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Introduction by Francis J. Gavin

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Introduction by Francis J. Gavin, MIT

Preventing sovereign states from acquiring and deploying a military technology that all but guarantees their security is beyond difficult. Early in the nuclear age, many United States policymakers and analysts thought that nuclear nonproliferation efforts were, at worst, impossible, and, at best, too costly. Despite this pessimism, the U.S. has made nuclear non-proliferation a priority of American grand strategy since 1945, and has been willing to pay a high price, ranging from breaking its tradition of no permanent peacetime alliances to pressuring Cold-War allies such as West Germany and South Korea while cooperating with a bitter geopolitical and ideological rival, the Soviet Union, to stem the spread of nuclear weapons. No one expected these nuclear nonproliferation policies to be easy or completely successful. If you had told even the most optimistic American decision-maker in 1965 that half a century later (2015) no nuclear weapons would have been detonated against another state, either in anger or by accident, and that the number of states possessing nuclear weapons remained in the single digits, they would have been overjoyed (and likely would have thought that you were crazy).

It is important to remember this history, as contemporary analysts often assume that stopping the spread of nuclear weapons is both easy and a simple choice, like turning a light switch on or off. They fret about the fragility of the Nuclear Nonproliferation Treaty system, or chastise the United States government for not working harder to keep potential proliferants, such as Iran and North Korea, non-nuclear. They lament what they see as the hypocritical exceptions the United States supposedly made in its nonproliferation policies for certain countries, whether it was India in 2005, Pakistan in the 1980s, or Israel throughout the nuclear age. They seem to forget that nuclear nonproliferation policy is both very hard and very expensive, with no guarantee of success, and that pre-nuclear age history provided little guidance on the best ways to proceed. Assessed through a broader historical lens, the historically unprecedented effort by the United State to prevent the spread of nuclear weapons over the past seventy years has succeeded far better than anyone could have hoped.

Nor does the American nuclear nonproliferation effort end when a state is on the cusp, or even over the threshold, of developing a nuclear weapon. As Or Rabinowitz demonstrates in her important new book, *Bargaining on Nuclear Tests: Washington And Its Cold War Rivals*, the United States did not simply throw up its hands and give up when a state went nuclear; instead, it moved quickly to mitigate the consequences of second-generation proliferation when it could not prevent it. In her well-researched account, Rabinowitz reveals that United States policymakers cut deals, first with Israel, then Pakistan and South Africa, pressuring these new nuclear states to avoid actions -- especially hot nuclear tests -- that might have weakened the global nuclear nonproliferation regime and incited proliferation by other countries. Contrary to what many have suggested, the United States was not supportive or even ambivalent about Israel's, Pakistan's, and South Africa's nuclear weapons programs. In all cases, the United States would have greatly preferred those states to have remained non-nuclear, and pursued a variety of nonproliferation policies to achieve that aim. When it was clear that those policies had failed - that Israel, South Africa, and Pakistan would, despite U.S. efforts, develop nuclear weapons - American policymakers proceeded to contain the consequences as best they could.

In their reviews, both Guarav Kampani and Jayita Sarkar agree that *Bargaining on Nuclear Tests* is an important contribution to the burgeoning literature on nuclear dynamics. Kampani lauds the book's "wonderful detail," and notes that "Rabinowitz has a great story to tell" and "tells that story in a very accomplished manner." Sarkar writes that Rabinowitz "demonstrates the rare ability to engage with contemporary policy debates" on one hand and to "successfully utilize qualitative analytical frameworks" on

the other. Both identify shortcomings. Kampani finds the book's theoretical sections confusing and unhelpful. He also believes Rabinowitz may actually undersell the importance of her findings. Preventing testing, Kampani points out, dramatically increased the barriers and timeline to successful weaponization by the new proliferants. Sarkar takes exception to aspects of Rabinowitz's interpretation of U.S. nuclear nonproliferation policy towards India. Both, however, recognize that *Bargaining on Nuclear Tests* demands that we reassess how the United States constructed its nonproliferation policy in the understudied but important period after a state acquired the bomb, and see the book as a timely and welcome addition to the burgeoning renaissance in nuclear studies.

