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Introduction by Francis J. Gavin, SAIS-Johns Hopkins University

Nuclear strategy can be a difficult subject to study. In the end, our main preoccupation is understanding why there has not been a thermonuclear war, and what we can do to continue this streak. It is close to impossible to craft definite statements about an event that never happened. We have a strong hunch that nuclear deterrence prevents other states from using their weapons. Deterrence, however, is based on characteristics—fear, resolve, assurance—that are psychological in nature, and hard to observe or measure except after deterrence has failed. Nuclear proliferation and nonproliferation can be equally confounding. Given the benefits that nuclear possession supposedly conveys upon states—more or less securing their independence and protecting them from invasion—the fact that the number of states possessing the bomb is in the single digits, far fewer than anyone would have predicted a half century ago, is surprising.

That we do not have definitive answers to the same questions we asked fifty or sixty years ago—why do states decide to build or not build the bomb, how many nuclear weapons are needed to deter, can the nuclear umbrella be credibly extended to allies, etc.—is extremely frustrating. Instead of embracing the intellectual modesty that nuclear statecraft warrants, however, advocates of certain theories and schools of thought—ranging on the spectrum between calls for complete nuclear disarmament to those who believe that meaningful nuclear superiority is obtainable and useful for pursuing state interests—often double down on their arguments, stridently promoting their agendas, often masking their passionate advocacy of preferred policy outcomes beneath the cover of ‘objective’ scholarship.

This is understandable. Studying nuclear statecraft can often make a scholar feel like a gerbil on a wheel, getting nowhere in a hurry no matter how hard you run. The issue of nuclear statecraft and international relations, however, is of such fundamental importance that we cannot afford to get off the wheel. Moreover, those from different scholarly and policy communities—advocates of deterrence and disarmament, scholars of nuclear strategy and nuclear proliferation, analysts from countries with nuclear arsenals and those without, historians and political scientists, those who focus on qualitative and formal or quantitative approaches—have a responsibility to find a way to reason together.

This is what made the January 2015 conference entitled “Re-Assessing the Global Nuclear Order,” supported by the Royal Melbourne Institute of Technology University and hosted by generous and gracious Professor Joseph Siracusa, so remarkable. The workshop was organized to mark and reflect upon the 50th anniversary of the so-called ‘Gilpatric Committee Report,’ an effort by the Lyndon B. Johnson administration to respond to the detonation of a nuclear device by the People’s Republic of China. We now know that this blue-ribbon, government effort marked an important turning point in U.S. nuclear nonproliferation policy, promoting as a priority for American grand strategy the slowing if not reversing of the spread of the bomb. The gathering in Melbourne to mark the anniversary of the Report was characterized not only by the quality of the scholars who attended. What was different from similar meetings was the diversity of views and perspectives of the participants, who range from fierce advocates of nuclear disarmament to proponents of limited nuclear war fighting strategies, and from classic America deterrence theorists to those employing theories and scholarship from postcolonial studies. Seven of the best papers were published in this special issue of *Diplomacy and Statecraft*.¹

¹ The contents of the special issue are as follows: Joseph M. Siracusa and Francis J. Gavin, “Introduction,” *Diplomacy & Statecraft* 29:1 (March 2018): 1-2; Joseph M. Siracusa & Aiden Warren, “The Nuclear Non-Proliferation

The four excellent reviewers - Philipp C. Bleek, Michael Cohen, Anne I. Harrington, and Nicola Leveringhaus—recognize the importance of these efforts, while providing detailed summaries and assessments of the seven articles. Bleek remarks that one article in particular “reminded me how we so often segment nuclear weapons-related analyses, only exploring compellence or deterrence or assurance dynamics, when each of these should really be situated in a broader theory of the effects of nuclear weapons on international politics.” Michael Cohen states that “most of these contributions offer much to think through for the novice and the expert.” Harrington, who was herself a valued participant in the gathering, recalls the often heated (though respectful) nature of the conference exchanges, and correctly observes that “as the conference participants found, consensus on difficult questions of nuclear policy is no easier to reach today than it was a half century ago.” Leveringhaus, while offering insightful criticism of the articles, notes that the “special issue breaks new ground by combining historical insights with high contemporary policy relevance, all in one volume.”

Few of the crucial issues surfaced in the conference, articles, and reviews are likely to be answered definitively any time soon. The approach that was taken in Melbourne, however—applying our understanding of the past to our current and future nuclear dilemmas, while encouraging a broad, inclusive dialogue from divergent views and perspectives—is one that could serve as a model for future efforts to wrestle with the enormity of the nuclear question.

Participants:

Francis J. Gavin is the Giovanni Agnelli Distinguished Professor and the inaugural director of the Henry A. Kissinger Center for Global Affairs at SAIS-Johns Hopkins University. In 2013, Gavin was appointed the first Frank Stanton Chair in Nuclear Security Policy Studies and Professor of Political Science at MIT. Before joining MIT, he was the Tom Slick Professor of International Affairs and the Director of the Robert S. Strauss Center for International Security and Law at the University of Texas. From 2005 until 2010, he directed The American Assembly’s multiyear, national initiative, *The Next Generation Project: U.S. Global Policy and the Future of International Institutions*. Gavin’s writings include *Gold, Dollars, and Power: The Politics of International Monetary Relations, 1958-1971* (University of North Carolina Press, 2004) and *Nuclear Statecraft: History and Strategy in America’s Atomic Age* (Cornell University Press, 2012). His latest book, *Nuclear Weapons and American Grand Strategy*, will be published by Brookings Institution Press in 2019.

Joseph M. Siracusa is Professor of Human Security and International Diplomacy at the Royal Melbourne Institute of Technology University, Melbourne, Australia, and President of Australia’s Council for the Humanities, Arts and Social Sciences. He is the author and co-author of numerous works in nuclear politics

Regime: An Historical Perspective,” 3-28; Elisabeth Roehrlich, “Negotiating Verification: International Diplomacy and the Evolution of Nuclear Safeguards, 1945-1972,” 29-50; Matthew Fuhrmann, “On Extended Nuclear Deterrence,” 51-73; Scott Kaufman, “Project Plowshares versus the Non-Proliferation of Nuclear Weapons Treaty,” 74-93; Matthew Kroenig, “The Return to the Pressure Track: The Trump Administration and the Iran Nuclear Deal,” 94-104; Ramesh Thakur, “Nuclear Turbulence in the Age of Trump,” 105-128; Joshua Rovner, “A Long War in the East: Doctrine, Diplomacy and the Prospects for a Protracted Sino-American Conflict,” 129-142.

and history, including: *Weapons of Mass Destruction* (Rowman & Littlefield, 2017), *Nuclear Weapons* (2nd ed., Oxford University Press, 2015); and *A Global History of the Nuclear Arms Race*, 2 vols. (Praeger, 2013).

Philipp C. Bleek is Associate Professor and Acting Program Chair of Nonproliferation and Terrorism Studies at the Middlebury Institute of International Studies at Monterey. He works on the causes, consequences, and amelioration of chemical, biological, radiological, and nuclear weapons threats from state and non-state actors at the intersection of academia, non-governmental organizations, and government. His most recent publications are “Avatars of the Earth: Radical Environmentalism and CBRN Weapons” (with Zachary Kallenborn), *Studies in Conflict and Terrorism* (2018) and “When Did and Didn’t States Proliferate? Chronicling the Spread of Nuclear Weapons” Discussion Paper, Managing the Atom Project, Belfer Center, Harvard Kennedy School (2017).

Michael Cohen is a Senior Lecturer at the National Security College, Crawford School of Public Policy, Australian National University. He is author of *When Proliferation Causes Peace: The Psychology of Nuclear Crises* (Georgetown University Press, 2017), co-editor of *North Korea and Nuclear Weapons: Entering the New Era of Deterrence* (Georgetown University Press, 2017) and articles in journals including *The Journal of Global Security Studies*, *Foreign Policy Analysis*, *International Relations of the Asia-Pacific* and *The Non-Proliferation Review*

Anne Harrington is an Assistant Professor in the Department of Politics and International Relations at Cardiff University. Since earning her Ph.D. from the University of Chicago in 2010, she has held academic fellowships at the Center for International Security and Cooperation at Stanford University, the Center for Nonproliferation Studies at the Middlebury Institute of International Relations at Monterey, and the Center for Security Studies at ETH Zuerich. In 2013-2014, she worked for the United States Congress as an American Political Science Association Congressional Fellow. Her research interests are located at the nexus of International Relations and Science and Technology Studies with a focus on nuclear strategy and policy.

Dr Nicola Leveringhaus (née Horsburgh) is a Lecturer/Assistant Professor in the Department of War Studies, King’s College London. Nicola is working on a new project on Chinese responses to the atomic age between 1945 and 1949, funded by the British Academy. Nicola was previously a Lecturer at the University of Sheffield (2015-2016), and a British Academy Post-Doctoral Fellow (2012-2015) at the University of Oxford. She completed her D.Phil. and M.Phil. at St. Antony’s College, Oxford, an M.Sc. in International Relations from the London School of Economics and Political Science, and a B.Sc.Econ (Hons) in International Politics and Strategic Studies from the University of Aberystwyth. Nicola held pre-doctoral fellowships at Tsinghua University (2009-2010), and the Center for Nonproliferation Studies (2011). Her book *China and Global Nuclear Order, from Estrangement to Active Engagement* (Oxford University Press, 2015) was nominated for the 2017 ECPR Hedley Bull Prize. Her most recent publication is with Kate Sullivan de Estrada, “Between conformity and innovation: China’s and India’s quest for status as responsible nuclear powers”, *Review of International Studies*, 2018.

Review by Philipp C. Bleek, Middlebury Institute of International Studies at Monterey

Reflecting on the Past, Present, and Future of Nuclear Weapons in International Politics

These are fascinating times to be studying the role of nuclear weapons in international politics. A host of topics that are usually the domain of specialist conversations are front and center in the news. The general public appears more engaged on nuclear issues than they have been since U.S.-Soviet tensions raised nuclear fears in the early 1980s. Accessible, policy-relevant scholarship—of the sort gathered in the special issue under review here—can help inform both public and policymaker conversations.

