

Author's Response:
Of Theory, Method, and Policy Guideposts

Etel Solingen

I would like to thank all contributors for their insightful comments and am appreciative of the opportunity to clarify some points. To begin with, a restatement of the core argument of *Nuclear Logics* is in order. There are systematic differences in nuclear behavior between states whose leaders or ruling coalitions advocate integration in the global economy and those who reject it. The former seek to gain and maintain power through economic growth via engagement with the global economy; hence, they have incentives to avoid economic, political, reputational, and opportunity costs of acquiring nuclear weapons because such costs impair a domestic agenda favoring internationalization. By contrast, inward-looking leaders incur fewer of those costs because they rely on self-sufficiency, state and military entrepreneurship, and nationalism; they thus reject internationalization and have greater incentives to exploit nuclear weapons as tools in nationalist platforms of political competition. This insight, focusing on competing domestic models of political survival, may be applied to explain the differences between nuclear aspirants in East Asia and the Middle East over the past nearly four decades. East Asian leaders pivoted their domestic political control on economic performance via global integration, whereas leaders in the Middle East relied on inward-looking self-sufficiency, internal markets, and nationalist values. Their respective models created different incentives and constraints, which in turn influenced their preferences for or against nuclear weapons.

I am delighted that none of the reviews in this roundtable seem to dispute the very essence of these claims. Deepti Choubey's clear grasp of the core logic and subsidiary arguments is particularly reassuring. Christopher Ford's praise for the work's intellectual integrity, honesty, and modesty in not claiming a unified field theory of proliferation, given "staggeringly complex issues of causality in a complicated world," is especially generous. I welcome some of the qualifications raised by the reviews as they provide an opportunity to elucidate ancillary arguments developed in the book. I first

ETEL SOLINGEN is Professor of Political Science at the University of California, Irvine. Her book *Nuclear Logics* has been awarded the 2008 Woodrow Wilson Foundation Award for the best book on government, politics, or international affairs, granted by the American Political Science Association, and was co-recipient of the 2008 Robert L. Jervis and Paul W. Schroeder Best Book Award for the best book published on international history and politics, conferred by the International History and Politics Section of the American Political Science Association. She can be reached at <etel.solingen@uci.edu>.

address theoretical and methodological considerations and end with matters of prediction and policy.

Theory and Method

First, it is important to establish the book's precise claim regarding structural neorealist theory and balance of power as a determinant of nuclear choices. There are repeated references throughout the book to this theory's "valuable insights" (p. 27), "natural *prima facie* appeal," and ability to "explain some cases reasonably well" (p. 26, emphasis added); there are even references to balance of power as "more relevant than [domestic] political survival in some cases" (p. 18; see also pp. 53, 285). Indeed, to preempt facile readings, the importance of balance of power considerations is emphasized at the very outset (p. 6). At the same time, one of the book's leitmotifs is a warning against overestimation of some theories and underestimation of others. Nuclear outcomes are not the sole perfunctory reflection of international structure or balance of power (see, for example, p. 250); their commonly unquestioned acceptance as the driving force of all nuclear decisions is thus misguided (p. 27). This is particularly so in light of structural neorealism's non-trivial shortcomings: too many anomalies of insecure states forgoing nuclear weapons; an overwhelming majority of states renouncing nuclear weapons despite a world of presumed uncertainty, anarchy, and self-help; elastic and subjective definitions of self-help, vulnerability, and power itself; related concerns with neorealism's falsifiability; and the fact that nuclear umbrellas, though important in some cases, have been neither necessary nor sufficient for nuclear abstention worldwide. To reiterate, this point concerns the imperative to avoid structural determinism. A better understanding of nuclear behavior and outcomes requires theoretical recalibration and a closer examination of competing and complementary perspectives.