Participants

Dr. Or (Ori) Rabinowitz, an Israeli Chevening scholar, is a lecturer at the International Relations Department of the Hebrew University of Jerusalem. Her book '*Bargaining on Nuclear Tests*' was published in April 2014 by Oxford University Press; a co-authored article with Nicholas L. Miller titled '*Keeping the Bombs in the Basement*' is forthcoming in *International Security*, summer 2015 (Vol. 40, No. 1). Rabinowitz holds a PhD awarded by the War Studies Department of King's College London, an MA in Security Studies and an LLB in Law, both from Tel-Aviv University. Before turning to academia she worked as a news desk editor in several Israeli media outlets.

Francis J. Gavin is the Frank Stanton Chair in Nuclear Security Policy at MIT. He is the author of *Nuclear Statecraft: History and Strategy in America's Atomic Age* and *Gold, Dollars, and Power: The Politics of International Monetary Relations, 1958-1971*.

Gaurav Kampani is an Assistant Professor of Political Science at the University of Tulsa. He is also a Senior Non-Resident Fellow at the Atlantic Council's South Asia Center. During 2013-14, Kampani was a Post-Doctoral Transatlantic Fellow in International Relations & Security at the Norwegian Institute of Defence Studies in Oslo. Between 1998 and 2005, Kampani was a Senior Research Associate at the James Martin Center for Nonproliferation Studies, Monterey CA. During 2010-2011, he was a Stanton Nuclear Security Fellow at Stanford University's Center for International Security & Cooperation. Kampani's research interests cover international security and focus on the relationship between domestic institutions and strategic policy, military strategy, operations planning, and weapons development. His teaching spans world politics, the global commons, US foreign and national security policy, and South Asia.

Jayita Sarkar is a Postdoctoral Research Fellow with the International Security Program and the Project on Managing the Atom at Harvard Kennedy School's Belfer Center for Science and International Affairs, where she was formerly a Stanton Nuclear Security Fellow. Concurrently, she is a visiting scholar at Columbia University's Saltzman Institute of War and Peace Studies.

Review by Gaurav Kampani, The University of Tulsa

In 2005, the United States struck a formal deal with India under the terms of which it accepted India as a de facto nuclear weapon power. The Indo-U.S. nuclear deal, as it has since become known, drew howls of protest from the nonproliferation community in the U.S. and abroad as not only a violation of the United States' three decades-old nonproliferation commitments but also because it allegedly marked an exception to the original exception. The original exception and the alleged sin in U.S. nonproliferation policy was the famous Nixon-Meir deal in 1969 under which the U.S. tacitly accepted Israel's nuclear status as long as Israel maintained nuclear ambiguity. The difference between the Indian exception and the one with Israel, many pointed out, was that the U.S. undertook the very public and painstaking process of rewriting its domestic laws to allow nuclear trade with India outside the nuclear nonproliferation treaty (NPT) process.

The reality, however, as Rabinowitz's book on the United States' negotiating history with Israel, India, South Africa, and Pakistan spells out in superb detail, is far more complex. The United States, it turns out, did not just make a nuclear deal with Israel in the immediate aftermath of the NPT and then with India three decades later. It turns out that the U.S. made deals with all the aforementioned second-generation proliferators (SGP) right through the duration of the Cold War and beyond. The contexts varied, as did the bargains struck with each of these powers. Some agreements were formal, others informal. Some were made in writing. Others were made in the form of verbal commitments and assurances. The obligations that each SPG agreed to undertake also differed. But the one common point of agreement in the case of Israel, South Africa, and Pakistan was that the nuclear aspirants were not to visibly embarrass the United States through the conducting of visible and instrumented hot nuclear tests.

Beneath the hot-test threshold, as Rabinowitz shows in wonderful detail, the U.S. was willing to accept the reality of each power's nuclear aspirations. Fissile material production, the acquisition of equipment and components to build nuclear devices, and zero-yield tests to verify the reliability of devices, were all considered acceptable by various U.S. administrations from the time of Richard Nixon to Ronald Reagan. Using the case-study method and qualitative methods including archival, elite interviews, and secondary resources in Israel, Britain, and the U.S., Rabinowitz argues that U.S. leverage over the SGPs was limited. Furthermore, the U.S. was willing to compromise what little leverage it possessed in the pursuit of Cold-War goals. In this regard, Rabinowitz's research confirms many of the rumors, speculations, and truths spoken in hushed whispers in government lobbies, intelligence agencies, and strategic analyses publications since the late-1970s. It also seeks to demonstrate that the nonproliferation emperor's clothes were more tattered than anyone ever dared publicly to acknowledge.