The collected papers offer a “representative sampling of the themes and ideas” raised during a 2015 workshop in Melbourne, Australia on the topic of “Re-Assessing the Global Nuclear Order.”¹ Blending history, policy, and strategy, the workshop marked the 50th anniversary of the Gilpatric Report, the product of a blue-ribbon commission that examined nuclear threats and recommended, among other things, the negotiation of what became the 1968 Nuclear Nonproliferation Treaty (NPT) that has shaped the nuclear landscape up through the present.

The authors delve into a breadth of topics united only by their focus on some aspect of nuclear weapons in international politics. In rough chronological order, papers delve into the early history of International Atomic Energy Agency (IAEA) safeguards, the history of the U.S. pursuit of peaceful nuclear explosives, the evolution and current challenges confronting the nuclear nonproliferation regime, the challenges of extended nuclear deterrence, a potential strategy for the Trump administration vis-à-vis the Iran nuclear deal, the possibility of protracted Sino-U.S. conventional conflict in the shadow of nuclear weapons, and a stocktaking of the current global nuclear order and the relationship between the NPT and the nascent Ban Treaty. The breadth of the topics makes it hard to generalize about the papers, but each has nuances worth highlighting.

Elisabeth Roehrlich’s “Negotiating Verification: International Diplomacy and the Evolution of Nuclear Safeguards, 1945-1972” explores the early history of International Atomic Energy Agency safeguards, showing how they evolved into a crucial tool to allow the international community to simultaneously share the peaceful benefits of nuclear technology while denying its military applications.² She documents how early skepticism about the potential efficacy of safeguards evolved into widespread acceptance of safeguards’ central nonproliferation role, though the claim of “startling insights” from “declassified IAEA documents” overpromises (30). Roehrlich frames safeguards’ fundamental goal of deterring cheating via risk of detection, thereby assuring third parties that cheating is less likely to occur, as an admission that safeguards are not foolproof in detecting cheating. That raises interesting questions about the requirements for far more stringent safeguards that might be negotiated to support nuclear abolition.

Scott Kaufman’s “Project Plowshare versus the Non-Proliferation of Nuclear Weapons Treaty” is a fascinating history of U.S. efforts, beginning early in the nuclear age and ending in the mid-1970s, to explore the non-

¹ Joseph M. Siracusa and Francis J. Gavin, “Introduction,” *Diplomacy and Statecraft* 29:1 (2018) [hereafter *D&S*]:1-2, here 1.

² Elisabeth Roehrlich, “Negotiating Verification: International Diplomacy and the Evolution of Nuclear Safeguards, 1945-1972,” *D&S*: 29-50.

military utility of nuclear explosions.³ Particularly interesting is the interaction between those “Plowshare” efforts and the nascent nonproliferation regime, including both the 1963 Limited Test Ban Treaty banning atmospheric nuclear testing and the 1968 NPT.

The piece ends by provocatively noting that “scientists in a number of industrialized nations are currently working on a new generation of nuclear explosives that are for all practical purposes ‘clean,’ for they would use processes other than fission to cause the blast,” and suggesting that their non-military use would be “highly unlikely [but] not beyond the realm of the imaginable” and that they would pose nonproliferation challenges (87-88). The assertion about fourth-generation, pure fusion weapons being developed lacks citations, and could mistakenly be read as suggesting that this technology could be available soon, rather than being a concept scientists have explored, so far with little success, throughout the nuclear age.⁴

Joseph M. Siracusa and Aiden Warren’s “The Nuclear Non-Proliferation Regime: An Historical Perspective” offers a succinct history of the nuclear age followed by a sweeping and robustly integrated discussion of the institutional landscape that emerged to curtail nuclear threats.⁵ The piece manages to narratively weave together various strands of the nuclear nonproliferation regime and to explicate its development over time, an impressive feat given the breadth of what the authors cover. Like many other nonproliferation and arms control analyses, the piece treats these policy tools as the be-all-and-end-all of efforts to curb nuclear dangers, rather than one of a set of variables that influence policymaker preferences. Analytically, it seems to this reader that there is a desirable middle ground between treating institutions as the whole story and dismissing them as being wholly epiphenomenal.⁶

Matthew Fuhrmann’s “On Extended Nuclear Deterrence” systematically explores the challenges countries face in extended nuclear deterrence to others.⁷ Fuhrmann uses both logic and descriptive statistics to explore whether third parties are deterred by formal alliances or forward-deployed nuclear weapons, whether recipients are assured, and how policymakers can navigate this thorny terrain. The article is particularly timely as President Donald Trump’s recent statements and actions unsettle South Koreans, who have long depended

³ Scott Kaufman, “Project Plowshares versus the Non-Proliferation of Nuclear Weapons Treaty,” *D&S*: 74-93.

⁴ U.S. Department of Energy, Office of Declassification “Restricted Data Declassification Decisions 1946 to the Present” (January 1, 2001), <https://fas.org/sgp/othergov/doe/rdd-7.html>, accessed 17 June 2018.

⁵ Joseph M. Siracusa & Aiden Warren, “The Nuclear Non-Proliferation Regime: An Historical Perspective,” *D&S*: 3-28. I’d quibble a little with some of the details; my own take is at Philipp C. Bleek, “When Did (and Didn’t) States Proliferate? Chronically the Spread of Nuclear Weapons” Discussion Paper, Managing the Atom Project, Belfer Center, Harvard Kennedy School (June 2017), <https://www.belfercenter.org/sites/default/files/files/publication/When%20Did%20%28and%20Didn%27t%29%20States%20Proliferate%3F%201.pdf>, accessed 17 June 2018.

⁶ Jim Walsh’s unpublished PhD dissertation nicely fills this niche; James J. Walsh, “Bombs Unbuilt: Power, Ideas and Institutions in International Politics” PhD Dissertation, Massachusetts Institute of Technology (2001).

⁷ Matthew Fuhrmann, “On Extended Nuclear Deterrence,” 51-73; Scott Kaufman, “Project Plowshares versus the Non-Proliferation of Nuclear Weapons Treaty,” *D&S*: 74-93.

on their alliance relationship with the United States, developments other states in the region and internationally are watching carefully.

The article reminded me how we so often segment nuclear weapons-related analyses, only exploring compellence or deterrence or assurance dynamics, when each of these should really be situated in a broader theory of the effects of nuclear weapons on international politics. Fuhrmann has written thoughtfully about whether nuclear weapons can effectively compel, and whether they can deter and assure seems rooted in similar underlying dynamics.⁸ This is not a criticism of Fuhrmann (I am as guilty of this sort of analytic stovepiping); it is more an observation about how we talk about these distinct but related domains. The article explores whether alliances and forward-deployed nuclear weapons deter, but ignores alliances in its discussion of what may assure to sufficiently dissuade states from pursuing their own nuclear weapons, an odd oversight.⁹ And Fuhrmann, a savvy statistical practitioner, seems to give simple correlations a little more credit than they deserve. All that said, there is much to like here, and the article's systematic, thorough unpacking makes this particularly valuable for inclusion on course syllabi.

Matthew Kroenig's "The Return of the Pressure Track" offers a nuanced assessment of the Trump administration's options as it confronts a potential Iranian nuclear threat.¹⁰ Kroenig is a longtime skeptic of the deal negotiated by the Obama administration, which had the dual effect of bringing Iran back into the International Atomic Energy Agency-administered safeguards system and imposed unusually onerous constraints on Iran's nuclear activities that will incrementally be lifted in the coming years.¹¹

Kroenig observes that Iran has fundamentally complied with its obligations under the deal and that U.S. abrogation—as recently undertaken by the Trump administration—would weaken its hand as it sought to pressure Iran. Instead, he advocates for "abid[ing] by the strict terms of the agreement, whilst competing in all of the ways not covered in the deal" (94). His prescriptions are rooted in the notion that the Obama administration missed an opportunity to negotiate a far better deal, one under which Iran foreswore all uranium enrichment activities as well as curbing ballistic missile development. If such a deal proves unobtainable, his fallback option, fleshed out in other writings, involves military strikes that he thinks will

⁸ Todd S. Sechser and Matthew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy* (Cambridge: Cambridge University Press, 2017). For a contrary perspective, see Matthew Kroenig, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters* (Oxford: Oxford University Press, 2018).

⁹ Philipp C. Bleek and Eric Lorber, "Security Guarantees and Allied Nuclear Proliferation" *Journal of Conflict Resolution*, 58:3 (2014); Dan Reiter "Security Commitments and Nuclear Proliferation." *Foreign Policy Analysis* 10: 1 (2014).

¹⁰ Matthew Kroenig, "The Return to the Pressure Track: The Trump Administration and the Iran Nuclear Deal," *D&S*: 94-104.

¹¹ Philipp C. Bleek, "Iran Deal Buys Time: Now America's Real Work Begins" *National Interest* (July 18, 2015), <http://nationalinterest.org/feature/iran-deal-buys-time-now-americas-real-work-begins-13363>, accessed 17 June 2018.

make Iran shelve its long-term nuclear weapons ambitions.¹² With the Trump administration having taken a harder line on Iran, including recently unilaterally abrogating the deal, some of Kroenig’s arguments—though not, many of us hope, his advocacy of military strikes—will now be put to the test.

If the United States and China go to war, leaders on both sides are likely to take steps to try to avert escalation to the nuclear level. Yet those steps, as well as additional factors, will increase the risk of protracted and painful conventional conflict, argues Joshua Rovner in “A Long War in the East: Doctrine, Diplomacy, and the Prospects for a Protracted Sino-American Conflict.”¹³ Rovner highlights difficult choices U.S. policymakers will face between “escalation and protraction” (140).

But it bears emphasizing that many of the factors Rovner highlights that make protraction likely—such as the fact that both countries have secure territories where they can regroup—are present even if U.S. policymakers engage in a more escalatory mode. In other words, the choice confronting U.S. policymakers may be as much between avoiding direct conflict entirely and various forms of protracted conflict as it is between more and less escalatory strategies.

