietnam, Iraq, and Afghanistan* (Oxford University, 2019), *Flawed Logics: Strategic Nuclear Arms Control from Truman to Obama* (Johns Hopkins, 2013), *The Limits of US Military Capability: Lessons from Vietnam and Iraq* (Johns Hopkins, 2010), and *Deterring International Terrorism and Rogue States: US National Security Policy after 9/11* (Routledge 2007).

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**Anna Weichselbraun** holds a research and teaching postdoc (2018–2025) in the Department of European Ethnology at the University of Vienna. She earned a PhD in Sociocultural and Linguistic Anthropology from the University of Chicago (2016) and completed a postdoc at Stanford University's Center for International Security and Cooperation. Anna works at the intersection of an historical anthropology of knowledge, semiotics, and science and technology studies with an empirical focus on the global governance of technology in the long 20th century. She is currently revising her book manuscript on nuclear knowledge making practices at the International Atomic Energy Agency, and has published articles from this research in *Cultural Anthropology* (2019) and *PoLAR: Political and Legal Anthropology Review* (2020).

Jacques Hymans is onto something. In July 2017, the United Nations General Assembly endorsed the Treaty on the Prohibition of Nuclear Weapons (TPNW or Nuclear Ban Treaty) by a vote of 122 to 1, with one abstention and 69 states not voting. The treaty entered into force on 22 January 2021 after 50 of its signatories had ratified it. There are 9 states in the world that possess nuclear weapons: the United States, Russia, France, the United Kingdom, China, Israel, India, Pakistan, and North Korea. A further 28 member-states of the North Atlantic Treaty Organization rely on a commitment from the United States to come to their defense in the event of attack, with the option to use nuclear weapons, thus falling under the so-called nuclear umbrella of “extended nuclear deterrence.” The International Campaign to Abolish Nuclear Weapons (ICAN), recipient of the 2017 Nobel Peace Prize for its successful promotion of the Nuclear Ban Treaty, calls these “nuclear weapons endorsing states.”<sup>1</sup> It adds to their number four more states that allow the stationing of nuclear weapons on their territory and/or accept a pledge from the United States or Russia to threaten nuclear attack on their behalf: Australia, Belarus, Japan, and South Korea. These nuclear-friendly states notwithstanding, the majority of the world’s countries have decided that their security is enhanced by committing to the abolition of nuclear weapons. States that insist that their security depends on their own or their ally’s nuclear arsenal are in a clear minority. That seems to be a puzzle worth explaining.

Hymans poses a related puzzle, an antecedent one, in a sense: Why have the nuclear-armed states never evaluated whether their security would be better served without nuclear weapons? His article seeks “to explain nuclear states’ failure to seriously consider relinquishing their arsenals” (2). The answer he proposes is that “the sedimentation of the metaphor of the Bomb as God in a state’s political culture significantly impedes that state from thinking through nuclear renunciation as a practical policy option” (2). Other scholars have adopted language that hints at a similar explanation. Benoît Pelopidas, for example, writes of “nuclear eternity” as the “naturalization of nuclear weapons and their removal from the realm of democratic choice.”<sup>2</sup> Discussing France, he evokes more explicit religious themes, arguing that lack of public discussion of the country’s commitment to nuclear weapons means that “our regime has become a techno-theocracy of nuclear deterrence in which the sacralization of the object renders invisible profane choices, made by men and women of flesh and blood” regarding the full range of nuclear decisions.<sup>3</sup>

Hymans addresses a number of important issues in this well-informed and richly suggestive essay—so many, in fact, that one wishes he had more space to explore and substantiate the key claim about the Bomb as God. His article briefly, but persuasively, addresses the key rival explanations for the nuclear-armed

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<sup>1</sup> <https://www.icanw.org>

<sup>2</sup> Benoît Pelopidas, “The Birth of Nuclear Eternity,” in S. Kemp and J. Andersson. *Futures* (Oxford, UK: Oxford University Press, 2021).

<sup>3</sup> Pelopidas, *Repenser les choix nucléaires* (Paris: Presses de Sciences Po, 2022), 265. For more discussion of this work see the essays in Roundtable Review 15-17, H-Diplo/Robert Jervis International Security Studies Forum, 4 December 2023, edited by Lori Maguire, <https://issforum.org/ISSF/PDF/RJISSF-Roundtable-15-17.pdf>.

states' lack of attention to nonnuclear alternatives for providing security: strategic imperatives and institutional inertia. Then, in a worthy effort "to call security studies scholars' attention to the contributions of the nuclear culture literature" (2), he reviews work by Jeff Smith,<sup>4</sup> Peggy Rosenthal,<sup>5</sup> and Carol Cohn,<sup>6</sup> before turning to a discussion of the treatment of metaphors in cognitive psychology and metaphors of god in psychology and theology. To this point, nearly a third of the way into the article, the reader has not encountered many references to the Bomb as God, but a couple of close brushes, such as Anne Harrington de Santana's reference to nuclear weapons' "special aura, sometimes described as a psychological effect."<sup>7</sup> Later Hymans quotes Michael Sheehan's claim that "nuclear deterrence became a cult, with its own arcane mysteries and rituals," much like religions, and he cites Hugh Gusterson's use of religious metaphors in his anthropological study of the Los Alamos nuclear weapons laboratory.<sup>8</sup>

Hymans anticipates concerns about the lack of direct references to the Bomb's divinity, when he insists that Bomb as God is "a conceptual metaphor, not a conscious ideology or literal belief. The cultural sedimentation of the metaphor lodges it in the deep cognitive frames that generally orient our decision-making, but the metaphor is not always present in the active mental spaces that produce our speech" (9). Still, the direct references, when he reports them, do bolster Hymans claims. He quotes, for example, the pacifist Dorothy Day, founder of the Catholic Workers movement and a longtime opponent of nuclear weapons, who lamented that "the Lordship of Christ has been replaced by the Lordship of the bomb."<sup>9</sup> Subsequent generations of religiously inspired activists among the Catholic Workers included Philip and Daniel Berrigan, Elizabeth McAlister, and members of the Grady family in Ithaca, New York. They engaged in acts of civil disobedience, risking jail time, to bear witness and symbolically (with hammers and their own blood) destroy the idolatrous weapons. They called themselves the Plowshares movement after the Biblical injunction in Isaiah 2:4: "And they shall beat their swords into plowshares, and their spears into pruning hooks: nation shall not lift up sword against nation, neither shall they learn war anymore."<sup>10</sup> As one

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<sup>4</sup> Jeff Smith, *Untinking the Untinkable: Nuclear Weapons and Western Culture* (Bloomington, IN: Indiana University Press, 1989).

<sup>5</sup> Peggy Rosenthal, "The Nuclear Mushroom Cloud as Cultural Image," *American Literary History* 3, no. 1 (Spring 1991): 63-92.

<sup>6</sup> Carol Cohn, "Sex and Death in the Rational World of Defense Intellectuals," *Signs: Journal of Women in Culture and Society* 12, no. 4 (1987): 687-718.

<sup>7</sup> Anne Harrington de Santana, "Nuclear Weapons as the Currency of Power: Deconstructing the Fetishism of Force," *The Nonproliferation Review* 16, no. 3 (2009): 325-345, at 339.

<sup>8</sup> Michael Sheehan, *The Balance of Power: History and Theory* (London: Routledge, 1996), 180; Hugh Gusterson, *Nuclear Rites: A Nuclear Weapons Laboratory at the End of the Cold War* (University of California Press, 1996).

<sup>9</sup> Sharon Erickson Nepstad, *Religion and War Resistance in the Plowshares Movement* (Cambridge, UK: Cambridge University Press, 2008), 66.

<sup>10</sup> Eric Schlosser, "Break-In at Y-12," *The New Yorker*, 1 March 2015.

participant described, “I see Plowshares actions as sacramental—outward signs of inward and spiritual divine grace.”<sup>11</sup>

As a possible strategy to deal with the methodological problem of absence of direct evidence of “nuclear embeddedness”—because the conceptual metaphors are so deeply embedded as to go unnoticed—Hymans proposes “to follow the poststructuralist literature’s insight that the nature, sources, and power of hegemonic discourses are best grasped by people who stand at their margins” (11). His brief examination of the testimony of “nuclear apostates” is among the article’s most compelling sections. These were “former high-ranking nuclear officials who later became outspoken advocates for complete [nuclear] disarmament as a practical policy objective.” Their “combination of insider knowledge and outsider perspective,” according to Hymans, “uniquely positions them to testify to the psychological sources of nuclear embeddedness” (11). The three figures Hymans describes are: “George Lee Butler, a U.S. Air Force general who headed the Strategic Air Command; Robert Green, a British naval officer who also held high positions in the U.K. Ministry of Defence; and Paul Quilès, a politician who served as France’s Minister of Defense” (24).