In the case of Israel, even the Carter administration, which was more devoted than others to nonproliferation principles, willfully ignored compelling evidence of a possible low-yield nuclear weapon test in the South Atlantic. In other words, the U.S. tolerated an exception to the deal struck between Israeli Prime Minister Golda Meir and President Nixon. According to Rabinowitz, Israel likely tested not one, but possibly three devices. In Pakistan's case, the U.S. goal posts shifted after General Zia repeatedly violated commitments made to the U.S. concerning enrichment levels of uranium and the development of a nuclear device. When it became apparent that a hot test was unnecessary to develop simple first-generation nuclear devices, the U.S. rewrote its domestic laws and constructed fictions about Pakistan's non-possession of nuclear devices to keep American military and economic aid to Islamabad flowing. The same fiction was applied to India although there were no such aid linkages. In South Africa's case too, the U.S. thought it worthwhile to let Pretoria keep a small number of weapons as long as they possession was kept secret.

Apart from its wealth of archival and elite interview-based historical details, Rabinowitz's work aspires to make two broader contributions to the proliferation literature. First, it attempts to challenge the more widely accepted historical narrative that the U.S. as the lead enforcer of the NPT-treaty regime had a powerful dampening effect on the nuclear ambitions of the SGP. Second, it presents a new theoretical framework for analyzing U.S. policy behavior. Although useful, both are also deeply problematic. Rabinowitz's historical narrative itself underestimates the dampening effects of U.S. policy on vertical proliferation among SGPs. The theoretical framework, on the other hand, is self-contradictory and constitutes a poor fit for the evidence that drives the narrative of the book.

Documentary evidence from archives that Rabinowitz relies on does not truly capture the political pressure felt by the SGPs as successive U.S. administrations threatened, cajoled, denied, or quietly intervened to delay and stall their nuclear weapon programs. Consider for a moment that it took the first generation nuclear weapon powers an average of five months to transition from prototype devices to militarily usable weapons. In the case of the SGPs, with Israel's exception, the gap was four years for weaponized systems. These data tell us that the gap increased by nearly 900 percent in the fielding of weaponized systems. The threshold of hot testing is not simply the most visible proclamation of nuclear status, as Rabinowitz argues. Rather, it is a critical threshold for testing and proving sophisticated designs that go beyond first-generation weapons. Testing is also critical for miniaturizing weapons to fit a variety of delivery systems and verify overall systems reliability and safety. Rabinowitz reviews the four-decade long debate in the U.S. on a nuclear test ban treaty, but fails to address the link between testing and vertical proliferation among SGPs.

U.S. pressure and monitoring also achieved something else that Rabinowitz's book misses. . It forced the SGPs to operate under extreme secrecy, a condition that disrupted efficient coordinating, planning, and monitoring of the programs within the state. In other words, U.S.-induced secrecy injected institutional and organizational inefficiencies into the nuclear weapon programs of SGPs. More significant, the intense focus on stopping the SGPs at first-generation devices, and negotiations between the US and SGPs on the meaning of the possession of a nuclear device, changed the focus of the deterrent function of nuclear weapons in these cases. Among first generation proliferators (the U.S., USSR, UK, France, and China) the deterrent function rested on the military usability of nuclear weapons. In the case of the SGPs, with Israel's exception, deterrence became less military and more political. It has also become evident in retrospect that U.S. pressure and secrecy delayed the development of soft operational routines, the organizational and institutional routines that give states the capacity to use military systems instrumentally in war.

Beyond these omissions, it is the theory chapter in the book that leaves the reader most disappointed. It is odd, self-contradictory, and unpersuasive in explaining the empirical evidence. Rabinowitz argues that U.S. policy toward the SGPs is best explained through Bruce Cronin's theory of the "Paradox of Hegemony"¹ and Daniel Kahneman and Amos Tversky's "Prospect Theory."² Cronin's theory, very oddly, treats the project of hegemony in normative sociological terms and relegates the hard-power aspects of it to a superpower's regional power predilections. This is an extraordinary rendition of the most commonly accepted notions of

¹ Bruce Cronin, "The Paradox of Hegemony: America's Ambiguous Relationship with the U.N.," *European Journal of International Relations*, 7/1/1 (2001), 103-30.

² Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision Making," *Econometrica*, 47/2 (1979), 263-91.

hegemonic power in international relations that treat the hard and normative-institutional aspects of hegemonic power as imbricated with one another. In Rabinowitz's application, the United States' compromises with the SGPs reflect its decisions to accept the undermining of its global hegemony by not upholding the NPT in order to pursue its narrower regional interests. She then claims that the U.S. did not perceive the NPT as central to the stability of its global hegemony. Such contradictory theoretical pirouettes leave the reader befuddled.

And why would the U.S. have been willing to compromise on the NPT? Here Rabinowitz's deploys Prospect Theory without actually explaining the theory. She argues that leaders tend to favor the status quo. In the case of the SGPs, U.S. leaders framed the status quo as the existence of a group of NPT-non-signatory states that could and would do as they pleased unless checked. The NPT-sanctioned status quo would undermine the NPT itself as it could potentially push the SGPs over the edge into a paroxysm of testing. Hence the United States' attempt to halt them at the threshold of visible testing. Once again, this is a curious interpretation of the observed phenomenon. The common understanding is that the NPT represented the status quo of allowing no more nuclear weapon powers. With the exception of Israel, which very likely was a nuclear weapon power at the time the NPT came into existence, India, Pakistan, and South Africa were not. Their non-nuclear existence was the status quo and the U.S. struggled to keep it that way except when successive administrations did not really care for nonproliferation norms or when geostrategic interests interfered. Weak enforcement of the regime by the United States became the reason for the threats to the status quo represented by the regime and not the other way around.

However, the weak theoretical framing of book in no way undermines the fact that Rabinowitz has a great story to tell and that she tells that story in a very accomplished manner. For everyone interested in proliferation histories of the SGPs, how the U.S. negotiated with those powers in private, and the potential implications of this past negotiating record on the nuclear futures of North Korea, Iran, or any other nuclear wannabe state on the horizon, Rabinowitz's work is essential reading.

Review by Jayita Sarkar, Harvard University

In *Bargaining on Nuclear Tests* the historian Or Rabinowitz demonstrates the rare ability to engage with contemporary policy debates on nuclear proliferation and U.S. nonproliferation strategies on the one hand, and successfully utilize qualitative analytical frameworks in social science like prospect theory (19) on the other. The monograph, based on the author's doctoral dissertation completed at King's College London, examines key periods in Israeli, South African and Pakistani nuclear trajectories, when the United States concluded agreements — implicit or explicit— with each of these states to either contain the progress of their nuclear weapons programs, or underplay their advancement. Additionally, Rabinowitz dedicates a chapter to India's nuclear program, where she underlines the lack of leverage experienced by Washington towards New Delhi — a non-ally, non-adversary— in the Cold War. She does a remarkable job at framing her cases, namely, Israel, South Africa, Pakistan, and India, within the context of East-West bloc rivalry in the global Cold War. *Bargaining on Nuclear Tests* aptly demonstrates how U.S. nonproliferation policy has been a negotiated reality vis-à-vis Washington's larger foreign policy priorities throughout the Cold War.

The core question that guides Rabinowitz's inquiry is how the United States reacted to the possibility of nuclear testing by the four proliferators (4). In doing so, the author's research underlines the sanctity of the nuclear explosion as the litmus test of successful proliferation, and hence the focus of concerted U.S. nonproliferation efforts. She accomplishes this by exploring how the test ban debate evolved over time within the United States in the post-war years through the Cold War until President Bill Clinton's era, and also examining Washington's strategies to prevent nuclear testing by the four second generation proliferators (SGP).

According to Rabinowitz, the deals struck in 1969 between President Richard Nixon and Israeli Prime Minister Golda Meir, in 1981 between President Ronald Reagan and South African Foreign Minister Pik Botha, and in 1981 during the Reagan administration to prevent a 'hot test' by Pakistan (155), were motivated by Washington's aims to prevent international embarrassment from public knowledge of the proliferation activities of its Cold-War collaborators (202). Since Washington was unable to prevent nuclear weapons development by these countries, it mobilized diplomatic efforts to stall their efforts to conduct nuclear tests. In the case of India — the diplomatically distant non-aligned country— the United States' access was limited, making it impossible to strike a similar secret agreement (204).