Ramesh Thakur’s “Nuclear Turbulence in the Age of Trump” ruminates about the nuclear weapons status quo, with a special focus on the relationship between the nascent Nuclear Weapons Prohibition Treaty and the 1968 NPT.¹⁴ Thakur might have engaged more with the diversity of scholarly views on some of the topics on which he articulates strong views. But by channeling state and civil society actors’ deeply felt sense of normative grievance over the nuclear weapons-possessing states’ failure to do more to curtail the role of nuclear weapons and move toward their abolition, he provides a useful window into views held by key participants in ongoing conversations about managing nuclear dangers. The breadth of perspectives on what role nuclear weapons do and should play in international politics is not new, but recent developments, especially the Humanitarian Initiative and the Ban Treaty, have starkly brought differences to the fore in ways that will complicate—perhaps helpfully, perhaps less so—efforts to manage nuclear dangers going forward.

¹² Matthew Kroenig, “Time to Attack Iran” *Foreign Affairs* (January/February 2012); “Still Time to Attack Iran” *ForeignAffairs.com* (January, 2014); *A Time to Attack: The Looming Iranian Nuclear Threat* (New York: St. Martin’s Press, 2014).

¹³ Joshua Rovner, “A Long War in the East: Doctrine, Diplomacy and the Prospects for a Protracted Sino-American Conflict,” *D&S*: 129-142.

¹⁴ Ramesh Thakur, “Nuclear Turbulence in the Age of Trump,” *D&S*: 105-128.

Review by Michael Cohen, Australian National University

It is not every day that one gets asked to review a seven-article special edition of *Diplomacy and Statecraft*, much less one that resulted from a conference in Australia that brought together many leading scholars to commemorate the fiftieth anniversary of the Nuclear Non-Proliferation Treaty and assess the current global nuclear order. These papers do not disappoint. There is a detailed review of what we think we know about extended nuclear deterrence, the history of the nuclear non-proliferation regime, the first few decades of the International Atomic Energy Agency and the fascinating story of project ploughshares, a discussion of the strengths and weakness of the recent nuclear weapons prohibition treaty, an important discussion of the prospects for any conflict between the United States and China being protracted, and what is now effectively a justification for President Donald Trump's walking away from the Iran nuclear deal. Most of these contributions offer much to think through for the novice and the expert; much of these comments are as much suggestions for further research as well as questions that arise. I imperfectly divide them under the categories of strategy, history, and Trump.

Strategy

Matthew Fuhrmann's "On Extended Nuclear Deterrence" (hereafter referred to as END) is an excellent introduction to the state of this literature.¹ I cannot think of a better introduction for newcomers; veterans should also find plenty to think through. After walking the reader through the logic of the sources for the demand and supply of END, Fuhrmann guides the reader through the key (statistical) finding that formal alliances by nuclear powers with non-nuclear protégés tend to have a stronger deterrent effect than stationing nuclear weapons on that protégé's territory. The paper is honest in admitting that it is still unclear as to why this seems to be the case; case studies that perhaps use archival sources to probe foreign-policy decision making might shed more light on this important question. The paper discussed other important findings; that there is little evidence that END emboldens allies to take greater risks, conditional commitments may be able to address this problem (60), and that the correlation between foreign nuclear deployments and higher conflict involving the states receiving these deployments than allies without nuclear deployments suggests that nuclear states send their forces to countries perceived to face greater threats (62).

One question left unresolved is why states deploy their nuclear weapons on allied territory if this does not tend to deter conflict, involves obvious risks and other means exist to reassure allies. The word 'saw' is probably more accurate than 'see'; the last time a state transferred its nuclear weapons to the territory of its ally occurred over forty years ago (U.S. foreign deployments occurred between 1953-1964, Soviet foreign deployments between 1958-1974, and British between 1960-1972).² Interestingly, there is much more variation in when at least U.S. foreign nuclear deployments ended. While, with the exception of those in Cuba in 1962, Soviet foreign nuclear deployments ended between 1989 and 1992, and British foreign nuclear deployments ended between 1970 and 1975, with those in West Germany coming out in 1998, the removal of U.S. foreign nuclear deployments run the gamut from Morocco, Denmark, Taiwan, Spain and the

¹ Matthew Fuhrmann, "On Extended Nuclear Deterrence", *Diplomacy & Statecraft* 29:1 (March 2018): 51-73—hereafter cited as *D&S* with page numbers.

² Matthew Fuhrmann and Todd S. Sechser, "Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence," *American Journal of Political Science* 58 (2014), 926.

Philippines between 1961-1977, South Korea in 1991, Greece in 2001, Britain in 2006 and those in Belgium, Italy, the Netherlands, Turkey and West Germany remaining today. This variation, occurring when foreign deployments did and do not offer significant operational advantages, points to a general lacuna in the (English language) END literature. Much of it tends to assume that the END agreements that emerged were more or less what the nuclear power—usually Washington—wanted. But this and other variations (why does Israel not have a formal alliance?, 55) suggests that the protégé had at least a say in the type and timing of the END arrangement that emerged (57), whether or not they were a formal ally. This should be hardly surprising (as the chief Australian negotiator at the negotiations that generated what we now call the Australia, New Zealand and United States (ANZUS) treaty was fond of saying to British interlocutors, “we have to live in the Pacific”)³ but the impact that non-nuclear states have on the END alliances that they get in terms of the level of U.S. commitment and nuclear weapons deployed on their territory remains poorly addressed.

In “A Long War in the East,” Joshua Rovner offers the important argument that armed conflict between the United States and China may last much longer than many assume.⁴ Even though the chances of conflict are low because all realise that the costs would be so high (130), the strongly escalatory nature of U.S. military doctrine creates strong “use it or lose it incentives” for China regarding its nuclear weapons;⁵ there is no way for any U.S. leader to credibly commit to their Chinese counterparts that their ambitions regarding China’s nuclear arsenal, and command, control, and conventional forces is limited. For Rovner, the incentives to avoid Chinese nuclear escalation, as well as geography, give Washington incentives, in the likelihood that the “first volley fails (135),” to retreat to a sanctuary and fight a longer conventional war. China faces similar incentives. Given China’s ability to keep the U.S. out of its littoral seas through anti-access and area denial and Washington’s long term prospects of dominating the seas beyond this zone,⁶ and the likelihood that domestic politics in the U.S. and China will favour a protracted struggle (137), for Rovner, a Sino-U.S. conflict may quickly become a drawn-out conventional struggle because quick victories for either side carry too great a risk of nuclear escalation.

Each of these steps in Rovner’s argument is plausible, but there are other outcomes that seem as least as likely. Most obviously, given the incentives to avoid war and the fact that everybody knows that China is no Iraq or Afghanistan, why would a U.S. president authorise a first volley but then not authorise a second if the first did not go according to plan? Presumably any U.S. leader would have calculated that nuclear escalation could have been avoided, but, if things initially did not go according to plan, would not the incentives to escalate harder to bring the desired outcome to fruition be just as likely as the decision to continue the war but with

³ Cablegram from Spender to Harrison, February 21 1951, National Archives of Australia; <http://dfat.gov.au/about-us/publications/historical-documents/Pages/volume-21/51-cablegram-from-spender-to-harrison.aspx>.

⁴ Joshua Rovner, “A Long War in the East: Doctrine, Diplomacy and the Prospects for a Protracted Sino-American Conflict”, *D&S*, 129-142.

⁵ Avery Goldstein, “First Things First: The Pressing Danger of Crisis Instability in U.S.-China Relations,” *International Security* 37:4 (2013): 49-89; Caitlin Talmadge, “Would China Go Nuclear? Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States,” *International Security* 41:4 (Spring 2017): 50-92.

⁶ Stephen Biddle and Ivan Oelrich. “Future Warfare in the Western Pacific: Chinese Antiaccess/Area Denial, U.S. AirSea Battle, and Command of the Commons in East Asia,” *International Security* 41:1 (Summer 2016): 7-46.

conventional means only? A related challenge is that even if the protracted conflict that Rovner worries about emerges, would not any U.S. leader—especially the successor to the one that started the conflict (like President Richard Nixon in Vietnam)—have incentives to quickly escalate the conflict to compel the Chinese to accept a settlement that they may not otherwise have done? Would not geography also raise the prospect that China could do this? I can also imagine domestic politics in the U.S. and China either supporting or being manipulated to support both of these outcomes. The point is not that these outcomes are more likely than the longer drawn-out conflict painted by Rovner. Rather, it is unclear why, in the unlikely event that a conflict emerges, incentives to draw things out would prevail over the dangerous incentives to escalate.

History

Joseph Siracusa and Aiden Warren's "The Nuclear Non-Proliferation Regime: An Historical Perspective" covers a very broad sweep of the history of nuclear non-proliferation regime in a fairly short space.⁷ Given that it covers the NPT, many of the states that dabbled with nuclear weapons during and after the Cold War, the Nuclear Non-Proliferation Treaty and its successive review conferences, the comprehensive test ban treaty, nuclear weapon free zones, as well as other institutions like the Co-operative Threat Reduction Program, the Global Threat Reduction Initiative and the Nuclear Suppliers Group, all in about twenty pages, I cannot think of a more comprehensive yet succinct history of this important area. That we are on the verge of the number of nuclear-weapon armed states (including South Africa that was the only state to eliminate its nuclear arsenal) reaching double digits would be good news to most analysts. But this hints at two obvious follow-up questions, left unanswered in Siracusa and Warren's excellent discussion but also elsewhere. The nuclear non-proliferation regime is part of a spate of what Frank Gavin has called U.S. "strategies of inhibition"⁸ that also include coercive and assurance strategies. What has been the relevant importance of each in the many non-cases of nuclear weapons development and the few states that have acquired the various arsenals that they currently hold? Moreover, what parts of the legal-normative nuclear non-proliferation regime have been more or less effective in what contexts? Literature on the causes of nuclear weapons proliferation has addressed the role of strategic dynamics involving alliances, leadership psychology, and integration with the global economy, but the role of the nuclear non-proliferation regime and various parts of its large institutional-normative infrastructure have received less attention.⁹ This question is not only of scholarly but also policy relevance. As governments around the world grapple with limited resources to stop the spread of nuclear weapons, analysis that specifies which parts of the nuclear non-proliferation regime have done what will be sorely needed.