Second, theoretical recalibration also compels a proper differentiation between the specific difficulties posed by structural neorealism, in contrast to more sophisticated versions often labeled neoclassical realism. The latter can be entirely compatible with political survival arguments (p. 308n53), attentive to how domestic forces filter external pressures and incentives, including the role of alliances (see, for instance, pp. 21, 26, 52, 259, 301n6, 303n26, 308n53, 348n38). Indeed, *Nuclear Logics* is very attentive to the perception of existential security as an important consideration and a useful category in some cases (pp. 250–51), and includes extensive discussions of security dilemmas in each of the nine cases under study. A proper understanding of perceptions requires

a proper understanding of the factors influencing them and is quite different from putative automatic responses to balance of power that treat human agency as a black box. Deficiencies are mostly inherent in this crude form—a purely structural theory that suffers from indeterminacy, conjures up multiple possible outcomes, does not provide clear markers for likely behavior, cannot predict whether nuclear weapons enhance or undermine security, competes with alternative explanations even in its home court, fails to explain many cases easily or at high levels of confidence and parsimony, and is incomplete in explaining other cases.¹ A crucial Achilles' heel is this theory's inability to determine *a priori* what constitute structural threats or define consequential changes in balance of power, to establish thresholds triggering discontinuities in nuclear policy, or to measure these dynamics over time and across cases. Do threats derive from changes in relative capabilities, from rival states as abstract entities trapped in international anarchy, or from the way that particular regimes interpret and define those changes and capabilities? Do today's Iraqi leaders perceive Iran exactly as Saddam Hussein's regime did? Do today's Japanese leaders perceive an internationalizing China just as they perceived China under Mao's autarky, which entailed no trade or diplomatic relations between the two countries? As has been amply documented, crude neorealist theory leads to indeterminate predictions and invariably requires additional information unrelated to power balances.²

Third, neorealism's shortcomings are particularly significant when it comes to explaining nuclear behavior because they relate to the theory's performance in its home court—highest national security—where it should pass any test without difficulty and with flying colors. One should not need to go any further than structural power to understand nuclear outcomes; domestic politics presumably should not matter at all. Furthermore, there are strong incentives to portray decisions for or against nuclear weapons as dictated by power balances and “reasons of state,” considered more “legitimate”

¹ For assessments of *Nuclear Logics* both as the most comprehensive and systematic challenge to system-level imperatives and as a useful corrective to simplistic and overly mechanistic assumptions that overpredict nuclear proliferation, see William C. Potter and Gaukhar Mukhatzhanova, “Divining Nuclear Intentions: A Review Essay,” *International Security* 33, no. 1 (Summer 2008): 142; Jeffrey S. Lantis, “The Political Economy of Proliferation,” *International Studies Review* 10, no. 2 (2008): 351–53; Michael Vance, “Conflict, Security and Armed Forces,” *International Affairs* 84, no. 1 (January 2008): 152–53; and Ian Shields, “Where Are the Air Power Strategists,” *Air Power Review* 11, no.1 (Spring 2008): 1–5.

² See John Vasquez, *The Power of Power Politics: From Classical Realism to Neotraditionalism* (Cambridge: Cambridge University Press, 1998); Jeffrey W. Legro and Andrew Moravcsik, “Is Anybody Still a Realist?” *International Security* 24, no. 2 (Fall 1999): 5–55; Thomas C. Walker and Jeffrey S. Morton, “Re-Assessing the ‘Power of Power Politics’ Thesis: Is Realism Still Dominant?” *International Studies Review* 7, no. 2 (June 2005): 341–56; and Arthur Stein, “The Realist Peace and the Anomaly of War” (unpublished manuscript, 2005).

justifications than (ubiquitous) concerns with political survival. The available justificatory evidence tends to load the analytical dice in neorealism's favor. Given all those advantages, the inability to easily confirm the theory—even under the best circumstances—compels great caution. None of this deters statements such as those by Jing-dong Yuan, who asserts unequivocally that “as long as conflicts between states exist [and] military capabilities differ...there will be strong incentives to pursue nuclear weapons, especially for weaker states facing serious security threats.” But such statements fail to explain why the overwhelming majority of states—many of them weak, facing external conflict and military imbalances, and without external guarantees (including Vietnam, Singapore, Chile, Egypt, Jordan, and many, many others)—have not resorted to nuclear weapons. As Betts correctly argued, insecurity is not a sufficient condition for acquiring nuclear weapons; many insecure states have not.³ Ignoring such facts leads to analysis that in the past has consistently over-predicted nuclearization. Potter and Mukhatzhanova allude to this long-standing “discrepancy between the popular foreboding of ‘a nuclear armed crowd’ and the reality of an international arena largely devoid of nuclear weapons possessors.”⁴