There are many other such examples among former military officers who spent their careers dealing with nuclear weapons. One might also consider—especially in the United States, where membership in what Hymans and others call the “nuclear priesthood” (21) has long been open to civilians—apostates such as Daniel Ellsberg. A Harvard-trained economist, he began his career at the RAND Corporation, working on nuclear strategy for the US Air Force, along with compiling several volumes of a top-secret internal history of US military involvement in Vietnam. They became known as the Pentagon Papers when he released the classified documents to the *New York Times* and *Washington Post* in 1971. A turning point in Ellsberg’s attitude toward the war came when he met Randy Kehler, a conscientious objector and draft resister who was willing to go to jail rather than fight in Vietnam. Kehler later became executive director of the national Nuclear Freeze Campaign that Hymans discusses (14) and whose “most significant constituency,” according to David Cortright, a scholar-activist and fellow Freeze leader, “was the religious community.”<sup>12</sup> In keeping with Hymans’s theme, Wikipedia describes the effect of Kehler on Ellsberg as “an epiphany” (and helpfully provides a link so that readers can learn its definition, if necessary).<sup>13</sup> In his aptly titled study of the RAND strategists, *Wizards of Armageddon*, Fred Kaplan likewise depicts Ellsberg’s change in attitude toward the Vietnam War and nuclear weapons as a “conversion.” He “turned first against the war, then against the tenets of his profession, delivered speeches likening himself and his friends to the war criminals of Nazi Germany, and cleansed his soul most dramatically by leaking the Pentagon Papers.”<sup>14</sup> Ellsberg, who expected to receive a long prison term for that action, was inspired by Kehler’s example. Ellsberg too

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<sup>11</sup> <https://kingsbayplowshares7.org/about/bios/clare-grady/>.

<sup>12</sup> David Cortright, “Nuclear Anxieties, Then and Now,” a review of Henry Richard Maar III, *Freeze! The Grassroots Movement to Halt the Arms Race and End the Cold War* (Ithaca, NY: Cornell University Press, 2022), in *Arms Control Today* (September 2022).

<sup>13</sup> [https://en.wikipedia.org/wiki/Daniel\\_Ellsberg](https://en.wikipedia.org/wiki/Daniel_Ellsberg).

<sup>14</sup> Fred Kaplan, *The Wizards of Armageddon* (New York: Simon and Schuster, 1983), 337.

became a committed anti-nuclear activist, joined in civil disobedience against nuclear weapons and nuclear tests—even in the Soviet Union—and was arrested some 90 times.<sup>15</sup> He called his memoir of his years working on nuclear weapons, *The Doomsday Machine: Confessions of a Nuclear War Planner*.<sup>16</sup>

Hymans's article is as wide-ranging geographically as it is intellectually. Although he devotes much of his attention to the US case, he also includes discussion of France and the United Kingdom, mentions briefly Dmitry Adamsky's important study<sup>17</sup> of the "fusion of nuclear activities with Orthodox religion in the Russian military" (22), and provides a section on more recent converts to the nuclear faith: India, Pakistan, and North Korea. Israel, because it does not officially acknowledge its nuclear arsenal, could be a harder case for identifying a religious association with the bomb, although other states invoke the ancient Israelites in their own conceptual metaphors (6, 12). Clearly there is much more that Hymans and other scholars could do with the theme of the Bomb as God.<sup>18</sup> This article is an ambitious and thought-provoking start.

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<sup>15</sup> Ben Bradlee, Jr., "Daniel Ellsberg's Life beyond the Pentagon Papers," *The New Yorker*, 16 June 2023. In May 1982, Ellsberg joined a crew on a Greenpeace vessel and sailed into Leningrad harbor to protest Soviet nuclear testing. See Matthew Evangelista, *Unarmed Forces: The Transnational Movement to End the Cold War* (Ithaca, NY: Cornell University Press, 1999), 169-170.

<sup>16</sup> Daniel Ellsberg, *The Doomsday Machine: Confessions of a Nuclear War Planner* (New York: Bloomsbury, 2017).

<sup>17</sup> Dmitry Adamsky, *Russian Nuclear Orthodoxy: Religion, Politics, and Strategy* (Stanford, CA: Stanford University Press, 2019).

<sup>18</sup> On religious significance of names of nuclear-armed missiles, for example, see Krzysztof Iwanek, "Sultans on Wings: The Symbolism of Weapon Names in India and Pakistan," *The Diplomat*, 2 March 2020, <https://thediplomat.com/2020/03/sultans-on-wings-the-symbolism-of-weapon-names-in-india-and-pakistan/>.

Why has disarmament proven so difficult? In this article Jacques Hymans “hypothesizes that the sedimentation of the metaphor of the Bomb as God in a state’s political culture significantly impedes that state from thinking through nuclear renunciation as a practical policy option” (2). Hymans offers a wealth of evidence that national leaders, and others, think about nuclear weapons in magical, mystical terms, which suggests that they equate the Bomb and God. For the reasons outlined below, I find Hymans’s argument to be less than compelling in the face of more traditional explanations for the failure of countries to disarm.

First, Hymans’s argument does not adequately address the counter arguments raised by those who focus on the security dilemma and thereby argue that states perceive dangers in unilateral—and even bilateral and multilateral—disarmament.<sup>1</sup> States fear that by cheating on a deal (surreptitiously acquiring weapons), their opponents could acquire an advantage, especially with a large reduction in the allowable size of the parties’ arsenals. Even that assumes that states can negotiate agreements with other states when threats will persist from parties that are not subject to the agreement. US policymakers recognize, for example, that a US-Russia agreement, if possible, must be negotiated with an eye nonetheless to Chinese and North Korean aspirations. Put simply, states will resist nuclear disarmament if their leaders continue to believe that deterrence works.

Hymans concedes that it does. He asserts that “a credible nuclear deterrent is likely to dissuade external adversaries from launching nuclear or major conventional attacks” (3), even as he argues against that same assertion. He observes, for instance, that the risk of “state death” is very low “for nuclear and non-nuclear states alike” (3), which seemingly suggests that nuclear weapons provide no real protection. But not all states are situated alike, and states presumably acquire weapons for a reason. To make his case, Hymans would need to invalidate the counterfactual argument—that absent these weapons, the possessors would still have avoided conflict. We can reasonably argue that the United States and Soviet Union would have come to blows conventionally in Europe if not for the fear of nuclear annihilation.

Second, Hymans’s article makes the case for proponents of rational-deterrence arguments. He suggests that nuclear weapons serve as deterrents when he asserts that “nuclear stability” is “very difficult to achieve or sustain” when “threats are real,” that stability is threatened if a state lacks a second-strike capability, and that whether a country possesses an adequate second-strike capability is a matter of perspective (3). These arguments suggest while deterrence is fragile it is still necessary to preserve peace. In fact, using the term, “nuclear stability,” makes little sense if it is not a reference to a stable deterrence relationship.

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<sup>1</sup> Robert Jervis, “Cooperation under the Security Dilemma,” *World Politics* 30:2 (1978): 167-214 and Charles L. Glaser, “The Security Dilemma Revisited,” *World Politics* 50:1 (1997): 171-201.

Regardless, the critical question is not whether nuclear weapons work for their intended purpose, in prescribed quantities and qualities; instead, the question is whether policymakers believe that these weapons, in given numbers and varieties, serve that purpose. If beliefs pertaining to nuclear weapons, as God, matter to decisionmakers, other beliefs pertaining to these weapons can matter too. Hymans himself notes that “elites who strongly favor nuclear deterrence also express perpetual anxiety that their deterrent in its present state may have insufficient credibility?” (5). These concerns (beliefs) seemingly explain why states are loath to reduce the size of their arsenals.

Third, Hymans’s argument neglects strong alternative nonrational arguments for the resistance to disarmament. That is, disarmament is impaired for the same reason that nuclear strategy is illogical: strategists, like national leaders, are seduced by weapon quantities and the promise of technology. Or they define security in terms of what they currently have (an anchoring bias) such that losing weapons, by that standard, amounts to a loss in security.<sup>2</sup> Or perhaps, they accept that a nuclear war at any level would be catastrophic to their nation but still entertain the belief (illusion) that, by building up their arsenals to destroy adversary weapons, they might meaningfully limit the damage that the adversary could inflict. Plentiful evidence of the pervasiveness and impact of these beliefs is available.<sup>3</sup>

Finally, I suspect that Hymans’s article addresses allegory rather than metaphor. His subjects do not refer to the bomb as God but, instead, find it to be “God-like” in its presumed properties. Their God-like references to the bomb are a tribute to its savage destructive power (the “absolute weapon”), origins in the secrets of nature, ability to inflict unbridled terror (the “wrath of God”), and potential to destroy all that “God has created.” Perhaps the references imply that the bomb is “God-light” in the sense that nuclear and religious theology are bound by similarly mythical and mystical properties. If that were the case, the thesis here would lose significant explanatory power.

Thus, I have no doubt that the mythical and mystical properties of the bomb give it added allure. But that is a far cry from conceding that these properties have determinative influence—let alone that the Bomb as God metaphor is the sole or even the most convincing explanation for the resistance to disarmament.

My main point, then, is that Hymans’s article presents strong evidence that leaders and other officials hold strong beliefs but weaker evidence that those beliefs override other influences in explaining the resistance to disarmament. One can certainly find evidence, for instance, that speaks to the influence of a leader’s religious faith on nuclear policies. In 1982, Ronald Reagan delivered a radio address on nuclear weapons in which he attributed the existence of peace between the United States and Soviet Union to the balance of

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<sup>2</sup> On such biases, see Daniel Kahneman and Amos Tversky, “Prospect Theory: An Analysis of Decision under Risk,” *Econometrica* 47:2 (1979): 263-291 and Jack S. Levy, “Prospect Theory, Rational Choice, and International Relations,” *International Studies Quarterly* 41:1 (1997): 87-112.