⁷ Joseph M. Siracusa & Aiden Warren, "The Nuclear Non-Proliferation Regime: An Historical Perspective," *D&S*, 3-28.

⁸ Francis Gavin, "Strategies of Inhibition: U.S. Grand Strategy, The Nuclear Revolution, and Nonproliferation," *International Security* 40:1 (2015): 9-46.

⁹ Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics: The Strategic Causes of Proliferation*. (Cambridge: Cambridge University Press, 2016); Jacques Hymans, *The Psychology of Nuclear Proliferation* (Cambridge: Cambridge University Press, 2006); Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* (Princeton: Princeton University Press, 2007); Maria Rublee, *Nonproliferation Norms: Why States choose Restraint* (Georgia: University of Georgia Press, 2009); Andrew J. Coe and Jane Vaynman, "Collusion and the Nuclear Nonproliferation Regime," *Journal of Politics* 77:4 (2015): 983-997.

These themes also emerge in Elisabeth Roehrlich's "Negotiating Verification: International Diplomacy and the Evolution of Nuclear Safeguards, 1945-1972."¹⁰ The IAEA "was not initially a non-proliferation agency (44)," and this excellent coverage of its first few decades reveals how it got to where it is now. For Roehrlich, the three key moments in nuclear safeguards diplomacy were the initial proposals for international control in 1945-1946, the international negotiations that produced the IAEA in 1953-1957 and the negotiations in the mid-1960s through early 1970s that made the IAEA the core verification mechanism of the NPT (31). It took more than ten years of the nuclear age for safeguards to come to resemble the prominent role that they now have. Indeed, the 1946 Baruch plan was skeptical that safeguards had much of a nuclear non-proliferation role (32). The IAEA evolved from the thinking outlined in the Baruch plan through the process of "a shift in emphasis from control, with the dissemination of nuclear science and technology as an adjunct, to a proposal for promotion of peaceful uses, with control as an adjunct (38)." Thus technical assistance rather than safeguards were core to the organisation's original mission. The first IAEA inspection did not occur until 1962 (38). The Cuban Missile crisis, China's nuclear test, and fears about West German nuclear ambitions gave safeguards a more prominent role (39). This is a fascinating story, and begs a few further questions for further analysis. First, is there a geopolitical logic that explains the variable and more or less central role of safeguards within the nuclear non-proliferation regime, and under what conditions safeguards might assume less prominence? A related question is variation in the role of the IAEA itself in the NPT and whether this relationship may be challenged in the near future (failure to detect Iranian non-compliance with its NPT obligations?). Finally, does part of the answer to these questions reflect the fact that, in publicising non-compliance and leaving others in no doubt about this threat, the IAEA can be an agent of disruption rather than reinforcement to the normative legal order?¹¹

Scott Kaufman's "Project Plowshare versus the Non-Proliferation of Nuclear Weapons Treaty" tells the fascinating if lesser-known story of Project Plowshare.¹² Memorably advertised by Edward Teller - "if your mountain is not in the right place, just drop us a card" (74)—the program sought to use peaceful nuclear explosions for what Teller called "geographical engineering (74)." The program's fate, however, was deeply tied to international geopolitical developments. Thus Soviet successes with the USSR's first ICBM launch and *Sputnik* in 1957 worked to the program's advantage, offering "a means of both demonstrating American technological prowess in the face of these Soviet advances and reclaiming Washington's global standing (76)." Plowshare's ultimate goal, creating a sea-level isthmian canal (76), ran into problems from Alaskans and Inupiat Eskimos, as well as the growing international movement against nuclear testing (77), the Vietnam War, and President Lyndon Johnson's other domestic commitments. Australia of all countries also dealt a serious blow to the project by refusing to sign the NPT in 1968 and placing in jeopardy the project's need for a major international project, which turned out to be using a nuclear blast to build a port in North West Australia (85-87). The NPT seemed to have taken the wind out of Plowshare's steam: the core canal plan was abandoned by the end of 1970 and the last plowshare test occurred in 1973, when the Atomic Energy Commission chair proclaiming the program "dead as a doornail (87)." This is a fascinating story of a lesser-

¹⁰ Elisabeth Roehrlich, "Negotiating Verification: International Diplomacy and the Evolution of Nuclear Safeguards, 1945-1972," *D&S*, 29-50.

¹¹ Allison Carnegie and Austin Carson, "The Spotlight's Harsh Glare: Rethinking Publicity and International Order," *International Organization* 72:3 (2018): 627-657.

¹² Scott Kaufman, "Project Plowshares versus the Non-Proliferation of Nuclear Weapons Treaty", *D&S*, 74-93.

known initiative that is absent from most histories of the nuclear age. Presumably Project ploughshare's demise must at least in part be attributed to the growing nuclear taboo, which, according to Nina Tannenwald, was already quite strong by the mid-1960s. If true, this would document an effect of this important norm beyond the usual interstate conflict focus.¹³ The project also turned out to be a tool in the wider superpower strategic competition, with both Soviet and U.S. leaders playing it at key times to advance their objectives. It would be fascinating to better understand the conditions under which it could be used for what purposes. Kaufman also concludes with a couple of paragraphs detailing potential uses of peaceful nuclear explosions in the last decade; it would be fascinating to learn more about such possibilities in the U.S. and elsewhere. Further research along these lines would enrich what we know about core subjects in international relations and diplomatic history.

Trump

Ramesh Thakur's "Nuclear Turbulence in the Age of Trump" has a somewhat misleading title.¹⁴ Thakur points out that current nuclear dangers are "not caused but certainly exacerbated by Trump" (106), and most of the paper does not address the current U.S. President's policies. The paper addresses current nuclear dangers (105-111), the origins and impact of the recent Nuclear Weapon Prohibition Treaty (hereafter referred to as NWPT) and has a brief section questioning the deterrent effects of nuclear weapons (112-123). Like many of the other papers in this volume, this paper covers a lot of ground. Those interested in the promises and limitations of the NWPT will find much to think through. I will limit myself to one point on each of the three sections. Thakur does not claim that the sky is falling but does paint a fairly grim picture; the section worryingly concludes that "as long as they exist, they will be used again someday (111). The obvious rejoinder to this is that if we have survived over seven decades, at least three nuclear crises (1962 in Cuba, 1969 on the Zhenbao river, and 2002 in Kashmir) and the host of dangers that Thakur outlines without nuclear escalation, why is it inevitable? One can adhere to this position and *not* believe that the spread of nuclear weapons is a force for interstate stability. The more general gloom presented in this section, nicely summarised by Soviet leader Mikhail Gorbachev's recent claim that "the world is preparing for war," run up against evidence that deaths from interstate and intrastate conflict now seem to be declining.¹⁵

The discussion of the NWPT is detailed and rich in discussions of trade-offs, challenges and policy solutions. One assumption running through much of the analysis is that the NWPT poses a challenge for the NPT because the latter, unlike the former, effectively allows the five nuclear powers to hold onto their arsenals. But, as the chapter notes, because the five nuclear powers and most of their allies have strongly dismissed the NWPT, while the many other non-nuclear powers have celebrated it, it is not clear that the NPT regime is at any more of a crossroads than it may have been in recent decades (114). Regarding the political effects of nuclear weapons, most would agree with Sechser and Fuhrmann's finding that nuclear weapons are poor

¹³ Nina Tannenwald, *The Nuclear Taboo: The United States and The Non-Use of Nuclear Weapons since 1945* (New York: Cambridge University Press, 2007).

¹⁴ Full disclosure: he is my Australian National University colleague. Ramesh Thakur, "Nuclear Turbulence in the Age of Trump," *D&S*, 105-128.

¹⁵ But see Tanisha Fazal, "Dead Wrong?: Battle Deaths, Military Medicine and Exaggerated Reports of Wars Demise," *International Security* 39:1 (Summer 2014): 95-125.

coercive tools. Regarding the claim that whether nuclear weapons tend to keep the peace between nuclear armed adversaries is in fact debatable (120); the familiar argument that no evidence shows that nuclear armed powers actually contemplated aggression against their nuclear adversary but were deterred because of their nuclear weapons does not definitively rule out any pacifying effects of nuclear weapons. This is so because we can imagine counterfactual Cold War or Indo-Pakistani rivalries absent nuclear weapons that exhibited much more instability and conflict. Nuclear weapons certainly seem to influence not only who fights who but when they fight them, but this does not mean that if they did not exist the world would be safer (which it may be).¹⁶

Matt Kroenig's "The Return to the Pressure Track: The Trump Administration and the Iran Nuclear Deal" makes the case for Trump walking away from the nuclear deal with Iran. Kroenig rightly points out that the deal does not ultimately keep the bomb from Iran. Moreover, in the sense that Iran can wait for the restrictions to expire and/or its economy to recover to make a dash for the bomb, one can argue that the deal actually opens up two new pathways for Iran to develop nuclear weapons (95). But this is surely too high a bar to which to hold a nuclear non-proliferation or any other agreement since states are always free to walk away from them. That is how international agreements work. To criticise the deal on the grounds that it does not definitively rule out an Iranian bomb, Kroenig opens the door to probably the only option that can do this: military force. Indeed, for Kroenig, "bombing Iran's nuclear facilities is preferable to living with a nuclear-armed Iran (102)." That would be going too far for many (including this author), because we have lived with other nuclear armed menaces for several decades and unlike the short and sharp Israeli attacks that took out Iraqi and Syrian nuclear facilities, an attack on Iranian nuclear facilities may well escalate to interstate (and intrastate?) war. Moreover, short of the total defeat of the Islamic Republic, and probably even in the face of it, attacking Iran would provide perhaps the strongest incentives for that country to develop nuclear weapons. Relatedly, while ratcheting up the pressure on Iran regarding its special forces operatives active throughout Yemen, Iraq, Syria and Lebanon, covertly or overtly attacking Iranian missiles, and reminding Tehran that it does *not* face a U.S. nuclear no-first-use pledge might bring Iran back to the table, all this might also push Iran in the other direction. The Supreme leader and/or his military associates might learn that a nuclear deterrent is necessary and sufficient to counter this spate of U.S. pressure. Another problem is that while Kroenig advocates a much tougher deal that puts limits on Iranian uranium enrichment in place for twenty-five years, fifty years or permanently, Washington would likely struggle to get Britain, China, France, Germany and Russia to sign on to such an agreement, making it much weaker in many ways than the deal that Trump walked away from. Those who believe that the Iranian leader(s) is/are bent on developing nuclear weapons, that this outcome would be very destabilising, and that heavy costs should therefore be incurred to stop it would find these arguments unconvincing. Future debate on this important subject will continue to engage with many of the arguments raised by Kroenig in his provocative paper.