Fourth, having analyzed conceptual and empirical problems with neorealism and other theories, *Nuclear Logics* also offers ways to improve their leverage. For instance, specifying a priori the precise underlying measures of relative power and thresholds that lead to nuclearization might avoid tautological circularity and *ex post facto* rationalizations (such as “state x went nuclear because of acute insecurity,” whereby the acuteness threshold is detected *a posteriori* by a nuclear test). Sharpening core concepts would help cast the argument in falsifiable terms and would enable more clearly stated testable propositions. Such improvements should include a better specification of when, how, and why hegemonic power (protection or threats) may or may not account for nuclear outcomes. Unalloyed neorealism, however, would continue to be wanting as a theory and as a basis for policy unless it can subsume systemic pressures under domestic models that translate such pressures into diverse outcomes.

Fifth, a careful reading of *Nuclear Logics* belies any imputations of reductionism, as if—aside from political survival—there are no other factors to consider. Such readings fail, as argued, to recognize frequent warnings

³ Richard K. Betts, “Universal Deterrence or Conceptual Collapse? Liberal Pessimism and Utopian Realism,” in *The Coming Crisis: Nuclear Proliferation, U.S. Interests, and Order*, ed. Victor A. Utgoff, (Cambridge: MIT Press, 2000), 51–86.

⁴ Potter and Mukhatzhanova, “Divining Nuclear Intentions,” 142.

against crude mono-causal analysis. The reader would quickly notice that the book's title is not *Nuclear Logic*, as if there is only one, but *Nuclear Logics* (in the plural), suggesting an effort to transcend deficiencies stemming from a singular concern with mechanical balances of power as drivers of nuclear choices. Indeed, the way in which variables interact is explicitly discussed throughout:

[domestic models of political survival] help explain why security dilemmas are sometimes seen as more (or less) intractable, why some states rank alliance higher than self-reliance but not others, why nuclear weapons programs surfaced where there was little need for them, and why such programs were obviated where one might have expected them. Balance of power as well as norms and institutions may be more relevant than political survival in some cases and not others, but, in the aggregate, complete explanations of nuclear behavior must include all relevant variables for particular cases, a consideration that guides the empirical chapters in this book. (p. 18; see also pp. 53, 285)

This leads to the book's crucial point—sometimes sorely missed—that the omission of domestic models as understudied sources of nuclear behavior has important implications:

A “missing” or “omitted” causal variable may lead to an overestimation of other causal variables, granting them too large an effect on the outcome while rendering at least some of their effects spurious....Without taking into account domestic political survival models, one may not properly understand nuclear behavior or estimate the actual effects of balance of power, international norms and institutions, or democracy. *Introducing a previously omitted variable does not imply that other variables are rendered irrelevant, but rather that we are better able to understand their relative impact on nuclear choices.* (pp. 17–18, emphasis added)

All these points are reflected in the nuanced analysis of East Asian cases. The chapter on Japan clearly notes that the compounded effect of the U.S.-Japan alliance, the Liberal Democratic Party's (LDP) model of political survival, the nuclear allergy, and institutional constraints made Japan's non-nuclear status virtually inevitable (overdetermined). Japan thus illustrates a case of equifinality, whereby many alternative causal paths led to the same outcome, making it harder for any single variable to claim unequivocal explanatory dominance. At the same time, the Yoshida Doctrine provided the glue that kept the anti-nuclear package together (p. 80). This is clearly different from mono-causal formulations that either domestic models or the alliance account for outcomes, as Yuan suggests. Insofar as *Nuclear Logics* is concerned, this either/or characterization is misplaced given repeated allusions