<sup>3</sup> For example, see Brendan Rittenhouse Green and Austin Long, “The Limits of Damage Limitation,” *International Security* 42:1 (2017): 193-199 and Keir A. Lieber and Daryl G. Press, “The New Era of Counterforce: Technological Change and the Future of Nuclear Deterrence,” *International Security* 41:4 (2017): 9-49.

power, in part in nuclear weaponry, as he warned, too, that the Soviets were threatening that balance. Still, he closed his address saying “God bless you” to the American people.<sup>4</sup> That is, he was sufficiently confident that he, and the American people, had God’s support that he spoke for God to bestow God’s blessings. Could that not be read as compelling evidence of Reagan’s belief that God would make things right, regardless of the US policies adopted? After all, Reagan, when proclaiming a “National Day of Prayer,” noted approvingly that “when catastrophe threatened, [“our forefathers”] turned to God for deliverance” and observed that “prayer is today as powerful a force in our Nation as it has ever been.”<sup>5</sup> But one could also find strong evidence that Reagan sought to hedge his bets, through action. In the address on nuclear weapons, he called for negotiations with the aim of “substantial reductions on both sides leading to equal and verifiable limits.”<sup>6</sup> It is necessary to establish a clearer connection between Reagan’s faith in God and his nuclear policies, and all the more so because the causal evidence is considerably stronger for alternative explanations.

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<sup>4</sup> Ronald Reagan, Radio Address to the Nation on Nuclear Weapons, April 17, 1982.

<https://www.reaganlibrary.gov/archives/speech/radio-address-nation-nuclear-weapons>.

<sup>5</sup> Proclamation 4826 – National Day of Prayer, 1981.

<https://www.reaganlibrary.gov/archives/speech/proclamation-4826-national-day-prayer-1981>.

<sup>6</sup> Reagan, Radio Address to the Nation on Nuclear Weapons.



In this innovative article, Jacques Hymans argues that a common religious metaphor in the nuclear domain—the Bomb as God—impedes clear thinking about a path toward disarmament. He tracks the emergence of religious symbolism in the language of nuclear thought-leaders across time and in a range of nuclear-armed states. And, building on “cognitive metaphor theory,”<sup>1</sup> he concludes that conceiving of the Bomb as God contributes to nuclear embeddedness—“a state’s persistent failure to reconsider its possession of a nuclear arsenal” (1). That which is sacred cannot be forsworn. Hymans is careful not to claim that this metaphor is the reason disarmament is so rare; rather he argues that the metaphor shapes what we even consider as policy options. Hymans focuses not on the decision not to disarm, but rather on the failure to consider whether we should.

This is an important argument, not just because he observes something new that may impede progress on nuclear disarmament, but also because of its contributions to the study of language in any domain of policymaking. Hymans’s important article proves the plausibility of his argument—exceeding the bar he sets for himself. And, like most good ideas, it leaves more questions than answers. Hymans is beckoning us down a path to an entire research agenda.

In this review essay, I first jump off where Hymans left off and consider how the language chosen by policymakers may impact other outcomes of interest in security affairs. Second, I offer a critique of how Hymans operationalizes his theory for empirical evaluation. Finally, with an eye toward future scholarship, I take a step back in Hymans’s argument and offer hypotheses about how nuclear weapons came to be theologically metaphorized.

## Language and Strategy

Hymans does a great service to the field by bringing the nuclear culture literature into deeper conversation with mainstream security studies. This is an overdue pivot. Anecdotally, most of the scholars I know in the field of nuclear security studies love to teach and assign in their courses Carol Cohn’s famous article on “Sex, Death, and the Rational World of Defense Intellectuals.”<sup>2</sup> Students love it. It is an eye-opening piece that sees the world of nuclear strategist from a new angle. But then we typically move on, back to the canon, and forget that the nuclear priesthood *is* a tribe. It thinks about national security in ways that are odd to outsiders—contemplating the deaths of millions in seemingly casual conversation, grasping for empirical

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<sup>1</sup> George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago Press, 2003).

<sup>2</sup> Carol Cohn, “Sex and Death in the Rational World of Defense Intellectuals,” *Signs* 12: 4 (1987): 687–718.

<http://www.jstor.org/stable/3174209>.

evidence on a type of warfare that has never occurred, or finding the solution to averting a thermonuclear war in an embrace of the terrifying weapons themselves.

One does not have to disagree with the conclusions of nuclear strategists to still appreciate the uniqueness of their language and culture. One consequence of tribal language and customs, specifically the theological, Hymans argues, is nuclear embeddedness.<sup>3</sup> Another might be to promote non-use: God inspires awe, and unwillingness to trifle with something so powerful as to be beyond human comprehension.<sup>4</sup> Surely there are others.

Anyone who has spent time in the nuclear strategy world knows that our language can be opaque. It is not just that it is full of jargon and acronyms—P<sub>ks</sub>, triads, ALCMs, GLCMs, MIRVs, etc.<sup>5</sup> Rather nuclear strategy can actually be slippery in its ideas. I believe this slipperiness comes with the nature of the territory. There is a lot of cognitive inconsistency required to plan and strategize about how to fight a nuclear war that cannot be won and must never be fought.

Sometimes language, metaphor, and analogy can smooth over moral discomfort. Strategists can prefer to speak not of “first strike counterforce,” but the more anodyne “damage limitation.” Or they speak not of 100,000,000 dead humans, but of the “Red Team.”

Other times, reasoning by analogy in the absence of evidence can bias the recommendations of policymakers. Consider Secretary of State John Foster Dulles’ explanation of the efficacy of nuclear counterforce in a 1957 National Security Council meeting: “In a chess game you wouldn’t normally ever go so far as to take your opponent’s king; you checkmate the king and don’t play out the rest.”<sup>6</sup> In Dulles’ view, effective nuclear counterforce was a checkmate that would lead to bargaining advantages. He conceived of no moves after checkmate in the real world, no misapprehended intentions that opened pathways to inadvertent or accidental escalation. In the game of chess cornered opponents do not lash out; but in the real world no rule prevents it.

Hymans is giving us further reason to think that language of this sort can have policy consequences. The next step, therefore, must be empirical investigations about why our language matters to security policy

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<sup>3</sup> A term attributed to William Walker, “On Nuclear Embeddedness and (Ir)Reversibility,” working paper, Program on Science and Global Security, Princeton University, February 2020.

<sup>4</sup> I thank Lee-Or Ankori-Karlinsky for this idea.

<sup>5</sup> Probability of kill; the nuclear triad of bombers, land-based missiles, and sea-based missiles; air-launched cruise missiles; ground launched cruise missiles; multiple independently targetable reentry vehicles.

<sup>6</sup> Marc Trachtenberg, *A Constructed Peace: The Making of the European Settlement 1945-1963* (Princeton, NJ: Princeton University Press, 1999), 181.

outcomes.<sup>7</sup> The effects, I expect, are mostly in the absence of evidence—strategic options not considered, force structure investments not made, arms control initiative not pursued.

## Measurement and Theory Testing

Hymans confronts head-on the fact that his theory is difficult to measure and operationalize for testing. He offers several creative solutions. Among the most convincing of Hymans's explorations concerns “nuclear apostates” (23-28). This is indeed a curious category: Individual leaders who spent their careers building the nuclear complex and now, in old age, develop enlightened views and appear to seek absolution. Hymans very creatively focuses on them and how their change of heart led to their rejection by mainstream security bureaucracies and even social circles. I wonder what Hymans would say about some policymakers who changed their minds but were, to my knowledge, not so similarly rejected? For instance, the infamously hawkish former Deputy Secretary of Defense Paul Nitze, who was confident in conventional might of the United States, wrote toward the end of his life in an op-ed, “I see no compelling reason why we should not unilaterally get rid of our nuclear weapons.”<sup>8</sup> National Security Advisor McGeorge Bundy might occupy similar territory in the sense that he came around to the idea of the most minimal of deterrents—existential deterrence.<sup>9</sup>

The article's less convincing evidence comes in sections where his exploration requires judging whether the rhetoric on nuclear disarmament is empty or not. Much official support for nuclear disarmament is surely insincere; but some is more difficult to dismiss, and some arms control progress should not be discounted. In documenting policymakers' “failure to seriously consider” disarmament (2), Hymans is too quick to dismiss moments of policy focus on disarmament during the Reagan and Obama administrations on the grounds of their insincerity. What is the threshold for sincerity? The post-Cold War drawdowns indeed were not evidence of renunciation thinking, as Hymans argues. But Presidents Barack Obama and Ronald Reagan clearly thought about disarmament carefully.<sup>10</sup> Hymans believes that Reagan had a deeply held desire for nuclear disarmament; Obama perhaps less so. But during the Obama administration, a large amount of policy energy was spent thinking seriously about the path to low numbers. The New START treaty signed in 2010 was supposed to be just one step on a path toward aggressive arms control. Naïve or

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<sup>7</sup> Two model studies in this ilk are Stacie E. Goddard, *Indivisible Territory and the Politics of Legitimacy: Jerusalem and Northern Ireland* (Cambridge: Cambridge University Press, 2009); and Yuen Foong Khong, *Analogies at War: Korea, Munich, Dien Bien Phu, and the Vietnam Decisions of 1965* (Princeton: Princeton University Press, 1992).