¹⁶ Michael Horowitz, "The Spread of Nuclear Weapons and International Conflict: Does Experience Matter?," *Journal of Conflict Resolution* 53:2 (2009) 234-257; Michael Cohen, *When Proliferation Causes Peace: The Psychology of Nuclear Crises* (Washington D.C.: Georgetown University Press, 2017).

Review by Anne I. Harrington, Cardiff University

From its inception, nuclear strategy has been a profoundly ahistorical field. The potential of global nuclear annihilation severed the traditional linear relationship between past, present, and future in the sense that the next world war would not simply disrupt the present and alter the future but also potentially erase all meaningful human connection to the past.¹ This unprecedented prospect called into question the applicability of historical experience to inter-state relations in the nuclear age. Nuclear weapons created unique incentives for states and therefore had their own logic, which strategists derived from a priori assumptions about rational behavior rather than history.

Recently, however, scholars have begun to exploit the wealth of evidentiary knowledge generated during the Cold War, whether that be in the form of diplomatic history or creating data sets against which to test rational choice models. I am thinking here of books like Francis Gavin's *Nuclear Statecraft*,² which reveals how the larger context of U.S. economic policy towards NATO shaped nuclear nonproliferation policy in ways that theories of 'why states build nuclear weapons' do not capture, as well as the statistical tests performed by political scientists studying nuclear proliferation including Matthew Kroenig and Matthew Fuhrman.³ Providing an evidentiary basis against which to assess theories of nuclear deterrence and nonproliferation holds out the possibility not only of reinvigorating a stale intellectual debate, but of fundamentally reconfiguring what we believe to be true about interstate relations in the nuclear age.

The special issue of *Diplomacy and Statecraft* under review brings together reflections on the nuclear order from a group of scholars and former practitioners brought together by an invitation to apply lessons from the 'nuclear' past to the current political moment. The issue is the product of a three-day conference convened in January 2015 by Joseph Siracusa and Francis Gavin to mark the fiftieth anniversary of the Gilpatric Report, an influential document on the proliferation of nuclear weapons released by the Lyndon B. Johnson administration.⁴ Together Siracusa and Gavin leveraged this milestone event to gather a group of 60 experts in nuclear strategy, policy and history from four continents to reflect on the state of nuclear statecraft and the global nuclear order (1-2).

The Gilpatric Report forged a consensus around the delicate topic of whether or not the U.S. would share its nuclear weapons with allies or take a more active role in stopping their spread through supporting the negotiation of multilateral agreements and cooperating with the Soviets to end the arms race and promote

¹ Hans J. Morgenthau, "Death in the Nuclear Age," *Commentary* 32:3 (1961): 231.

² Francis J. Gavin, *Nuclear Statecraft: History and Strategy in America's Atomic Age* (Ithaca: Cornell University Press, 2012)

³ Matthew Kroenig, *Exporting the Bomb* (Ithaca: Cornell University Press, 2011); Matthew Fuhrmann, *Atomic Assistance: How "Atoms for Peace" Programs Cause Nuclear Insecurity*. Ithaca: Cornell University Press 2012).

⁴ Joseph M. Siracusa and Francis Gavin, "Introduction" *Diplomacy & Statecraft* 29:1 (March 2018) [hereafter D&S]: 1-2.

arms control.⁵ Commissioned shortly after the Chinese nuclear test in 1964, the tide of international opinion was turning against the spread of nuclear weapons.⁶ The Gilpatric Committee's consensus in favor of a more active nonproliferation policy subsequently contributed to the successful negotiation of the Nuclear Nonproliferation Treaty (NPT), the cornerstone of the current global nuclear order. At the time, however, the classified report was highly controversial among administration officials; Dean Rusk, Johnson's Secretary of State, is quoted as saying that it was "as explosive as a nuclear weapon."⁷

Fifty years later, the global consensus about the dangers of nuclear proliferation has solidified (the NPT is one of the most adhered to treaties in the world, with 191 states party, second only to the Chemical Weapon Convention).⁸ However, as the conference participants found, consensus on difficult questions of nuclear policy is no easier to reach today than it was a half century ago.

Conversations at the conference were often heated, especially as they pertained to the topic of nuclear disarmament. The rift in the room over the feasibility of nuclear abolition and the politics of the Humanitarian Initiative—a series of conferences supported by representatives from 159 states that paved the way for the negotiation of the Nuclear Weapons Prohibition Treaty (NWPT) in 2017⁹—mirrored the broader political rift apparent in the NPT Review Conference process. Some found the notion of nuclear disarmament not only unrealistic but ill advised. Others saw the five recognized Nuclear Weapon States under the NPT (only states that tested a nuclear device prior to Jan 1, 1967 may be recognized as a Nuclear Weapon State), as being out of touch with the tide of international opinion, and under-appreciative of the importance of adhering to both the letter and spirit of their obligation work toward to nuclear disarmament.

This divide is also evident in the pieces published as part of this special issue. They fall rather neatly along the lines of what Ramesh Thakur, former Vice Rector and Senior Vice Rector of the United Nations University (and Assistant Secretary-General of the United Nations), in his contribution describes as the "bifurcated

⁵ "A Report to the President by the Committee on Nuclear Proliferation," The White House, January 21, 1965, https://nsarchive2.gwu.edu/NSAEBB/NSAEBB1/nhch7_1.htm; Hal Brands, "Rethinking Nonproliferation: LBJ, the Gilpatric Committee, and U.S. National Security Policy" *Journal of Cold War Studies* 8:2 (Spring 2006): 83-113, <https://muse.jhu.edu/article/196269/pdf>;

⁶ The Limited Test Ban Treaty was concluded in 1964.

⁷ Glenn Seaborg with Benjamin Loeb, *Stemming the Tide: Arms Control in the Johnson Years* (Lexington: Lexington Books, 1987), 141; quoted in Brands, 84.

⁸ "Treaty on the Non-Proliferation of Nuclear Weapons (NPT)," United Nations Office for Disarmament Affairs, accessed 4 August 2018, <https://www.un.org/disarmament/wmd/nuclear/npt/>; Note by the Technical Secretariat, "Status of Participation in the Chemical Weapons Convention as at 16 June 2018," accessed 4 August 2018, https://www.opcw.org/fileadmin/OPCW/S_series/2018/en/s-1638-2018_e.pdf.

⁹ H.E. Sebastian Kurz, Federal Minister for Europe, Integration and Foreign Affairs of Austria, "Joint Statement on the Humanitarian Consequences of Nuclear Weapons" delivered by 28 April 2015, https://www.un.org/en/conf/npt/2015/statements/pdf/humanitarian_en.pdf, accessed 4 August 2018.

global nuclear order.”¹⁰ Thakur highlights the tensions between the Nuclear Weapon States, who he claims have not honored their commitment to good faith negotiations to eliminate nuclear weapons by closing the legal gap that remains in the NPT between nonproliferation and disarmament, and the willingness of a preponderance of Non-nuclear Weapon States to negotiate just such a treaty in the form of the Nuclear Weapons Prohibition Treaty (NWPT).¹¹

The articles in this special issue can likewise be divided into two (loose) groupings: those concerned primarily with the U.S. ability (or lack thereof) to project power abroad, whether that be through extended nuclear deterrence, military conflict with a nuclear-armed China, or putting pressure on Iran to renegotiate the Joint Comprehensive Plan of Action (JCPOA)¹²; and those concerned with question about multilateral diplomacy and the evolution of the nuclear order, such as: What are nuclear safeguards for? How did international agreements impact U.S. policies toward peaceful nuclear explosions? And what are the biggest challenges to the Nonproliferation Regime?

The contributions from Matthew Fuhrmann, Joshua Rovner, and Matthew Kroenig all concern the projection of American power. Of those, Fuhrmann’s is the most empirically oriented and least speculative. Interestingly, Fuhrmann makes the case against forward deploying U.S. nuclear weapons to allies in the name of extended deterrence. Drawing on a database of nuclear forces deployed to allied nations that Fuhrmann and Todd Sechser derived from formerly classified documents and relevant secondary sources,¹³ Fuhrmann argues that while a formal alliance commitment from a nuclear-armed patron reduces the likelihood that the protégé state will become the target in a military dispute (56-8), foreign nuclear deployments do not enhance extended deterrence beyond the effects of the alliance commitment (63).

Rovner considers the difficult choices that the US may face in the event of a major war with China. He argues that while the US will want to be careful to reduce nuclear escalation, showing restraint in the nuclear realm is likely to result in a long, drawn-out conventional conflict in which both sides find it difficult to compel a satisfactory resolution.¹⁴

Kroenig argues that the Trump administration should push for a better deal with Iran than the JCPOA, and that the best way to do so is to abide by the terms of the current agreement while aggressively turning up the

¹⁰ Ramesh Thakur, “Nuclear Turbulence in the Age of Trump,” *D&S*: 105-128, here 114.