to the alliance as a critical component of the Yoshida model, not as an end in itself but as a means to enable concentration on economic growth through global access while avoiding militarization (p. 278). Prominent advocates of a denuclearized Japan could rely on the alliance to advance their position in domestic debates. The nuclear umbrella was thus integral to Japan's nuclear abstention, a decision ultimately forged amid the political and economic requirements, and institutional restraints, of a domestic landscape that trumped nuclearization. This landscape never yielded a strong Japanese demand for nuclear weapons that would have compelled U.S. denial. Ironically, Japan's critical nuclear decisions took place in the 1970s, at the alliance's lowest point, when dilemmas of U.S. credibility and commitment featured prominently in Japan's calculations. Indeed, Nixon and other officials at the time signaled forbearance and perhaps encouragement of Japan's nuclearization—episodes that had the potential of turning the alliance argument on its head by making the alliance a latent source for, rather than a barrier to, Japan's nuclearization. As Premier Sato amply understood—and declassified documents confirm—Japan's domestic landscape was a most effective containment wall.

South Korea bears the marks of stronger U.S. coercion. But here again, one can fully understand the effects of the U.S. alliance and coercion when taking into account Park Chung-hee's domestic survival model. The latter explains why alliance was chosen over autarkic *juche* (self-reliance) in the first place, with ensuing consequences for relative receptivity to external inducements, positive and negative (pp. 254, 279). As Reiss argues, Park aimed at ensuring political stability and economic growth.⁵ The two were symbiotic, leaving little room for nuclearization, which would have endangered growth, political stability, and access to global markets, capital, and technology; alienated domestic support; risked sharp economic decline; and isolated South Korea from the forces—whether regional or international, market or institutional—that underpinned this model. The alliance enabled the model's core objectives while providing protection to South Korea.

Threats to Taiwan could not be more explicitly acknowledged in *Nuclear Logics*, which characterizes the island as a quintessential case of security vulnerability. Taiwan has faced persistent threats of invasion by China, the shock of China's 1964 nuclear test, and general concern over U.S. defense commitments (pp. 103, 279). The book discusses both the considerable U.S. pressures to prevent Taiwan's nuclearization and the evidence of internal

⁵ Mitchell B. Reiss, *Without the Bomb: The Politics of Nuclear Nonproliferation* (New York: Columbia University Press, 1988), 95.

opposition to nuclear weapons within Taiwan (pp. 109–15). Given that such U.S. pressures to dissuade failed elsewhere, *Nuclear Logics* finds it compelling to delve into the domestic landscape that influenced Taiwan’s choice to comply where others stood firm. Joseph A. Yager, who described Taiwan’s activities as geared to produce a nuclear option rather than weapons, put it succinctly: “The unanswered question is, why did the ROC authorities yield so readily to U.S. demands?”⁶ Political survival arguments are uniquely suited to answer this question. The Kuomintang’s (KMT) favored model—which hinged on economic growth, prosperity, and domestic stability—explains widespread receptivity to U.S. demands and inducements. Nuclear weapons would have introduced massive stress at home, regionally, and worldwide, with negative consequences for growth and stability. KMT leaders sought to avoid those outcomes while mustering resources to defeat internal subversion; sustain foreign investment; secure access to preferential export markets, capital, and nuclear technology; and accumulate ample foreign reserves (via exports) to overcome international isolation (pp. 109–16, 279). Maintaining Taiwan’s economic miracle required nuclear restraint.