<sup>8</sup> Paul H. Nitze, “A Threat Mostly to Ourselves,” *New York Times*, October 28, 1999, <http://nytimes.com/1999/10/28/opinion/a-threat-mostly-to-ourselves.html>.

<sup>9</sup> Reid B.C. Pauly, “Bedeviled by a Paradox: Nitze, Bundy, and an Incipient Nuclear Norm,” *The Nonproliferation Review* 22, 3-4 (2015), 441-455.

<sup>10</sup> Catherine McArdle Kelleher and Judith Reppy, *Getting to Zero: The Path to Nuclear Disarmament* (Stanford, CA: Stanford University Press, 2011); Paul Lettow, *Ronald Reagan and His Quest to Abolish Nuclear Weapons* (New York: Random House, 2005).

not, at some point reductions do suggest a seriousness of purpose about disarmament, even if they are qualified by a belief that we cannot today assess and must leave for future consideration as to whether the end state of zero is possible. Political conditions will not permit it now, but they might eventually.

Presidential attention to disarmament also significantly energized the wider policy community and non-governmental organizations on the issue. The so-called “Four Horsemen of the Apocalypse” op-ed endorsing nuclear disarmament<sup>11</sup> and Obama’s speech in Prague *did* open the door to much creative thinking about the path toward disarmament by stabilizing deterrence at low numbers of nuclear warheads; however unlikely this path was to be followed.<sup>12</sup> The sedimented Bomb as God metaphor that leads to nuclear embeddedness is supposed to prevent “thinking through the pros, cons, and modalities of nuclear renunciation” (7). Yet more of the security community was doing that during Obama’s first term than I would have expected.

Hymans also dismisses too readily Article VI of the NPT that commits the United States, Russia, China, France, and the UK to work in “good faith” toward the eventual nuclear disarmament. However vague this language, and how unachievable policymakers behind the scenes thought it was, it was a real concession to put disarmament in the text. The US Senate ratified a pledge of eventual disarmament; it became an international legal obligation. This is no small matter, even if, and perhaps especially if, it was thought to be impossible.

Finally, in turning to bureaucratic and organization theory, Hymans finds even more compelling evidence for his theory. He convincingly shows the “sedimentation” (1) of embedded views in how American bureaucracies rejected disarmament proposals and excluded them from serious consideration, even when those proposals came from the chief executive. He further suggests that “different national or religious cultures might be differently susceptible to the [Bomb as God] metaphor” (10), prompting the reader to wonder whether one might extend this to think about tracking variation in such sedimentation across individuals, generations, organizations, or epistemic communities. Hymans points in this direction when he observes the transnational solidarity that emerged between American and Russian nuclear scientists post-Cold War (22). Some beliefs cause disparate communities to cohere while others split them apart. It is a matter for concern if ideas that must necessarily work in complement—like deterrence and arms control—evolve to be espoused and pursued by separate intellectual communities.<sup>13</sup> How this process of socialization, education, or sedimentation occurs is worthy of even more scholarly attention.

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<sup>11</sup> George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, “Toward a Nuclear-Free World,” *Wall Street Journal*, January 15, 2008, <https://www.wsj.com/articles/SB120036422673589947>.

<sup>12</sup> For instance, James M. Acton, “Low Numbers: A Practical Path to Deep Nuclear Reductions,” Washington, DC: Carnegie Endowment for International Peace, 2011, [https://carnegieendowment.org/files/low\\_numbers.pdf](https://carnegieendowment.org/files/low_numbers.pdf).

<sup>13</sup> Reid B.C. Pauly, “A Dangerous and Growing Rift Between Nuclear Strategy and Arms Control,” The Simons Foundation Graduate Research Awards for Disarmament, Arms Control and Non-Proliferation, March 1,

## The Process to Metaphorization

When it does, why does the Bomb as God metaphor take over? From where does it originate? Who, if anyone, fostered it? In other words, what is the process of the bomb's metaphorization?

There is a certain faith to the enterprise of nuclear strategy, and in the wizard behind the curtain, whom we would prefer to believe is wise and who with cool calculation produces strategic stability. This faith is perhaps less unique to nuclear weapons than Hymans argues,<sup>14</sup> as other areas of complex statecraft have their sorcerers, too—conviction in the perfect guiding hand of the free market, perhaps; or confidence in the crystal ball of an independent Federal Reserve. Regardless, that faith should have a point from which it originates, either inside or outside of an elite group of participants, and a process by which it solidifies.

One possibility for its source in the nuclear domain is that it is technologically determined. It is difficult for anyone to look at a thermonuclear nuclear detonation and, as the chemistry of the Sun is momentarily performed here on Earth, not to think of the supernatural. Alternatively, the embeddedness of an idea could be manufactured for strategic purposes, making the God metaphor far less unconscious.<sup>15</sup> As a matter of bargaining power, for instance, new nuclear proliferators might seek to signal their commitment to resist nonproliferation pressure by dubbing their weapons, as North Korea did, an “Almighty Sword” (20). Doing so might embed the stake in the eyes of the public and make concessions over them more difficult to make—akin to the concept of “audience costs” to demonstrate resolve.<sup>16</sup>

One contributing factor that Hymans identifies for the broader cultural sedimentation of the God metaphor into the “collective unconscious” is the secrecy that surrounds nuclear weapons in general (7). They are often perceived as “mysterious,” as Hymans puts it. And he rightly distinguishes between secrets, which can be known, and “divine mystery,” which is “forever unknowable” (8). But such a mystique may also be intentionally constructed through the institutionalization of a system of official state secrecy.

Within an elite group, such as the priesthood itself, embeddedness might be policed by selecting out of the community those of insufficient faith. Military organizations especially can select their members—through recruitment and promotion—for the qualities of belief. Major Harold Herring was infamously removed from Air Force training to be a missileer upon asking how he could confirm that an order to launch had

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2018, [https://thesimonsfoundation.ca/sites/default/files/Report%20of%20the%202017-2018%20Graduate%20Research%20Awards%20for%20Disarmament%20Arms%20Control%20and%20Non-Proliferation%20Award%20Winners%20Seminar\\_1.pdf](https://thesimonsfoundation.ca/sites/default/files/Report%20of%20the%202017-2018%20Graduate%20Research%20Awards%20for%20Disarmament%20Arms%20Control%20and%20Non-Proliferation%20Award%20Winners%20Seminar_1.pdf).

<sup>14</sup> I do agree with Hymans, however, that the nuclear domain's “core assumptions are less constrained by real experience than perhaps any other area of state policy” (5).

<sup>15</sup> See a related literature on “sacred values,” e.g. Morteza Dehghani, et al., “Sacred Values and Conflict over Iran's Nuclear Program,” *Judgment and Decision Making* 5, 7 (2010): 540-546. doi:10.1017/S1930297500001704.

<sup>16</sup> James D. Fearon, “Domestic Political Audiences and the Escalation of International Disputes,” *American Political Science Review* 88, 3 (1994), 577-92. <https://doi.org/10.2307/2944796>.

come from a sane and sober commander-in-chief.<sup>17</sup> Deterrence requires that orders are followed. Otherwise adversaries and allies might question the credibility of a threat to launch. Doubt in the command and control system is therefore removed for strategic purposes.

A similar process may happen less intentionally in the minds of nuclear operators as they build a shared identity and organizational culture. Humans like meaning. We crave a purpose. War is something that can give it to us.<sup>18</sup> And nuclear deterrence, short of war, allows one to live this faith. It is compelling to see oneself as a sentry on the wall keeping the world safe. It is, after all, very boring to sit in a silo and wait for an order that has never come. But nuclear operators are important, with Armageddon at their fingertips. They feel, dare I say, God-like

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<sup>17</sup> Michael S. Rosenwald, “What if the President Ordering a Nuclear Attack Isn’t Sane? An Air Force Major Lost His Job for Asking,” *Washington Post*, August 10, 2017, <https://www.washingtonpost.com/news/retropolis/wp/2017/08/09/what-if-the-president-ordering-a-nuclear-attack-isnt-sane-a-major-lost-his-job-for-asking/>.

<sup>18</sup> Chris Hedges, *War is a Force that Gives us Meaning* (New York: PublicAffairs, 2002).

In “The Bomb as God: A Metaphor that Impedes Nuclear Disarmament,” Jacques Hymans attempts to answer the question of why nuclear-weapon states do not seriously think about giving up nuclear weapons. Against the usual explanations of “strategic imperatives” (3-4) and “institutional inertia” (4-5) Hymans’s answer lies in his argument that nuclear weapons (singularized as the Bomb) are cognitively metaphorized as God in the elite political cultures of nuclear-weapon possessing states. He argues that therefore a “sedimentation of the metaphor of the Bomb as God in a state’s political culture significantly impedes that state from thinking through nuclear renunciation as a practical policy option” (2). Sedimentation describes the cultural process by which conceptualizing the Bomb as God becomes part of the layered foundation of nuclear-policy thought. As fundamental to nuclear-policy thought, the notion of Bomb as God is difficult to unearth, an effect which is also described as nuclear embeddedness.