Bargaining on Nuclear Tests heralds a new body of proliferation literature that meticulously uses archival evidence to engage with questions of high importance to political scientists, policymakers, and Cold War historians. In the existing body of scholarship, the cases Rabinowitz has studied have been either examined as detailed historical single case studies or constitute a large N statistical data set.¹ While the former is rich in

¹ For detailed historical cases see, for instance, George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (Berkeley, Los Angeles, London: University of California Press, 1999), Feroz Hassan Khan, *Eating Grass: The Making of the Pakistani Bomb* (Stanford, CA: Stanford University Press, 2013), David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939-1956* (New Haven, CT: Yale University Press, 1994), Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998), and *Worst-Kept Secret: Israel's Bargain with the Bomb* (New York: Columbia University Press, 2010). For political science studies based on large N analysis see, among others, Matthew Kroenig, *Exporting the Bomb: Technology Transfer and the Spread of Nuclear Weapons* (Ithaca, NY and London:

descriptive details, and adept at microanalysis, the latter, by studying a vast number of countries, is capable of making more convincing claims of policy-relevance.² Rabinowitz's monograph deftly does both, which, to my understanding, is her greatest contribution to the current state of literature.³

Spanning 230 pages, *Bargaining on Nuclear Tests* whets our appetite for knowledge but leaves some key questions unanswered. For instance, did Washington adopt other measures on the supply side to prevent nuclear testing by the SGPs? If so, what were those? If not, why did it not? Why did the United States wait so long to react to the SGP's nuclear weapons programs? Did the fact that three of these four countries were U.S. Cold War collaborators also play a role in the delay in U.S. reaction? More importantly, can secret deals to prevent nuclear testing (without nuclear reversals) be considered evidence of effective U.S. nonproliferation policy?

Moreover, Rabinowitz's argument that by the 1960s the United States was not concerned about India's nuclear weapons development (169) is not entirely correct. From at least early 1964, when the plutonium-reprocessing plant in Trombay began its operations, the Johnson administration was deeply concerned about the possibility of an Indian nuclear weapons development.⁴ What Washington lacked was leverage towards a country that was neither an adversary nor a friend. In addition, the author argues that "India was never a strategic threat" (204) to the United States during the Cold War, which is a contestable statement. Prior to the Sino-U.S. rapprochement, the United States wanted to enlist India's support in containing the People's Republic of China, together with Japan.⁵ While such American efforts were thwarted owing to India's postcolonial worldview and its policy of nonalignment, it did not automatically make possible Indian nuclear

Cornell University Press, 2010), Matthew Fuhrmann, *Atomic Assistance: How "Atoms for Peace" Programs Cause Nuclear Insecurity*, Cornell Studies in Security Affairs (Ithaca: Cornell University Press, 2012).

² Political scientists like Vipin Narang have demonstrated that it is possible to do both through multi-method research that combines both qualitative and quantitative methods. See Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict*, Princeton Studies in International History and Politics (Princeton: Princeton University Press, 2014).

³ Some political scientists are increasingly using history to investigate policy-relevant questions related to nuclear proliferation. See, among others, Malfrid-Braut Hegghammer, "Revisiting Osirak: Preventive Attacks and Nuclear Proliferation Risks," *International Security* 36, no. 1 (2011). and Nicholas L. Miller, "Nuclear Dominoes: A Self-Defeating Prophecy?," *Security Studies* 23, no. 1 (2014).

⁴ Memo by George C. Denney, Jr., Bureau of Intelligence and Research, Department of State to Secretary of State Dean Rusk, 24 February 1964, NSF Robert Komer Files, Box 25, Lyndon Baines Johnson Presidential Library, Austin, TX (hereafter LBJL).

⁵ This was evident, for instance, in American attempts to recruit Indian support in blocking Chinese entry into the United Nations during the Johnson administration. In December 1964, US Secretary of State Dean Rusk suggested to Indian Foreign Minister Swaran Singh that if India could not vote against Chinese entry into the United Nations, it could at least abstain from voting. To this, the latter stated that the Indian Cabinet's decision in support of Chinese representation at the UN remains unchanged despite Beijing's nuclear test. See Memorandum of Conversation at the Secretary's Delegation to the Nineteenth Session of the United Nations General Assembly, New York, titled 'Chinese Communist Policies and the Chirep Issue', Part I of VI, 10 December 1964, NSF Files of Robert Komer, Box 23, LBJL.

proliferation a low strategic concern for Washington. In other words, from the point of view of causality, constrained clout in dealing with a country and hence limited success cannot translate into low priority.

To conclude, while Rabinowitz does not provide us with all the answers, she can be applauded for initiating a scholarly conversation on a significant subject matter for reasons outlined at the beginning of this review. Future research in history and political science will inform us further in this respect.