In sum, *Nuclear Logics* devotes ample attention to alliances, “which undeniably played significant roles” (p. 253), but also seeks to improve our understanding of why, when, and how alliances “work.” All motives of nuclear behavior are, in the end, filtered through the domestic politics within which decisions are made. The fact remains that in all three East Asian cases, indigenous nuclear weapons would have seriously undermined favored strategies of economic growth, international competitiveness, and global access. The choice for alliance itself was inherently related to the domestic models that favored it over other options, trumping internal demands for nuclear weapons and generating openness to U.S. inducements. The links between commitments to internationalizing models, alliance, and renunciation of expensive nuclear competitions are thick in these cases (pp. 253–54). Choubey accurately interprets these nuances when she argues that “the impact of extended nuclear deterrence on nonproliferation *may be overstated*” (emphasis added). I also agree with much of what Choubey has to say on the role of nuclear weapons and with her statement that “if U.S. allies reliant on the U.S. nuclear umbrella continue to value economic growth, international competitiveness, and global access, the prospects for moving

⁶ Joseph A. Yager, “Nuclear Supplies and the Policies of South Korea and Taiwan toward Nuclear Weapons,” in *The Nuclear Suppliers and Nonproliferation: International Policy Choices*, ed. Rodney W. Jones, Cesare Merlini, Joseph F. Pilat, and William C. Potter (Lexington: Lexington Books, 1985), 192.

toward truly de-emphasizing the role of nuclear weapons in national security policies improve.”⁷

The preceding points raise the crucial issue of how generalizable these three cases are. To what extent were they anomalous or typical among post-1968 nuclear aspirants? These were, after all, instances of best practices (alliances that actually worked, strong internationalizing models of political survival); they thus provide easy cases for alliance arguments, most likely to confirm such arguments (and hence not robust tests for this sort of argument). But were these modal or typical conditions for the universe of would-be nuclear proliferators? U.S. and Soviet commitments to North Korea, Pakistan, Iraq, and even France and Britain, among others, did not lead any of these countries to renounce nuclear weapons. Nor did the absence of superpower guarantees preclude decisions to reverse nuclear ambitions in Egypt, Libya, South Africa, Argentina, or Brazil, among others. Too many cases of denuclearization have little to do with successful hegemonic coercion or protection. This is an empirical observation amply discussed in *Nuclear Logics* rather than a policy prescription favoring or disapproving of security guarantees in any particular case. The point is that even the three East Asian cases suggest that the mechanisms of—and relative receptivity to—external persuasion and coercion can be understood only by probing into the domestic conditions that created acquiescence in these cases but not in others. As Waltz persuasively argues, “in the past half-century, no country has been able to prevent other countries from going nuclear if they were determined to do so.”⁸ The crucial issue is explaining where this determination comes from. North Korea enjoyed the war-tested protection of China and the Soviet Union, yet nurtured nuclear designs very early on, well before experiencing severe fears of abandonment brought on by the collapse of the Soviet Union. One cannot understand the insufficiency of alliance commitments in this case without dwelling on *juche*, the Kims’ autarkic model of political survival incepted in the 1950s.

Finally, the effects of the nonproliferation regime must be properly understood by taking stock of what we do know, what we do not know, and how we might add to our knowledge. First, it makes methodological sense to concentrate on the “second nuclear age” to understand nuclear behavior under

⁷ On the methodological inability to conclude that nuclear weapons crucially defined a fundamental stability, or that there would have been wars had such weapons not existed, see John Mueller, “The Essential Irrelevance of Nuclear Weapons: Stability in the Postwar World,” *International Security* 13, no. 2 (Fall 1988): 55–79.

⁸ Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: W.W. Norton, 2002), 38.

a common “world time” marked by the inception of the nonproliferation regime. This procedure facilitates a focus on nuclear decisions while holding constant a potentially important causal variable affecting states’ rational calculus of incentives and constraints. In other words, this concentration on the second nuclear age enables us to gauge variability in outcomes against a common international institutional order. Second, the extent to which that order can explain all or even most states’ nuclear decisions is an empirical, substantive, and as of yet unresolved matter (p. 262). My specific argument here is as follows:

- We do not yet have universal and systematic data regarding all states’ cost-benefit calculations for joining or complying with the nonproliferation regime. Such data, though hard to obtain, could help test theories advancing that the benefits from joining or complying with the Nuclear Non-Proliferation Treaty (NPT) exceeded the costs of negotiation and enforcement for each state. Such empirical evidence has simply not yet been collected for most states but could well end up confirming the theory’s expectations of this sort of nonproliferation regime institutionalist theory (see, for example, pp. 14, 30–31, 49, 266).
- However, for the nine cases examined in *Nuclear Logics*, few provided strong support for the nonproliferation regime as the main determinant for the renunciation of nuclear weapons. Though some cases seemed compatible with this understanding, it was residual or unnecessary in others (pp. 31, 262–67).
- For cases where the nonproliferation regime arguably played some role, the counterfactual must be examined. Had the regime not existed at the time, would Japan’s domestic politics have yielded a different decision? It took Japan seven years to ratify the NPT.
- Decisions favoring nuclear abstention could well have been logically prior to, not a consequence of, decisions to sign and ratify the NPT. The very conditions leading states to sign and ratify—though not always directly observable or measurable—could also explain subsequent compliance better than the nonproliferation regime itself, a methodological problem known as selection bias, which can overstate the effects of treaty obligations (pp. 31, 305).

Predictions and Policy

I appreciate Ford’s praise both for the book’s effort to contend with complex causality and for not offering inerrant criteria for predicting proliferation, particularly because the primary concern of *Nuclear Logics*

was with theory and history rather than predictions and policy. Even so, the concluding chapter—in the section “Will the Future Resemble the Past?”—does explore controlled scenarios stemming from different theoretical assumptions. The political survival framework yields four scenarios—two that would uphold the argument and two that would not. This provides ways for falsifying the book’s theory, identifying scope conditions under which the theory might or might not apply, and recognizing that even theories that do well explaining the past may not necessarily hold for all futures. The characterization of *Nuclear Logics* as optimistic misses the nuance and contingency of these scenarios, which consider the possibility that internationalizing leaders (1) miscalculate and overplay nationalist cards, (2) are replaced by inward-looking, protectionist coalitions more favorable to nuclearization, and (3) become casualties of global recessions and downward spirals, all of which could lead to nuclearization. As of 2008 these circumstances have acquired special relevance, but they were already introduced at the time of writing in 2006 (p. 288), when the global economy looked very different.

Ford correctly argues that the jury is still out on whether or not the theory will work for what he presumes will be a third nuclear age. Few if any social science theories work for eternity, but this one provides as good a guidepost as any available, including scope conditions for assessing its utility. The fact remains that different putative thresholds crossed by North Korea in the last couple of decades, including the 2006 nuclear test, have not led to reactive proliferation throughout the region. As Hughes has suggested on the pages of this journal, echoing some of the themes in *Nuclear Logics*, even a most conservative Japanese premier—Nobusuke Kishi’s grandson, Shinzo Abe—was “forced to clamp down on [the nuclear] debate as a result of increasing domestic criticism” from within the LDP, the LDP’s coalition partner New Komeito, the Democratic Party of Japan (DPJ), and increasingly negative international attention.⁹ Ford also rightly recognizes that *Nuclear Logics* is about harnessing recent theoretical developments to assess specific theories, a purpose made explicit from preface to conclusions. He seems persuaded by the book’s findings, stating that: (1) it is hard to disagree with the thrust of the book insofar as “these theories do indeed suffer from significant weaknesses”;

⁹ Christopher W. Hughes, “North Korea’s Nuclear Weapons: Implications for the Nuclear Ambitions of Japan, South Korea, and Taiwan,” *Asia Policy*, no. 3 (January 2007): 85. For an analysis of Japan’s nuclear developments since North Korea’s 2006 nuclear test, see Etel Solingen, “The Perils of Prediction: Japan’s Once and Future Nuclear Status,” in *Forecasting Nuclear Proliferation in the 21st Century: A Comparative Perspective*, ed. William C. Potter (unpublished manuscript, 2009).

(2) *Nuclear Logics* “persuasively explains why it is necessary to abandon assumptions regarding the homogeneity of state-security interests in favor of analyses that look to issues of regime security and survival, and to internal struggles between various domestic constituencies”; (3) the book’s “critiques of more commonplace theoretical models for explaining nuclear choices are quite valid”; and (4) its claims reveal “careful and rigorous analysis.”