Hymans’s analytic framework mobilizes cognitive metaphor theory, which was first proposed by linguist George Lakoff and cognitive scientist Mark Johnson in 1980, and which suggests that conceptual metaphors function even at a pre-linguistic level to organize categories of thought.<sup>1</sup> A cognitive metaphor describes the understanding of one concept in terms of another. Hymans draws on the nuclear culture literature<sup>2</sup> which has amply documented that the Bomb tends to be discussed in metaphysical and divine or mysterious terms. Having staked his field and direction thus, Hymans’s methodological approach entails gathering and analyzing expressions of the Bomb as God metaphor in a number of national political cultures. For this, he selects and analyzes texts produced by nuclear elites for the metaphors that are employed to describe and discuss nuclear weapons.

Noting that nuclear embeddedness is “difficult to test empirically,” Hymans’s proposes to simply conduct a “plausibility probe” (10)—an exploratory study to ascertain if a more extensive study would be productive or feasible—by drawing on the nuclear culture literature and the security studies literature<sup>3</sup> and their judgments of sedimentation and embeddedness, respectively. He mobilizes the long-standing insight from feminist epistemology that “hegemonic discourses are best grasped by people who stand at their margins” (11). For this claim, he cites feminist philosopher and science studies scholar Donna Haraway’s famous “Situated Knowledges” essay in which she argues for the understanding that all knowledge is necessarily situated, partial, and perspectival.<sup>4</sup> Instead of claiming that a “view from nowhere” produces “objective” knowledge, reflexively recognizing the situatedness of all perspectives is what leads to robust truths. This

<sup>1</sup> George Lakoff and Mark Johnson, *Metaphors We Live By*, 2nd ed. (University of Chicago Press, 2003).

<sup>2</sup> Hymans’s representative citations for the nuclear culture literature include Harry Roberts and Emily Gibbs, “Nuclear Culture,” in *Military History*, by Harry Roberts and Emily Gibbs (Oxford University Press, 2019), <https://doi.org/10.1093/obo/9780199791279-0187>.

<sup>3</sup> E.g. Justin Anderson and Amanda Moodie, “Weapons of Mass Destruction,” in *International Relations*, Oxford Bibliographies Online, 2017, 9780199743292-0221, <https://doi.org/10.1093/obo/9780199743292-0221>.

<sup>4</sup> Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, no. 3 (1988): 575–99.

epistemological perspective, while mainstream in most of the critical social sciences and humanities, is at odds with empiricist fields, such as much of American political science, economics, and psychology, for example. Hymans should be commended for attempting to reconcile these fundamentally incompatible epistemologies in his essay. Yet, the difficulties in this endeavor are obvious. In justifying his attention to marginal figures, Hymans qualifies their limited utility by noting that they might all have a “political bias” (11). Haraway’s conclusion is that such biases are universal. This qualification could serve as a concession to reviewers concerned with the “factuality” of evidence. In any case, it shows that the attempt to bring together the nuclear culture literature and the security studies literature quickly becomes strained.

The argument is clear and coherent as well as deftly made. Hymans mobilizes a variety of primary and secondary sources (from actual utterances to analyses of utterances and discourses) in the main part of his article. The quality of these sources is high, and Hymans’s interpretation of them is compelling. He traces the emergence of the Bomb as God metaphor in the United States, the emergence of a Cold War consensus and variegations and transformations of the quasi-theological discourse in the Reagan years, the post-Cold War period, as well as the example of the “four horsemen” initiative for nuclear disarmament launched by former Secretaries of State Henry Kissinger and George Shultz, one-time Defense Secretary William Perry, and former Senator Sam Nunn (D-GA). He then presents evidence of the Bomb as God metaphor in the political cultures of the three most recent nuclear states: India, Pakistan, and North Korea. (Examples from France, the UK, and Russia are discussed in other sections, but I remained curious about what metaphors might be found in the elite nuclear discourses of China, not to mention Israel.) He analyzes the metaphor in organizational cultures including those of nuclear scientists and engineers, strategists, the nuclear military, and state leaders, before closing with what is arguably the most powerful evidence of the religious dynamic produced by the Bomb as God metaphor: the testimonies of nuclear *apostates*. That is, insider individuals who, for various reasons, experienced a significant change in how they thought about nuclear weapons. Their testimonies articulate the pervasive force of the metaphor. The apostates’ sometimes emotional testimonies indicate that to consider the Bomb in some way divine is not mere metaphor but powerful article of faith with significant social consequences. In fact, as Hymans notes, the experience of the nuclear apostates (being shunned, emotionally difficult, extreme, etc.) parallel “well-known patterns of religious conversion and deconversion” (24) which not so subtly indicates the profound zealotry of the nuclear elite.

One weakness of this article is the absence of acknowledgment that versions of this inquiry into the limitations on nuclear policy discourse have been conducted by other critical scholars whose work is not cited. Their answers support and complement Hymans’s argument with analyses from discourse as well as other components of political culture. While some of Benoît Pelopidas’s more recent work is cited, his 2011 article on the biologism of the metaphor of nonproliferation is not.<sup>5</sup> Even if his argument is not about nuclear abolition, Pelopidas asks a similar question about the relationship between the limits of political

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<sup>5</sup> Benoît Pelopidas, “The Oracles of Proliferation,” *The Nonproliferation Review* 18, no. 1 (2011): 297–314, <https://doi.org/10.1080/10736700.2011.549185>.



options and the limits of discourse. He proposes that nonproliferation as metaphor is akin to a Kuhnian paradigm in that it prevents people from thinking differently, outside of their paradigm (it prevents them from even conceptualizing other options). Campbell Craig and Jan Ruzicka's 2013 article also examines discourse to argue that the nonproliferation complex entrenches the status quo of nuclearized international politics and while actors pay lip service to the principle, they avoid serious discussion of nuclear disarmament.<sup>6</sup> In 2016, Ursula Jasper mobilized a Bourdieuan social field theoretical framework to demonstrate that the global nuclear order (in which the abolition of nuclear weapons is unthinkable) is maintained as a quasi-religious field of action and symbolic power.<sup>7</sup> Carina Meyn presents an intellectual history to argue that nuclear policy professionals, in touting a wrong-headed, misinformed "realism" contribute to a normative discursive field which prevents discussion of alternatives like nuclear abolition.<sup>8</sup> Most recently, Kjølvs Egeland argued that the global nuclear order was ideologically maintained by the forwarding of ostensibly "pragmatic" or "practical" solutions, understood to be apolitical, and thereby reiterated the status quo, making alternatives unthinkable.<sup>9</sup> These contributions all look at discourse to present different (theoretical) explanations for the same phenomenon: the entrenchment, in nuclear policy circles, of a certain way of thinking that prevents alternatives. What all these approaches implicitly share is a normative claim that breaking out of this entrenched way of thinking would be a good thing. Making possible different ways of thinking about nuclear weapons and their role in the world is good because it would permit different (ideally more peaceful, perhaps more just) political futures. They are committed to an understanding that ideas constrain but also permit actions.

Concomitantly, what also underlies these approaches are basic presuppositions of liberalism and the function of reasoned debate in the political process. This is evident from their attention to discourse. The belief in liberalism motivates versions of this argument which Hymans, too, puts forward in this article: democratic nations (in particular) should have a debate that considers all options. Hymans acknowledges the normative dimension of his article's message that "no state can claim to be a responsible nuclear power unless it is continually assessing the relative pros and cons of a wide range of nuclear renunciation options" (28). His message seeks to address the self-understanding of nuclear states as "responsible" while implying that if not all options are considered, this self-description is false, even hypocritical. The rational and deliberate, evidence-based consideration of all policy options is also something that a journal like *Security Studies* would probably claim to be contributing to. Nevertheless, what is sayable in elite nuclear circles, including its flagship journals, is clear. A keyword search of *Security Studies* brings up 173, 149, and 71 articles containing the expressions "nuclear war," "nuclear deterrence," and "nuclear nonproliferation

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<sup>6</sup> Campbell Craig and Jan Ruzicka, "The Nonproliferation Complex," *Ethics & International Affairs* 27, no. 3 (ed 2013): 329–48, <https://doi.org/10/gfppq3>.

<sup>7</sup> Ursula Jasper, "Dysfunctional, but Stable—a Bourdieuan Reading of the Global Nuclear Order," *Critical Studies on Security* 4, no. 1 (January 2, 2016): 42–56, <https://doi.org/10.1080/21624887.2015.1106426>.

<sup>8</sup> Carina Meyn, "Realism for Nuclear-Policy Wonks," *The Nonproliferation Review* 25, no. 1–2 (January 2, 2018): 111–28, <https://doi.org/10/gkr9fs>.

<sup>9</sup> Kjølvs Egeland, "The Ideology of Nuclear Order," *New Political Science* 0, no. 0 (February 15, 2021): 1–23, <https://doi.org/10/gh27bs>.

respectively,” while 34 articles contain “nuclear disarmament” and a mere 2 “nuclear abolition.” At the same time, politics in practice demonstrates that the reasoned debate of policy options is a thing of democratic fiction. Yet, much of the policy-related and relevant scholarship continues to produce scholarship that makes policy-recommendations based on this assumption. One may wonder, what for?

While the foregoing articles demonstrate *how* nuclear policies become constrained through discursive sedimentation, Hymans’s article obliquely presents a compelling explanation for *why* nuclear abolition cannot be discussed as a policy option among nuclear elites. It is simply that you cannot debate the existence of God with religious zealots. As much is articulated by nuclear apostate Paul Quilès when he describes French nuclear dogma as a religion that “one does not have the right to speak of it” (28). In order to speak about this subject, one must clearly tread carefully: Hymans himself states that his article “does not advocate for nuclear renunciation.” By not claiming the position that there is no God, Hymans makes it more likely that his arguments will be listened to by believers. There is no quicker way to be ignored in hegemonic nuclear policy circles than to state one’s position as a nuclear abolitionist.