Author's Response by Or Rabinowitz, Hebrew University of Jerusalem

Before I begin discussing the points made by my colleagues Jayita Sarkar and Gaurav Kampani, I would like to extend my gratitude to both for accepting the task of reading and commenting on the book, and I would also like to thank Professor Frank Gavin for his perceptive introduction to the discussion. I found all the remarks challenging and insightful. Starting with Sarkar's review, I believe she raises some important questions which deserve further academic attention. Sarkar asks about other measures applied by Washington on the so called 'supply side' to prevent nuclear testing by the 'Second Generation Proliferators' (SGPs), and further research is needed to adequately address this issue.¹ Preliminary research indicates that significant developments which were not included in this study had a deep impact on the behavior of the SGP's in the 1970s and the 1980s, and these include the establishment of the Nuclear Suppliers Group (NSG) in 1975 and the decision by the Ford administration, followed by the Carter administration, to limit nuclear exports to states that did not adhere to Non Proliferation Treaty related (NPT) safeguards.

On Sarkar's point relating to how the Johnson administration viewed India's nuclear program I am inclined to accept her argument that the administration was "concerned about the possibility of an Indian nuclear weapons development" in a way that is lost by my broad-brush generalization of the 1960s. I agree with Sarkar that the fact that President Lyndon Johnson did not focus his efforts on preventing India's progress does not mean that his administration was not concerned with India's nuclear program in the first place; rather this policy decision has more to do with an acknowledged lack of American leverage combined with the view that the Indians were likely to join the NPT upon its completion (172).

Sarkar contests my argument that "India was never a strategic threat" during the examined decades and we remain in disagreement over this point. I maintain that while Washington certainly did not support the development of an Indian nuclear weapons program, and clearly realized that it had very limited leverage over it, a potential Indian arsenal was not seen in Washington as a 'strategic threat' in the classical Cold War sense of the term, i.e. an arsenal like the Soviet arsenal, possessed by an enemy who might consider using it against American targets or in order to deter an American attack. The Indian program was never seen in such away. One quotation which underscores this notion comes from a State Department assessment from 1972 which complained about the "relatively modest priority" given to collecting intelligence on India's program (174).

My colleague Gaurav Kampani also raises some important challenges to the study's historical narrative. Kampani argues in his review that the narrative "underestimates the dampening effects of U.S. policy on vertical proliferation among SGPs" and that the cited documents do not "truly capture the political pressure felt by the SGPs." Kampani explains that this American pressure forced the SGP's to "operate under extreme secrecy" which disrupted their ability to weaponize efficiently, and this intense American attention, according to Kampani, caused India, Pakistan, and South Africa to design their deterrence posture to be "less military and more political," a fact he believes is not adequately observed in the book. Kampani writes that the

¹ Matthew Kroenig and Matthew Fuhrmann are two researchers who have focused on analysing some supply side aspects. See Matthew Kroenig, "Exporting the Bomb: Why States Provide Sensitive Nuclear Assistance," *American Political Science Review*, Vol. 103, No. 1 (February 2009):113–133, and Matthew Fuhrmann, "Spreading Temptation, Proliferation and Peaceful Nuclear Cooperation Agreements," *International Security*, Vol. 34, No. 1 (Summer 2009): 7–41.

narrative overlooks the fact that this very long delay in the weaponization process prevented these SGP's from building the capacity "to use military systems instrumentally in war."

I partially agree with Kampani's point about the documents not being able to "truly capture the political pressure" sustained by the SGPs. This essentially reflects the limits of archival research. Documents, especially diplomatic documents which are often the center of such studies, seldom convey the true depth of the psychological pressure and internal conflict impacting decision-makers tasked with deciding the fate of a project such as a state's nuclear weapons program. In the Israeli case, for example, the on-going debate on the merits of developing a nuclear program during Israel's first two decades of independence was heavily influenced by the psychological trauma instigated by the Holocaust.² These shadows lurked about the program, but they were not, for the most part, visible in the documents which recorded the discussions the Israelis had with the Americans on arms trade or the fate of the Dimona inspections. Nonetheless, they were certainly there. Similarly, the cited documents on the other three programs shed some light into the extent of the political pressure applied by Washington, but they do not reflect exactly how this pressure was perceived by the leaders and how it affected them.³ Academic attempts to fill this gap are by nature not bulletproof; new research will ultimately fine-tune any existing account, but it is important to offer based contributions.