¹¹ Thakur, 109-114. Negotiated in 2016, the NWPT opened for signature on 20 September 2017. Its proponents, including Thakur, argue that the treaty will have a profound normative impact on the perceived utility of nuclear weapons, resulting in their devaluation.

¹² The JCPOA is an accord limiting Iran’s nuclear program. It was originally concluded between the US, Russia, China, the UK, France, and Germany on the one side and Iran on the other. However, the US has recently unilaterally withdrawn.

¹³ Matthew Fuhrmann, “On Extended Nuclear Deterrence,” *D&S*: 51-73. The Foreign Nuclear Deployment dataset is available at: <http://www.matthewfuhrmann.com/datasets.html>.

¹⁴ Joshua Rovner, “A Long War in the East: Doctrine, Diplomacy, and the Prospects for a Protracted Sino-American Conflict,” *D&S*: 129-142, here 129 and 138.

pressure in all other ways (advice many now wish Trump had heeded). He suggests slapping Iran with penalties for non-JCPOA bad behavior and increasing activities to counter Iran's influence in the Middle East with country specific policies.¹⁵ More controversially, he recommends that the Trump administration should make it clear in its Nuclear Posture Review that the "negative security assurances" that the Obama administration extended to non-nuclear weapon states, ie a promise that the U.S. will not target non-nuclear weapon states in good standing with the NPT with nuclear weapons, do not apply to Iran. Furthermore, he suggests that the U.S. could counter future Iranian ballistic missile development with force (by conducting left of launch attacks or targeting launches with ballistic missile defenses). The contemporary nature of Kroenig's analysis means that much of it has been overcome by events; the Trump administration did not heed his advice to remain in the deal.

However, driving Kroenig's opposition to the deal is a more fundamental point about proliferation policy and the nature of the global nuclear order. Kroenig opposes recognizing the right of non-nuclear weapon states to enrich uranium. He therefore dislikes the fact that the JCPOA by default recognizes the Iranian's interpretation of the 'peaceful uses' clause of the NPT to include the right of non-nuclear weapon states party to the NPT to uranium enrichment. Technically, the NPT is silent on the topic,¹⁶ and while that silence is often interpreted permissively, others have argued for the more restrictive interpretation that Kroenig favors.¹⁷

Along with Thakur's assessment of the centrality of the NPT to the future stability of the global nuclear order, four other authors place the topics of multilateral diplomacy and the evolution of the nuclear order at the center of their analysis: Scott Kaufman, Elisabeth Roehlich, and, co-authors, Joseph Siracusa and Aiden Warren.

Kauffman argues that the consensus reflected in the Gilpatric Report added to existing pressures to end Project Plowshare, a U.S. program that sought to leverage peaceful nuclear explosions for civil engineering projects including creating harbors and canals, storage facilities, and stimulate petroleum and natural gas production.¹⁸ The program was already under threat from opposition to nuclear testing and the Limited Test

¹⁵ Matthew Kroenig, "The Return to the Pressure Track: The Trump Administration and the Iran Nuclear Deal," *D&S*: 94-104, here 101. Kroenig advocates country specific policies such as sharing intelligence on Iran's Special Forces operatives in the region; cooperating with Gulf Co-operation Council operations to interdict Iranian arms shipments to Houthi rebels; and working with Iraqi leadership to limit Iran's influence in the country.

¹⁶ John Krige, "The Proliferation Risks of Gas Centrifuge Enrichment at the Dawn of the NPT," *The Nonproliferation Review* 19:2 (2012): 219-227, DOI: <https://doi.org/10.1080/10736700.2012.690961>.

¹⁷ "Nuclear Technology Rights and Wrongs: The NPT, Article IV, and Nonproliferation" in *Reviewing the Nuclear Nonproliferation Treaty* (Henry Sokolski, ed.) (Carlisle, Pennsylvania: Strategic Studies Institute, 2010), at pp.237-384; Robert Zarate, "The NPT, IAEA Safeguards and Peaceful Nuclear Energy: An 'Inalienable Right,' but Precisely to What?" in *Falling Behind: International Scrutiny of the Peaceful Atom* (Carlisle, Pennsylvania: Strategic Studies Institute, February 2008).

¹⁸ Scott Kaufman, "Project Plowshare versus the Non-Proliferation of Nuclear Weapons Treaty," *D&S*: 74-93, here 75.

Ban Treaty, but confusion over whether or not non-signatories to the NPT could avail themselves of Plowshare services further diminished prospects for the program's success (75).

Roehrlich takes on the topic of nuclear safeguards, one of the most genuine and enduring legacies of the Cold War.¹⁹ Roehrlich argues that since the safeguards evolved out of the desire to slow the spread of nuclear weapons, no one labored under the illusion that the timely detection offered by safeguards would be enough to prevent nuclear proliferation, but rather that they were seen primarily as having a deterrent effect while at the same time serving as confidence building measures (43). In making this argument, Roehrlich focuses on three time periods: early proposals for international control in 1945-6, the negotiations that produced the IAEA in 1953-7, and the negotiations that resulted in the IAEA becoming the key verification institution for the NPT (31).

Finally, Siracusa and Warren contribute a sweeping review of the role of the Nonproliferation Regime, focusing in particular on the role of the Cooperative Nuclear Threat Reduction Program, the IAEA, the Global Threat Reduction Initiative, nuclear weapon free zones, and the NPT review conferences in promoting dialogue and international cooperation to reduce the threat posed by nuclear weapons.²⁰ Yet they conclude on a pessimistic note, remarking on the slowed pace of nuclear reductions, and the large modernization program that the U.S. has undertaken, all of which are seemingly at odds with the goal of deep cuts leading to the elimination of nuclear weapons (22).

In making the observation that the articles in this special issue on the global nuclear order can be loosely grouped into two categories, I am not imputing political motives to the authors, or aligning their work with one position or another (unless they explicitly do so themselves), rather I am observing that there are two different ways of framing of the challenges facing the nuclear order, and that those framings carry radically different, and mutually exclusive, implications for nuclear strategy and policy. If it is the American ability to project power that maintains order, then it is the potential decline of America's relative superiority over its adversaries that poses the greatest threat. If instead the global nuclear order is based on the strength and legitimacy of the international institutions, then it is the fact that the Nuclear Weapon States' actions (or lack thereof) threaten to undermine the legitimacy of those institutions that poses the primary challenge to the stability of the global nuclear order.

Famously, in 1963 John F. Kennedy predicted that "by 1970 ...there may be 10 nuclear powers instead of four, and by 1975, 15 or 20" (5). This eventuality did not come to pass, at least in part because of the consensus reached in the Gilpatrick Report. The report's consensus in favor of nonproliferation was controversial because it aligned the interests of the U.S., not only with the tide of public opinion, but also with the interests of its primary adversary, the Soviet Union—suggesting that the U.S. cooperate with its

¹⁹ Elisabeth Roehrlich, "Negotiating Verification: International Diplomacy and the Evolution of Nuclear Safeguards, 1945–1972," *D&S*: 29-50, here 30.

²⁰ Joseph M. Siracusa & Aiden Warren, "The Nuclear Non-Proliferation Regime: An Historical Perspective," *D&S*: 3-28, here 3.

mortal enemy to achieve its nonproliferation goals only three years after the Cuban Missile Crisis.²¹ The difficulty now is that U.S. (and Russian) interests, narrowly construed, no longer appear to align with the tide of international opinion, at least not when it comes to the NWPT.²² To those who perceive the American nuclear deterrent as fundamental to the maintenance of the global nuclear order the NWPT appears utopian at best and dangerous at worst.

For those who wish to move the consensus articulated in the NWPT forward, the fact that scholars now have a 'nuclear' history on which to draw is potentially revolutionary in the sense that it allows us to challenge the assumptions underlying nuclear deterrence theory. However, it could also prove constraining. How do we grab hold of the revolutionary potential of the knowledge now available to us without becoming imprisoned within the boundaries of the past? Answering that question is arguably one of the primary burdens for anyone interested in advancing the project of nuclear disarmament. In so far as beliefs about what is possible are assessed with respect to what has happened before, the history of the nuclear age has the potential to limit thinking about the future of nuclear policy, and in particular thinking about the future of nuclear disarmament. Perhaps, then, it is only by setting aside lessons of the past that the path to a 'world free of nuclear weapons' will come into view. Arguably, this is the lesson that could be learned from the history of the Cold War, that nuclear deterrence succeeded as a prescriptive policy precisely because its authors set aside everything that had come before. Nuclear strategists at RAND created a deductive model of inter-state relations that flew in the face of received wisdom. Against all evidence to the contrary, they argued that the best way to prevent a nuclear war was to prepare to fight one, and that the primary purpose of producing these new weapons must be to prevent their use.²³ General Curtis Lemay found the idea of weapons that would not be consumed laughable, and the most influential International Relations theorist of the era, Hans Morgenthau, came to the conclusion that a world state was more realistic than a nuclear arms race that ended peacefully.²⁴ Moving beyond Cold War-era thinking about nuclear deterrence and nonproliferation to find a new 'post-nuclear' consensus may require a similar leap of faith.

²¹ "A Report to the President by the Committee on Nuclear Proliferation," accessed 18 August 2018, https://nsarchive2.gwu.edu/NSAEBB/NSAEBB1/nhcb7_1.htm.

²² Even staunch U.S.-based disarmament advocates, such as George Perkovich and Jeffrey Lewis question the wisdom of the NWPT. See Jeffrey Lewis, "An Award for the Collapse of Nuclear Disarmament," Foreign Policy Online, 9 October 2017, <https://foreignpolicy.com/2017/10/09/an-award-for-the-collapse-of-nuclear-disarmament/>; George Perkovich, "The Nuclear Ban Treaty: What Would Follow?" *Carnegie Endowment for International Peace*, Peace, 31 May 2017, <https://carnegieendowment.org/2017/05/31/nuclear-ban-treaty-what-would-follow-pub-70136>.