What I am left with is an enriched understanding of the contradictions inherent in elite nuclear thought. Much of the nuclear policy debate is articulated in technical and strategic terms in a discourse that presents itself as value-free, and outside the realm of morality (as if values and morals had no impact on the consideration of mass death). Yet, concealed beneath this supposedly apolitical, value-free discourse there lurks the deep, unexamined conviction, and the sedimented bedrock belief of the Bomb as a source of divine right. As a next step, I would love for Hymans to analyze how the Bomb endows a nuclear state with legitimacy issued from divine right. Seen in this way, the nuclear states’ sometimes hysterical reactions to the 2017 Treaty on the Prohibition of Nuclear Weapons and other abolition efforts become more understandable: these are not only efforts to kill their God, but also efforts to strip them of the unquestioned legitimacy they have enjoyed for so long. If nuclear abolition is indeed a worthwhile goal, perhaps it is time to secularize the nuclear state.

I am deeply grateful to Matthew Evangelista, James Lebovic, Reid Pauly, and Anna Weichselbraun for their stellar contributions to this H-Diplo/RJISSF Forum on my recent *Security Studies* article, “The Bomb as God.” Their constructive criticisms and fertile suggestions indicate how far this idea has come and how much farther it still has to go. I also offer my sincere thanks to William Walker for writing a brilliant introduction, and to Diane Labrosse for her tireless work behind the scenes.

The contributions by Evangelista, Lebovic, Pauly, and Weichselbraun can be read as scrutinizing the article’s performance on four key issues of research design: first, the empirical puzzle; second, the measurement of the dependent variable; third, the theory and the measurement of the key hypothesized independent variable; and fourth, alternative and additional hypotheses. My response is organized accordingly.

### **I. The Empirical Puzzle**

The basic empirical puzzle that “The Bomb as God” addresses is the phenomenon of “nuclear embeddedness,” a term that was originally coined by Walker.<sup>1</sup> I write that nuclear embeddedness is “not a synonym for a state’s decision to keep its arsenal; rather, it refers to a state’s failure to calculate whether it should keep its arsenal” (1).

Three of the four contributions to the forum fully grasp the concept of nuclear embeddedness and agree that it is a puzzling phenomenon in the real world.<sup>2</sup> Evangelista summarizes my article’s key question thus: “Why have the nuclear-armed states never evaluated whether their security would be better served without nuclear weapons?” Pauly writes, “Hymans focuses not on the decision not to disarm, but rather on the failure to consider whether we should.” Weichselbraun writes, “Hymans attempts to answer the question of why nuclear-weapon states do not seriously think about giving up nuclear weapons.”

In contrast to the reviews by Evangelista, Pauly, and Weichselbraun, Lebovic’s essay subtly twists the focus away from nuclear embeddedness, my article’s main object of explanation. Indeed, the word “embeddedness” does not appear at all in his text. Instead, he summarizes my main research question as, “Why has disarmament proven so difficult?” The problem with this wording is that the nuclear-weapon states have not found it “difficult” to achieve nuclear disarmament, because in order to find it difficult, they would have to be trying to achieve it. They are not trying to achieve it. Instead, each of the nuclear-weapon

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<sup>1</sup> William Walker, “On Nuclear Embeddedness and (Ir)Reversibility,” (working paper, Program on Science and Global Security, Princeton University, February 2020); <https://sgs.princeton.edu/sites/default/files/2020-02/walker-2020.pdf>.

<sup>2</sup> Perhaps needless to say, Walker’s introduction to the forum also hits the nail on the head.

states implicitly assumes their arsenals as an essentially immutable fact or even destiny.<sup>3</sup> That is the heart of nuclear embeddedness.

According to Lebovic, “Deterrence works.” Therefore, there is no puzzle of nuclear embeddedness that needs to be resolved. Lebovic’s deterrence perspective is extremely valuable to have in this forum, not least because it reflects the traditionally dominant way of thinking about nuclear issues in mainstream IR.<sup>4</sup> But I take a more nuanced approach. On the one hand, in the article I explicitly state (or, as Lebovic puts it, “Hymans concedes”) that a nuclear arsenal can indeed serve as a powerful deterrent against major attacks if various conditions are met (3).<sup>5</sup> On the other hand, I also point out that the fact that nuclear arsenals can be valuable as deterrents is insufficient to explain the nuclear-weapon states’ neglect of the renunciation option. Since the net balance of benefits and costs of holding a nuclear arsenal is likely to depend on a state’s specific international context, a state that fails to make that net assessment cannot rationally decide what to do (3-4).<sup>6</sup>

Furthermore, even if we stipulate that states should follow rational-deterrence arguments, that is inadequate to explain why the nuclear-weapon states do not seriously consider the renunciation option, due to the fact that those states’ behavior so often deviates dramatically from what rational-deterrence arguments counsel. To elaborate this point, I cite Lebovic himself. In 2023, he published a magnificent piece of scholarship entitled *The False Promise of Superiority*. Here is how the book begins:

Contemporary scholars engage in fanciful thinking about US “nuclear superiority.” Even Cold War-era policymakers flirted with strategies and technologies to mitigate the catastrophic consequences of nuclear weapons use. Both the strategies and the technologies seem more viable now that the United States apparently enjoys quantitative and qualitative nuclear advantages over contenders. Yet these advantages are largely illusory. Try as it

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<sup>3</sup> Walker, “On Nuclear Embeddedness and (Ir)Reversibility.” See also Benoît Pelopidas, “The Birth of Nuclear Eternity,” in Sandra Kemp and Jenny Andersson, eds., *Futures* (Oxford University Press, 2021): 484-500.

<sup>4</sup> See, e.g., Christine M. Leah, *The Consequences of American Nuclear Disarmament: Strategy and Nuclear Weapons* (Cham, Switzerland: Springer International Publishing, 2017); Charles L. Glaser, “Was Nuclear Disarmament Ever Alive?” in Bård Steen and Olav Njølstad, eds., *Nuclear Disarmament: A Critical Assessment* (London: Routledge, 2019): 25-42.

<sup>5</sup> How realistic it is to assume that states will meet those conditions is a big and important question. In my article, I briefly point out some of the reasons why stable deterrence is very difficult to achieve and sustain (3). But even if it were easy, the phenomenon of nuclear embeddedness would still be puzzling, as I explain in the following paragraphs of this essay.

<sup>6</sup> On the importance of the international context, meaning both the deep structural context and the sequence of recent events, see, e.g., Richard Ned Lebow and Janice Gross Stein, *We All Lost the Cold War* (Princeton, NJ: Princeton University Press, 1994); Francis Gavin, *Nuclear Statecraft: History and Strategy in America’s Nuclear Age* (Ithaca, NY: Cornell University Press, 2012); Benoît Pelopidas, “The Unbearable Lightness of Luck: Three Sources of Overconfidence in the Manageability of Nuclear Crises,” *European Journal of International Security* 2:2 (2017): 240-262.

might, the United States cannot escape oppressive facts and possibilities that govern war and peace in the nuclear age.<sup>7</sup>

In his book, Lebovic makes an entirely convincing argument that the US pursuit of nuclear superiority is dangerous, expensive, and destined to fail. But why did he have to write his book at all? Why are so many American strategists and policymakers devoted to what Lebovic dubs the “fanciful” policy of nuclear superiority? And now for the kicker: given that the US is seriously interested in the fanciful policy of nuclear superiority, what is stopping it from seriously considering nuclear renunciation? A state that genuinely believed in rational-deterrence theory would summarily reject pursuing either nuclear superiority or nuclear renunciation, not just the latter. Thus, the rational-deterrence explanation for nuclear embeddedness fails.

## 2. Measuring the Dependent Variable

The concept of nuclear embeddedness is clear enough in principle. But how can we know it when we see it? Three of the four contributors—Evangelista, Lebovic, and Weichselbraun—seem generally to agree with me that each of the nuclear-weapon states today is in the condition of nuclear embeddedness.<sup>8</sup> Pauly does not strongly disagree, but he expresses doubts about the reliability of my empirical measurements on this point. Pauly is right that the next step in this research agenda should be to measure the levels of nuclear embeddedness in different countries across time much more systematically than my article attempts to do. However, Pauly’s critique reflects a partial misunderstanding of my article’s measurement strategy, which makes it seem more unreliable than it really is. I am to blame for this. The article incompletely describes my measurement strategy, which this forum now gives me the opportunity to clarify.

Pauly notably declares himself unconvinced by my attempt to draw a strong contrast between the nuclear disarmament agendas of President Ronald Reagan during the 1980s and the “four horsemen” group of former high-ranking US officials Henry Kissinger, Sam Nunn, William Perry, and George Shultz during the 2000s–2010s.<sup>9</sup> In the article, I contend that Reagan treated nuclear renunciation as a serious policy option, whereas the four horsemen did not. Pauly warns that the distinction I make between Reagan and the four horsemen is based on my impression of their “sincerity,” which is subjective and therefore lacks sufficient measurement reliability. I unfortunately invited this misunderstanding by ambiguously operationalizing

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<sup>7</sup> James H. Lebovic, *The False Promise of Superiority: The United States and Nuclear Deterrence after the Cold War* (Oxford University Press, 2023), 1.