I find myself in disagreement with Kampani's other points.

The empirical chapters of the book describe how, under enduring American pressure, the SGP programs developed clandestinely, with leaders always circling the question of whether they should or should not consider nuclear tests and how this would be perceived in the context of their relations with Washington. This is in fact the main premise of the book. The study did not set out to examine the effects of American nonproliferation policies and the establishment of the NPT regime on the pace and speed of SGP's nuclear progress. The focus of the study was to examine how nuclear tests were perceived by Washington, and, more specifically, how Washington pressured these actors not to test. The by-product of this sustained American pressure, under the framework of the changing nonproliferation landscape described in the book, was the long time it took for these SGP's to develop their capabilities. Kampani refers to the presence of an important 'dampening effect' brought about by American nonproliferation policies which he believes was overlooked in the narrative. I agree with him on the existence and the importance of the dampening effect, but I believe it is reflected in the scope of the analysis which details the protracted development undertaken by each of the proliferators.

Kampani argues that the study's narrative fails to describe how the constant American pressure caused India, Pakistan, and South Africa to design their deterrence posture to be "less military and more political." I believe that this is the entire point of the study. The changing nonproliferation landscape turned nuclear tests into

² See Avner Cohen's two book on the subject: Avner Cohen, *The Worst-Kept Secret: Israel's Bargain with the Bomb* (New York: Columbia University Press, 2010) and Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998).

³ For a discussion of psychological motivations to 'go nuclear' see Jacques E. C. Hymans, *The Psychology of Nuclear Proliferation: Identity, Emotions and Foreign Policy* (Cambridge, Mass.: Cambridge University Press, 2006). Additional discussion which touches on psychological factors is found in: Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* (Princeton: Princeton University Press, 2007).

political bargaining chips in the hands of these SGP's, and it also transformed these states' initially limited nuclear capabilities, and the sheer ability to conduct a test, into a political tool, a trend which was especially pronounced in the South African case. The book details how Israel's nuclear posture, combined with the 1974 Indian so-called 'Peaceful Nuclear Explosion' (PNE), caused a shift in how nuclear programs were perceived. Washington gradually came to realize that in the hands of a dedicated government, access to fissile material is almost as good as conducting a nuclear test. It could also just about be equated to the possession a first-generation bomb. This realization crystallized in the 1980s; in the South African case it was expressed in a 1984 assessment claiming that it 'leapfrogged the technological need to test' (123). In the Pakistani case it was clear to Washington by 1986 that "Pakistan's decade-long pursuit of nuclear weapons continues apace" despite attempts to slow it down (150) which were thwarted by an active Chinese counter-effort that allegedly included a possible Pakistani-hosted test in China (140).

As for the application of the theoretical part of the book, Kampani and I are in obvious disagreement over the validity of the explanation offered by the Paradox of hegemony and the relevance of interdisciplinary theories. One of Kampani's criticisms is that I claim that the "U.S. did not perceive the NPT as central to the stability of its global hegemony." This statement does not accurately reflect my argument: I maintain that different administrations held different views at different points of time on the merits of NPT.⁴ I do not claim that as a whole the "U.S. did not perceive the NPT as central to the stability of its global hegemony", rather I claim that this perception varied greatly between different points of time and different administrations. All administrations supported non-proliferation in general but were committed to promoting it and the NPT in different degrees. For example, while President Richard Nixon said that Japan should "take its time" before joining the treaty (34) President Jimmy Carter sustained the 1978 NNPA and adopted a relatively harsh line eventually banning nuclear fuel shipments to South Africa's Koeberg power plants (120).

To conclude, I found the reviews offered by my colleagues Jayita Sarkar and Gaurav Kampani thought provoking and important. Though we remain in disagreement over some of the points raised here, I fully agree with the notion that surfaces from both reviews that political pressure applied by Washington is instrumental to any attempt to limit nuclear weapons programs and proliferation in general in future cases.

⁴ Another study which focuses on these differences is Walton L. Brown "Presidential Leadership and U.S. Nonproliferation Policy," *Presidential Studies Quarterly*, Vol. 24, No. 3, Conduct of Foreign Policy (Summer, 1994) , 563-575. See also J. Michael Martinez, "The Carter Administration and the Evolution of American Nuclear Nonproliferation Policy, 1977-1981," *Journal of Policy History* 14, No. 3 (2002).