²³ Bernard Brodie, "Implications for Military Policy," in *The Absolute Weapon: Atomic Power and World Order*, ed. Frederick Dunn, Bernard Brodie, Arnold Wolfers, Percy E. Corbett, and William T. R. Fox (New York: Harcourt, Brace and Company, 1946).

²⁴ Fred M. Kaplan, *The Wizards of Armageddon* (New York: Simon and Schuster, 1983); Hans J. Morgenthau, "International Relations," in *Politics in the 20th Century*, Vol. 3 (Chicago, Ill.: University of Chicago Press, 1962), 174, quoted in Craig, *Glimmer of a New Leviathan*, 107; Hans J. Morgenthau, "Death in the Nuclear Age," *Commentary* 32, no. 3 (1961): 231.

Review by Nicola Leveringhaus, King's College London

In the last two decades, the concept of global nuclear order has emerged as a popular framework for studying the past, present, and future twists and turns of nuclear politics and statecraft. William Walker's work, including his 2011 book, *Perpetual Menace: Nuclear Weapons and International Order*,¹ ignited an intellectual debate by unpacking the historical origins, contested logics, and enduring challenges that beset the nuclear order. Other scholarly treatments have provided a non-Western lens, drawing from theoretical perspectives and broader discussions of global order within International Relations to highlight a contested process of nuclear ordering.² In recent years, a plethora of special journal issues have been dedicated to the complex relationship between nuclear weapons, international order, and global governance.³ In 2015 alone, three international academic conferences were held under the banner of global nuclear order.⁴ One of these, organised by the Royal Melbourne Institute of Technology University, the Massachusetts Institute of Technology, and the Nuclear Studies Research Institute, led to the issue of *Diplomacy and Statecraft* under review here.

The *Diplomacy and Statecraft* issue is introduced by Joseph M. Siracusa and Francis J. Gavin and is comprised of seven articles. The goals of the issue are ambitious: to assess the health of global nuclear order in terms of its development, status, and future challenges, in particular the role of alliances, regime types, and norms. Taken altogether, the special issue is somewhat disjointed – not all the articles speak consistently to the idea of

¹ William Walker, *Perpetual Menace: Nuclear Weapons and International Order* (London: Routledge, 2011). His previous work includes "Nuclear order and disorder," *International Affairs* 76:4 (2000): 703-724; *Weapons of Mass Destruction and International Order*, Adelphi Paper No. 370 (London: International Institute for Strategic Studies, 2004); "Nuclear enlightenment and counter-enlightenment," *International Affairs*, 83:3 (2007): 431-453; and "International nuclear order: a rejoinder," *International Affairs* 83:4 (2007): 747-756. Before Walker, see T.V. Paul, R.J. Harknett and J.J. Wirtz, eds., *The Absolute Weapon Revisited, Nuclear Arms and the Emerging Nuclear Order* (Ann Arbor: University of Michigan Press, 1998); and D.C. Gompert, M. Mandelbaum, R.L. Garwin and J.H. Barton, *Nuclear Weapons and World Politics: Alternatives for the Future* (New York: McGraw Hill, 1977).

² For the case of China and an English School discussion, see Nicola Horsburgh, *China and Global Nuclear Order, from estrangement to active engagement* (Oxford: Oxford University Press, 2015). For a postcolonial critique, see Shampa Biswas, *Nuclear Desire: Power and the Postcolonial Nuclear Order* (Minnesota: University of Minnesota Press, 2014). On India, see Arvind Gupta, ed., *India in a Changing Global Nuclear Order* (New Delhi: Academic Foundation, 2009).

³ The first issue on nuclear order was published in *International Affairs* 83:3 (2007): 427-443. More recent issues include the *Journal of Cold War Studies*, 20: 1 (2018); *International History Review*, forthcoming 2018; *Contemporary Security Policy* 39:3 (2018); and *Critical Studies on Security* 4:1 (2016).

⁴ The U.S.-Australia conference on which the special issue is based, "Reassessing the Global Nuclear Order," Melbourne, Australia, 8-10 January 2015; "Re-Imagining the Global Nuclear Order" conference, funded by the U.S. Academy of Arts and Sciences, organised by the University of Oxford and Stanford University, held in Oxford, UK, on 21 September 2015; and "Nuclear Legacies: A Global Look at the 70th Anniversary of the Hiroshima Bombing," Woodrow Wilson School, Princeton University, held in Hiroshima, Japan, on 23 September 2015. More recently, joint French-US conferences were organised on "Making the World Nuclear After Hiroshima" at Stanford University, on 22-23 May 2017 and "Revisiting the Nuclear Order. Technopolitical Landscapes and Timescapes," on 11-12 June 2018 in Paris, France.

nuclear order. That said, the wide-ranging nature of the articles is also a strength. As Siracusa and Gavin highlight in the introduction, one of the goals of the conference held in Melbourne was to seek effective methods for producing policy-relevant research. On this score, by bringing together different nuclear scholars and their respective methodologies under one roof, the special issue delivers.

To date, most special issues on nuclear order have been quite narrow, focusing on specific theoretical and/or methodological approaches.⁵ Take the first special issue on nuclear order, published by *International Affairs* in 2007. This issue, led by David Yost, was a combative transatlantic response to William Walker's earlier work on nuclear order. Many, though not all, contributors employed a Realist lens to contest the notion that nuclear order existed beyond the seemingly more tangible Non Proliferation Treaty (NPT) regime. It remains one of the few special issues to directly engage with the ontological dimensions of nuclear order, challenging its existence as well as usefulness as a concept. Later, in 2016, a special issue in *Critical Studies in Security* led by Anthony Burke offered a post-positivist critical exposition of the politics of knowledge and biases underpinning nuclear order. More recently, in May 2018, Avner Cohen and Maria Rost Rublee edited a *Contemporary Security Studies* issue on nuclear norms and global governance. Other special issues have focused on bringing to light newly declassified archival material that recasts global nuclear history and the ordering process within that history. Important examples include the forthcoming issue of the *International History Review*, with Leopoldo Nuti and David Holloway at its helm, on the making of nuclear order and the historiography of the 1970s. Similarly, the *Journal of Cold War Studies* Winter 2018 special issue focuses on the Pugwash movement and its significance for global nuclear history.

In contrast to the above, the *Diplomacy and Statecraft* issue does not grapple with definitional matters. Rather, it offers the broadest historical and contemporary conversation on nuclear order to date. The issue starts with a co-authored article 'The Nuclear Non-Proliferation Regime: An Historical Perspective' by Joseph M. Siracusa and Aiden Warren.⁶ This acts as a useful, and lengthier, introduction on the history and current challenges to global nuclear order. From that point onwards, the journal issue turns to specific periods of nuclear history (respective contributions by Elisabeth Roehrlich and later Scott Kaufman), the efficacy of extended nuclear deterrence (Matthew Fuhrmann), current U.S. non-proliferation policy vis-à-vis the 2015 Iran nuclear deal (Matthew Kroenig), nuclear statecraft and norms, especially since the nuclear weapons ban negotiated at the United Nations (Ramesh Thakur); and future Sino-American conflict (Joshua Rovner). The sequence in which these articles are placed is slightly confusing, jumping from historical to contemporary pieces and back. As a result, Roehrlich and Kaufman's contributions are best read not in the order in which they are placed, but back-to-back. Similarly, Thakur's contribution ideally should be read last, acting as an excellent bookend to the special issue. Of the seven articles, Roehrlich's, Kaufman's, and Thakur's stand out as

⁵ For an interesting broader debate on various methods that can be used to study nuclear weapons, see the H-Diplo/ISSF Forum on "What We Talk About When We Talk About Nuclear Weapons," on 15 June 2014 <http://issforum.org/ISSF/PDF/ISSF-Forum-2.pdf>; and the subsequent response and discussion on: <https://networks.h-net.org/node/28443/discussions/32070/%E2%80%9Cwhat-we-do-and-why-it-matters-response-fks%E2%80%9D-response-h-diploissf>

⁶ Joseph M. Siracusa & Aiden Warren, "The Nuclear Non-Proliferation Regime: An Historical Perspective," *Diplomacy & Statecraft* 29:1 (2018) [hereafter *D&S*]: 3-28.

the strongest pieces in large part because they engage more consistently with the concept of global nuclear ordering driving the special issue.

Roehrlich's article, "Negotiating Verification: International Diplomacy and the Evolution of Nuclear Safeguards, 1945–1972"⁷ draws on extensive International Atomic Energy Agency (IAEA) archival material to show how high-level diplomatic discussions around safeguards were at the centre of global nuclear ordering in the 1950s and 1960s. She usefully provides a three-part timeframe for the evolution of safeguards, from reactions to the U.S. Baruch Plan and Atoms for Peace, to the early days of the IAEA and later the Safeguards Committee. In doing so, she highlights how, compared to discussions on non-proliferation, diplomatic debates around safeguards did better at balancing the tension between the political goals of 'sharing' and 'denial' (54) of nuclear technology. Roehrlich's piece also traces how diplomats involved in these discussions ultimately concluded that safeguards could not stop the spread of nuclear weapons. In essence, safeguards were deemed tools of verification, not control (32). Although established to detect diversion, safeguards were not intended to identify clandestine nuclear weapons programmes (44). Safeguards also emerged as powerful confidence building measures too. Overall, this article shows that there is much to learn for the present by looking back to the past – many difficult questions regarding the permissibility of dual-use technology were asked in these early discussions on safeguards. The paper ends with a brief reference to more recent developments, such as the Additional Protocol. A later argument that safeguards have today acquired a greater mandate is left somewhat underdeveloped by comparison to earlier arguments in the article. That said, this is a fascinating contribution that links well to the broader theme of the special issue to show how safeguards contributed to the emergence of nuclear order in the 1950s and 1960s.