<sup>8</sup> Evangelista and Weichselbraun do raise questions about the extent or meaning of nuclear embeddedness in the special case of Israel, and Weichselbraun also notes the article’s lack of attention to the case of China. Lebovic does not discuss the concept of embeddedness, but as noted above, he certainly agrees that the nuclear-weapon states are not seriously thinking about renunciation.

<sup>9</sup> Philip Taubman, *The Partnership: Five Cold Warriors and their Quest to Ban the Bomb* (New York: HarperCollins, 2012).

my concept of nuclear embeddedness in terms of the absence of “serious” (e.g., 2, 4, 9, 12, 15, 17, 19, 20, 23, 25, 28, 29) consideration of nuclear renunciation. However, my article’s assessment of the “seriousness” of different actors about pursuing renunciation actually relies on estimates of their policy concreteness, not their personal sincerity. In other words, I deem elite policy actors to be taking nuclear renunciation seriously if they seek to develop plausible contingency plans for why, how, and under what conditions they would do it—whether or not they expect or even want to do it.

For example, the article’s discussion of the Baruch plan for global nuclear abolition that the US presented to the United Nations in 1946 treats the plan as clear evidence that the US was not in a condition of nuclear embeddedness at that time (12). Many have questioned the sincerity of the Baruch plan. Indeed, Canada’s delegate to the United Nations Atomic Energy Commission, General A.G.L. McNaughton, described the Baruch plan as “insincerity from beginning to end.”<sup>10</sup> Yet I did not allow such questions to affect my coding of this case, because my focus is on policy concreteness, and the Baruch plan was undeniably concrete about how the world could get to nuclear zero and stay there.

Now returning to the article’s contrast between Reagan and the four horsemen that Pauly finds unconvincing: again, I based it on the same criterion of policy concreteness that I relied on for my discussion of the Baruch plan. First, Reagan’s actions while president clearly demonstrate his openness to the policy option of nuclear renunciation, even though his strong efforts in that direction ultimately failed to undo the US national security state’s deeply ingrained nuclear embeddedness.<sup>11</sup> Second, although the four horsemen claimed to have a “vision” of complete nuclear disarmament much as Reagan did, they also stated that their ostensible goal of complete nuclear disarmament was “like the top of a very tall mountain” that “we can’t even see.”<sup>12</sup> Some vision! Meanwhile, the only concrete steps that they proposed were very modest arms control measures (17). Thus, I conclude that the four horsemen’s much-ballyhooed disarmament campaign actually shows how deeply embedded the Bomb is in American political culture today.

Beyond the issue of sincerity versus concreteness, Pauly perceptively observes that even though the four horsemen never went beyond vague rhetorical gestures in favor of disarmament at some point in the far-distant future, their rhetoric—as well as the equally airy rhetoric of their political ally on this issue, President Barack Obama—had the effect of galvanizing some lower-profile national security experts to engage in concrete thinking about what Pauly calls “the path to low numbers.” Pauly’s observation raises the possibility that US nuclear embeddedness, while certainly far advanced, may still be incomplete. More

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<sup>10</sup> John Swettenham, *McNaughton*, v. 3: 1944-1946 (Toronto: Ryerson Press, 1969), 124.

<sup>11</sup> See Paul Lettow, *Ronald Reagan and His Quest to Abolish Nuclear Weapons* (New York: Random House, 2005); Beth Fischer, *The Myth of Triumphalism: Rethinking President Reagan’s Cold War Legacy* (Lexington: The University Press of Kentucky, 2019); William Inboden, *The Peacemaker: Ronald Reagan, the Cold War, and the World on the Brink* (New York: Dutton, 2022).

<sup>12</sup> George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, “Toward a Nuclear-Free World,” *Wall Street Journal*, 15 January 2008. Retrieved from *ProQuest Recent Newspapers*.

research is necessary on this point. However, I should underscore here that “low numbers” and zero are not the same thing. How would the US react if Iran were to make a binding commitment to “low numbers”? Renunciation means zero. Aiming for anything short of that is mere arms control, which is a qualitatively different enterprise. In the article (14), I quote Thomas Schelling: “Hardly anyone who takes arms control seriously believes that zero is the goal.”<sup>13</sup>

### 3. Theory and Measurement of the Hypothesized Independent Variable

Turning now from the object of explanation to the explanation itself, in the article I argue that the sedimentation of the conceptual metaphor of the Bomb as God in nuclear-weapon states’ political cultures consolidates their nuclear embeddedness. As such, the Bomb as God metaphor also acts as a significant impediment to nuclear renunciation, but note that I do not argue that it is the only or even the main impediment to renunciation.

My theoretical hypothesis draws on the interdisciplinary literature on nuclear culture, which has often noted the lurking presence of the Bomb as God metaphor in nuclear-weapon states’ discourse and practice. (One of the main purposes of my article is to draw more mainstream IR attention to the nuclear culture literature.<sup>14</sup>) For example, Sarah Scoles concludes in her fascinating 2024 book *Countdown*,

In all these often contradictory expert and layperson views, the bombs have one thing in common: they are a kind of stand-in for gods. They create, save, destroy. They are out of mortal control, in charge of ends and beginnings, able to send you straight to heaven or leave you standing in hell. Plus, when a god is in charge, humans don’t bear as much responsibility for the course of history.<sup>15</sup>

My article bundles the insights of the nuclear culture literature together with a detailed theoretical analysis of nuclear decisionmaking that draws heavily on cognitive metaphor theory, while also tweaking it in certain respects.<sup>16</sup> The key causal mechanism is that metaphorizing something as God puts it beyond even boundedly rational calculation. Therefore, the sedimentation of the metaphor of the Bomb as God in a state’s political culture effectively blocks it from seeing its way clear to nuclear renunciation (2).

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<sup>13</sup> Thomas C. Schelling, “What Went Wrong with Arms Control?” *Foreign Affairs* 64:2 (Winter 1985): 219-233, 226.

<sup>14</sup> An excellent overview of the nuclear culture literature is Harry Roberts and Emily Gibbs, “Nuclear Culture,” *Oxford Bibliographies Online in Military History*, 30 October 2019, doi: 10.1093/obo/9780199791279-0187.

<sup>15</sup> Sarah Scoles, *Countdown: The Blinding Future of Nuclear Weapons* (New York: Hachette, 2024), 201.

<sup>16</sup> George Lakoff and Mark Johnson, *Metaphors We Live By* (University of Chicago Press, 2003). See also Zoltán Kövecses, *Extended Conceptual Metaphor Theory* (Cambridge University Press, 2020)

Pauly praises my effort to bring the study of metaphors into the security studies mainstream: “Hymans is giving us further reason to think that language of this sort can have policy consequences. The next step, therefore, must be empirical investigations about why our language matters to security policy outcomes.” I am pleased to count Pauly as an ally in this endeavor. In my article, however, I underscore that the study of metaphors is not just about language (6-7).<sup>17</sup> Certainly, conceptual metaphors often show up in our speech, whether directly or indirectly. But what we *say* is at best an imperfect reflection of what we *think*. Furthermore, what we *think we think* is at best an imperfect reflection of the *unconscious assumptions* that truly orient our behavior. Conceptual metaphors are located at that deepest level of cognition, unlike mere literary metaphors that sit much closer to the surface. This point about the qualitative difference between conceptual and literary metaphors also serves as a rebuttal to Lebovic’s assertion that “Hymans’s argument addresses allegory rather than metaphor.”

The significant gap between what is inside our heads and what comes out of our mouths makes it very difficult to measure the degree to which the Bomb as God metaphor is present and matters for decision-making. This is a generic problem for all scholars who employ cognitive metaphor theory.<sup>18</sup> The difficulty is even greater when studying nuclear policymaking elites, who are highly strategic about what they say. However, Carol Cohn famously demonstrated that a careful analysis of their language can pierce through the veil of rationalization to the more fundamental drives and longings of the human animal underneath.<sup>19</sup> Cohn’s pathbreaking study was a great source of inspiration for my article, but I explicitly acknowledge that the interpretive approach can show only that a theoretical hypothesis has plausibility, not that it is definitively right (10). Given the daunting empirical measurement challenges that my theoretical hypothesis needs to overcome, Lebovic has every right to declare, “I have no doubt that the mythical and mystical properties of the bomb give it added allure. But that is a far cry from conceding that these properties have determinative influence.” Yet Pauly counters that “Hymans’s important article proves the plausibility of his argument—exceeding the bar he sets for himself.”

Evangelista, Pauly, and Weichselbraun all agree that the article’s strongest evidence comes from its three detailed biographical case studies of “nuclear apostates”—former high-ranking nuclear officials who turned against the dominant nuclear culture and started pushing hard for renunciation, which resulted in their being excommunicated from the “nuclear priesthood” (21-28).

My idea of focusing on these liminal figures came from reading the nuclear culture literature broadly defined, and notably the work of Donna Haraway.<sup>20</sup> The richness of the nuclear culture literature lies not only in its novel insights, but also its novel ways of gauging the validity of insights. Weichselbraun argues

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<sup>17</sup> Weichselbraun’s essay also highlights this point.

<sup>18</sup> Raymond W. Gibbs, Jr., “Evaluating Conceptual Metaphor Theory,” *Discourse Processes* 48:8 (2011): 529-562.

<sup>19</sup> Carol Cohn, “Sex and Death in the Rational World of Defense Intellectuals,” *Signs: Journal of Women in Culture and Society* 12:4 (1987): 687-718.

<sup>20</sup> Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14:3 (Autumn 1988): 575-599.



that mainstream social science and poststructuralist cultural studies are not easy to combine because they take such different stances on fundamental questions of epistemology. But Haraway has unapologetically “held on to both ends of the dichotomy,”<sup>21</sup> and mainstream IR needs to start doing likewise.

The article’s three case studies of nuclear apostates leave Evangelista wanting more. He suggests Daniel Ellsberg as an additional example. I strongly considered including Ellsberg but ultimately could not disentangle the causes and consequences of his almost simultaneous turns against nuclear deterrence and the Vietnam War. Nevertheless, Ellsberg’s own take on the contrast between those two issues is of considerable interest. In his autobiographical book *The Doomsday Machine*, Ellsberg recounts that in addition to leaking the secret Pentagon Papers that exposed the sordid truth about the history of American involvement in Vietnam, he had also copied a large cache of secret documents that contained the sordid truth about America’s nuclear posture, but a freak accident caused those papers to be lost before he could make them public. Ellsberg writes that although he narrowly avoided doing hard time for leaking the Pentagon Papers, he could not have avoided it if the nuclear papers had been published.<sup>22</sup> The US government keeps many secrets, but its nuclear secrets are in a category all by themselves. Nuclear secrets are the “holy of holies.”<sup>23</sup> David Wellerstein goes so far as to argue, “It is easier to imagine the elimination of nuclear weapons than an elimination of the secrecy surrounding them.”<sup>24</sup>

Pauly also wants more examples of nuclear apostates. He suggests the former US national security officials Paul Nitze and McGeorge Bundy, pointedly noting that these men’s turn against the Bomb did not incur the same level of punishments that were suffered by the three apostates who are featured in “The Bomb as God.”<sup>25</sup> His implication is that maybe America’s nuclear culture does not place such rigid constraints on the high-level consideration of nuclear renunciation as my article claims it does. This is possible, but my hunch is that the variation in punishments of different nuclear policy dissenters can mostly be explained by the strength of their challenge to their country’s nuclear embeddedness. There is an old saying, apocryphally attributed to the apostle of non-violent resistance, Mohandas K. Gandhi: “First they ignore you. Then they laugh at you. Then they fight you. Then you win.”<sup>26</sup> The easiest way for a nuclear establishment to deal with its apostates is simply to ignore them or express pity or scorn for their advanced age, presumed cognitive limitations, or other sorry circumstances. By contrast, the three nuclear apostates who are featured in my

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<sup>21</sup> Haraway, “Situated Knowledges,” 580.

<sup>22</sup> Daniel Ellsberg, *The Doomsday Machine: Confessions of a Nuclear War Planner* (New York: Bloomsbury, 2017), 17.

<sup>23</sup> “Nuclear Secrets: No Clear Frontiers,” *Nature* 281 (18 October 1979): 511.

<sup>24</sup> David Wellerstein, *Restricted Data: The History of Nuclear Secrecy in the United States* (Chicago: University of Chicago Press, 2021), 400.

<sup>25</sup> The Nitze example is better than the Bundy one. As Pauly notes, Bundy only went as far as to advocate “minimum deterrence,” which is qualitatively distinct from support for renunciation. For more on Nitze and Bundy’s late-career conversions, see Reid B. C. Pauly, “Bedeviled by a Paradox: Nitze, Bundy, and an Incipient Nuclear Norm,” *The Nonproliferation Review* 22: 3-4 (2015): 441-455.

<sup>26</sup> Elizabeth Knowles, ed., *Oxford Dictionary of Quotations*, 7<sup>th</sup> ed. (Oxford University Press, 2014), xvii.

article were impossible simply to ignore or laugh away. Because they posed a real threat to the sacred mission of the nuclear priesthood, they were dealt with severely.

#### 4. Alternative and Additional Hypotheses

The contributors to the forum also offer a range of alternative or additional hypotheses for nuclear embeddedness. Lebovic admits the power of what he calls the “mythical and mystical” aura that surrounds the Bomb, but he considers policymakers’ rational and non-rational “beliefs in deterrence” and “anchoring bias” to be more convincing explanations. However, far from denying these points, in the article I explain that one of the key pathways by which the Bomb as God metaphor produces its effects is by *reinforcing* policymakers’ beliefs in deterrence and anchoring bias (in the article, I use the term “institutional inertia,” 4, 5, 21). I cite Hugh Gusterson’s study of the US national labs:

“A major consequence of the ‘scientists’ metaphorical cosmology,” Gusterson writes, is that it “gives metaphorical vigor to the ‘realist’ assumption that the arms race and the development of new nuclear weapons have a momentum of their own, that ‘you can’t stop technology.’” In sum, the deeply sedimented Bomb as God metaphor inside the national labs greatly enhances their organizational cohesion, which in turn bolsters US nuclear embeddedness (21).

Weichselbraun also proposes different hypotheses, which she offers in the spirit of “both-and” instead of “either-or.” She notably mentions Benoît Pelopidas’s genealogy of “nuclear proliferation” as a metaphor that IR borrowed from the biological sciences, in which the word “proliferation” describes the out-of-control replication of cancer cells.<sup>27</sup> Pelopidas’s piece is undeniably brilliant, but I do not think that the metaphor of the Bomb as cancer cell is an especially likely candidate to explain nuclear embeddedness. Instead, it would more logically lead nuclear-weapon states to engage in desperate efforts to get rid of their cancerous arsenals, which of course they are not doing.

The broader issue here is the fact that, as I note in the article, the Bomb is metaphorized not only as God, but also as a “big stick,” “pet,” “baby,” and many other things (6).<sup>28</sup> An important question for future research is how these different metaphors interact with each other. The availability of alternative metaphors may dilute the impact of the Bomb as God metaphor. My article recounts the competition between the Bomb as God and Man as God metaphors in early US nuclear culture. Theoretical physicist Robert Oppenheimer, the so-called “Father of the Bomb,” personified the Man as God metaphor. Then the government revoked Oppenheimer’s security clearance—a decision, as one Atomic Energy Commission

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<sup>27</sup> Benoît Pelopidas, “The Oracles of Proliferation: How Experts Maintain a Biased Historical Reading that Limits Policy Innovation,” *The Nonproliferation Review* 18: 1 (2011): 297-314.

<sup>28</sup> For many such examples see Cohn, “Sex and Death.”

official put it, to “unfrock” Oppenheimer “in his own church.”<sup>29</sup> Oppenheimer’s fall also pulled down the Man as God metaphor in US political culture, thus leaving the field clear for the Bomb as God metaphor to become hegemonic. We should not assume that different metaphors for the Bomb are in zero-sum competition with each other, however. Metaphors can also be mutually reinforcing.

Another hypothesis that Weichselbraun promotes is the critical IR theory view of the international states system as a discursive field that assigns higher social status to those with the most power to destroy, thus turning the Bomb into the greatest status symbol of all. She highlights Ursula Jasper’s intriguing twist on this critical theory narrative:

The [Non-Proliferation Treaty] NPT regime with its division into nuclear haves and nuclear have-nots can be likened to the religious field in which priests rule over laymen...[who] internalize and habitualize these structures and schemes of interpretation, thus ultimately naturalizing, accepting, and reifying the hierarchical formation with all its dogmas and prescriptions.<sup>30</sup>

My article indirectly confronts Weichselbraun and Jasper’s hypothesis: “At first glance the Bomb as God metaphor seems weak at the international system level; most of the world’s states are non-nuclear, and most non-nuclear states strongly support global nuclear nonproliferation and disarmament efforts” (10). Rather than looking for nuclear culture at the level of the world system as critical IR theorists tend to do, I focus my attention at the national and lower levels of analysis. This gives my theoretical perspective the flexibility to account for why the Bomb as God metaphor has become strongly sedimented in the nuclear-weapon states but not outside them.

The forum contributors offer many other perceptive insights. For example, Evangelista surmises that Israel’s nuclear opacity might have led to a more weakly sedimented Bomb as God metaphor than in the other nuclear-weapon states. Lebovic wants an explanation for the general reluctance of states to countenance disarmament of a wide variety of weapons systems, not just nuclear ones. Pauly senses that my article’s theoretical perspective could also be extended to explain the norm of nuclear non-use. Weichselbraun proposes interpreting the Bomb as God metaphor as part of an updated theory of the divine right of kings. In the forum’s introduction, Walker raises the possibility of writing a companion piece on the “Bomb as Devil.” Here I will simply say thank you to all of the contributors for providing so many great ideas for future research, and stay tuned.

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<sup>29</sup> Charles Thorpe, “Disciplining Experts: Scientific Authority and Liberal Democracy in the Oppenheimer Case,” *Social Studies of Science* 32: 4 (August 2002): 525-562, 551.

<sup>30</sup> Ursula Jasper, “Dysfunctional, but Stable: A Bourdieuan Reading of the Global Nuclear Order,” *Critical Studies on Security*, 4:1 (2016): 42-56, 42.