Scott Kaufman's article "Project Plowshare versus the Non-Proliferation of Nuclear Weapons Treaty"⁸ turns to a more obscure element of U.S. nuclear history, Project Plowshare, to highlight how peaceful nuclear explosions (PNE) came into conflict with the global nuclear ordering process of the 1960s and early 1970s. Project Plowshare existed between 1961 and 1973, and resulted in 23 PNEs in a bid to build an alternative canal to the Panama Canal. Kaufman shows how proponents of the Project had to tread difficult ground, balancing emerging institutional arrangements in the nuclear order around proliferation (the Gilpatric Committee, negotiations for the NPT and the Treaty for Tlatelolco) and testing (Partial Test Ban Treaty), as well as military commitments in Vietnam, and global public opposition to testing in the early to mid-1950s. Like the Roehrlich paper, it is based on strong archival research, but it does not quite manage to flesh out an argument of contemporary relevance. Moreover, it would have been good to explore in more detail non-U.S. projects, such as the Soviet Program Number 7, mentioned briefly, as well as India's PNE in 1974. That said, it does offer new insight into an important aspect of nuclear order that is often overlooked in the broader literature.

Among the contemporary articles in the special issue, "Nuclear Turbulence in the Age of Trump",⁹ by Ramesh Thakur, offers the deepest engagement with the concept of nuclear order. It lays out the normative

⁷ Elisabeth Roehrlich, "Negotiating Verification: International Diplomacy and the Evolution of Nuclear Safeguards, 1945–1972," *D&S*, 29-50.

⁸ Scott Kaufman, "Project Plowshare versus the Non-Proliferation of Nuclear Weapons Treaty," *D&S*: 74-93.

⁹ Ramesh Thakur, "Nuclear Turbulence in the Age of Trump," *D&S*: 105-128.

challenges the nuclear weapons ban treaty pose for nuclear order. Thakur describes the nuclear order as “bifurcated” (106), divided between the nuclear ban treaty and the United Nations General Assembly on one side, and the NPT and P5 nuclear weapons states on the other. This bifurcation has taken place because the NPT has “failed to function as the primary normative framework for de-legitimising” nuclear weapons, including the reduction of these weapons and steps towards disarmament (109). The nuclear ban treaty also has a “powerful normative impact on the military utility and political value of nuclear weapons” (112). For Thakur, for the first time, the nuclear ban negotiations “forced through an instrument of international humanitarian law against the express wishes...of the majority of western countries” (113). But Thakur also notes that the ban is not a panacea. Clauses on safeguards and disarmament are especially problematic. Furthermore, the treaty is ambiguous on extended nuclear deterrence and potentially duplicates institutional arrangements with the NPT. That said, the ban has changed the nuclear landscape; all nuclear weapons states, whether in or out of the NPT, are now in equal violation of the ban (122). These arguments are powerful, but they feel a little overblown. For one, the ban has yet to be universally ratified by its members. This may not be an issue given that the Comprehensive Test Ban Treaty, which also has not entered into force, still functions as an institution. A second issue relates to the P5, where positions on the ban are less united than Thakur presents. China, for instance, has been at pains to distance its position on the ban from the other P5. Overall, this is the most provocative contribution in the special issue, showing how the ban is not simply a cry of exasperation from non-nuclear weapons states towards nuclear weapons states for their lack of commitment to disarmament – it is much more than that, and relates to the very future shape of nuclear order.

Matthew Fuhrmann’s article “On Extended Nuclear Deterrence”¹⁰ examines formal defence pacts and foreign deployed nuclear forces in establishing credible extended nuclear deterrence. The article starts with reference to recent calls among a small political minority in South Korea for the return of U.S. nuclear forces withdrawn in 1991. He inserts a refreshing methodological approach to the special issue by drawing from a dataset he has used in previous work. Fuhrmann argues that while defence pacts lower the likelihood of conflict, the deployment of nuclear forces increases the likelihood that an ally will face attack (62). For Fuhrmann, foreign deployed nuclear forces do not necessarily increase the credibility of extended nuclear deterrence. With technological improvements (notably the Intercontinental Ballistic Missile), there is no need for foreign deployments of U.S. nuclear forces. Yet there may be political grounds for deployment in the promotion of non-proliferation, reassurance of allies, and signalling resolve to enemies. Although there is no discussion of nuclear order, Fuhrman comes to a conclusion with high relevance for U.S. policy and alliance politics: deployment of U.S. nuclear forces in South Korea would not bolster the credibility of extended nuclear deterrence.

Among all the contributions in the special issue, “The Return to the Pressure Track: The Trump Administration and the Iran Nuclear Deal”¹¹ by Matthew Kroenig is by far the most timely piece. Indeed, it is the most viewed of all seven articles in the special issue.¹² The Trump administration has now withdrawn

¹⁰ Matthew Fuhrmann, “On Extended Nuclear Deterrence,” *D&S*: 51-73.

¹¹ Matthew Kroenig, “The Return to the Pressure Track: The Trump Administration and the Iran Nuclear Deal,” *D&S*: 94-104.

¹² At the time of writing, 18 June 2018, this article had the highest number of views, at 413; the third article, written by Fuhrmann, has the second highest views, at 372.

from the Iran nuclear deal – and Kroenig’s favoured option of keeping the United States in the deal but applying pressure on areas outside the deal - is not taken up, but this does not render Kroenig’s article out of date. Rather, this article offers insight into the roots of discontent within the Trump administration towards the deal. Kroenig notes that the deal was flawed by design, not because of Iranian non-compliance. Like the Fuhrmann article, this contribution is to be commended for its high policy relevance, but less so for its lack of engagement with the concept of nuclear order.

In “A Long War in the East: Doctrine, Diplomacy, and the Prospects for a Protracted Sino-American Conflict”,¹³ Joshua Rovner explores a gloomy potential conflict scenario between the United States and China. The argument is two-fold: if the United States seeks to win a war with China quickly, nuclear escalation is likely, but if the United States prioritises reducing nuclear escalation, a protracted conventional war is more likely. Rovner lays out how both sides are behaving in ways that might lead to conflict, referring to the ‘Thucydides Trap’ popular in U.S. academic and policy circles. Once conflict breaks out, geography and domestic politics will determine the shape of conflict. Whereas the Chinese will rely on their “vast land refuge” (137) the United States will rely on its dominance of the seas. The discussion of domestic politics is rather brief: pointing to nationalism and a refusal to surrender. Overall, the article is likely to be useful for U.S. policy but is reliant on a thin set of sources on the Chinese side, and does not include much operational detail on the potential for escalation.¹⁴ As with other contemporary pieces in the issue, it offers high policy relevance but lacks deeper engagement with the global nuclear order theme.

In conclusion, despite inconsistencies in the sequencing of the papers, and uneven analytical engagement with the global nuclear order theme, the *Diplomacy and Statecraft* special issue breaks new ground by combining historical insights with high contemporary policy relevance, all in one volume. Roehrllich and Kaufman shed important new light on historical aspects of nuclear order not typically covered in the global nuclear order literature, namely safeguards and PNEs. Thakur’s article offers a rich exposition of a very recent development, the nuclear ban, and its normative implications for future global nuclear order. Fuhrmann’s, Kroenig’s, and Rovner’s contributions provide insights into U.S. nuclear policy both present and future. Overall, this is an important first step towards a more interdisciplinary and diverse scholarly discussion of nuclear order. Such a discussion is surely much needed.

¹³ Joshua Rovner, “A Long War in the East: Doctrine, Diplomacy, and the Prospects for a Protracted Sino-American Conflict,” *SeD*: 129-142.

¹⁴ For a detailed operational discussion of escalation in Sino-American relations in terms of Taiwan, see Caitlin Talmadge, “Would China go nuclear? Assessing the risk of Chinese nuclear escalation in a conventional war with the United States,” *International Security* 41:4 (2017): 50-92.

Response by Joseph Siracusa, Royal Melbourne Institute of Technology University, Melbourne, Australia

To begin at the beginning, Frank Gavin and I would like to thank the reviewers of this special issue of *Diplomacy & Statecraft* both for their generosity of time and trenchant insights on our take of the contemporary state of nuclear statecraft and the global nuclear order. We are happy to have both. And while we are at it, we would like to thank the editor of *Diplomacy & Statecraft*, Brian McKercher, for his kind invitation to publish some of the research stemming from the MIT-RMIT Melbourne conference, “Reassessing the Global Nuclear Order: Past, Present and Future,” which was held in Melbourne in January 2015. It was quite a show, as 60 experts in nuclear strategy, policy, and history from four continents descended on Melbourne in the middle of the Australian summer.

The range and quality of the reviewers—Anne Harrington (Cardiff University), Nicola Leveringhaus (King’s College, London), Philipp C. Bleek (Middlebury Institute of International Studies at Monterey), and Michael Cohen (Australian National University) - have turned a routine forum on “Global Nuclear Order” into a thread of pure gold, making observation after observation that point the way to future discourse and research. Harrington writes, “I am observing that there are two different ways of framing of the challenges facing the nuclear order, and that those framings carry radically different, and mutually exclusive, implications for nuclear strategy and policy”; Leveringhaus notes that “the *Diplomacy & Statecraft* special issue breaks new ground by combining historical insights with high contemporary policy relevance”; Bleek suggests that “Accessible, policy relevant scholarship—of the sort gathered in the special issue under review here - can help inform both the public and policymaker conversations”; and, Cohen writes that “Literature on the causes of nuclear weapons has addressed the role of strategic dynamics involving alliances, leadership psychology, and integration with the global economy, but the role of the nuclear nonproliferation regime and various parts of its large institutional-normative infrastructure have received less attention.” Graduate students would glean much from what the new wave of nuclear scholars has to say about nuclear weapons and the policies they have generated.

After all these years since Hiroshima and Nagasaki, the bomb still matters. It is an important subject, literally bordering on critical mass. Next to global warming, nothing—and I mean nothing—endangers our planet more than nuclear weapons. And, while we have no definitive answer to the resolution of nuclear weapons, except perhaps buying time until they become anachronistic, it is heartening to know that the best and brightest of our younger scholars, from across the various disciplines, across the world, are fully engaged in the problem. No matter how it turns out, they are giving it their best shot. Clearly, that’s all we can ask for.