Yet he also laments that *Nuclear Logics* is not a policy book focused on recommendations, finding this “somewhat frustrating...from a policymaker’s perspective,” and one can understand that. He would seem to prefer “an infallible guide” to state behavior (wouldn’t we all?), which neither this nor any other theory can provide. Balance of power—with competing injunctions emanating from the same structural-power landscape—could hardly provide infallible guidance. Consider the cacophony of options the book identifies for Japan in the 1960s under this theory’s rubric: “Japan should acquire nuclear weapons, should not acquire them, should rely on the U.S. nuclear umbrella, should not rely on it, should build extensive conventional capabilities as substitutes for nuclear weapons, could not rely on conventional deterrence, and so on” (p. 63). Are these easy clues for policy? Despite apparent simplicity, policy implications of purely structural theories are far less coherent than is often assumed. The emergence of a consensus in one direction or another is not a result of this theory’s infallibility; all options for guaranteeing state survival cannot be optimal at the same time, and if they were, how does one get chosen? The same open-endedness holds for South Korea, Taiwan, and other states. Last I checked, Taiwan not only was not building a nuclear arsenal but was deepening already very deep relations with China, its largest trading partner, through direct daily flights. Indeed, the indeterminacy of structural theories is also evident in disagreements over nuclear proliferation itself, with the diffusion of nuclear capabilities seen as stabilizing or highly destabilizing—depending on the eye of the beholder—leading to disparate advocacies of anything from *laissez faire* to military prevention as a tool of nuclear denial. Where one stands on this issue has little to do with the infallibility of any theory.

Probabilistic statements are as good as it gets in the social sciences, Ford’s frustration (and all of ours) notwithstanding. He further rightfully notes that even valuable theoretical insights will not “necessarily make current problems miraculously soluble with available policy tools.” This echoes the book’s caution that, even if powerful causal variables driving or discouraging proliferation could be identified, our limitations in manipulating and controlling these variables in a complex world, fertile

in unintended consequences, must be understood (p. 289). Furthermore, properly interpreting domestic models as filtering a wide-ranging set of domestic, regional, and global opportunities and constraints also requires tolerance for complexity. As Philip Tetlock's masterful treatise on expert political judgment and prediction suggests, parsimony can be the enemy of accuracy, a substantial liability in real-world forecasting.¹⁰ By contrast, identifying overstated causes, theoretical and ideological straightjackets, omitted variables, scope conditions, selection effects, and other limitations may provide a more solid foundation for crafting policy options than what Tetlock labels "snake oil" forecasting products. The analyst of nuclear proliferation must strike a balance between Occam's Razor and the Lorenz Attractor. The first offers hallucinations of simplicity; the latter burdens with images of chaos and unpredictability.

Even as a theory-bound effort, however, *Nuclear Logics* does not wholly shy away from policy recommendations—such as "policies that assume states as unified entities inexorably buffeted by changes in the balance of power, and that rely on coercion or inducements without considering domestic political landscapes, are less likely to succeed" (p. 290); military attacks "bring about...rallying-round-the-flag effects" (p. 290); and "widespread economic sanctions, indiscriminating blockades, and exclusion from membership in international institutions can sometimes help uncompromising leaders coalesce national opposition" (p. 291). Although domestic models may not capture all the correlates of nuclear preferences, they provide a systematic tool, a heuristic, a helpful shortcut, a discrete marker or rule-of-thumb for identifying competing motivations of leaders and constituencies in nuclear aspirant states. These models can explain why different domestic actors vary in their nuclear preferences, why nuclear policies within the same state may vary over time in tandem with the rough and tumble of domestic politics, and why different states vary in their commitments to increase information, transparency, and compliance with the nonproliferation regime. These premises help elaborate general prescriptive principles under the following rubrics: "rewarding natural constituencies of internationalizing models" (p. 293), "stripping autarkic or inward-looking regimes of the means to concentrate power" (p. 295), "crafting packages of sanctions and inducements that are sensitive to differences between energy-rich and

¹⁰ Philip E. Tetlock, *Expert Political Judgment: How Good Is It? How Can We Know?* (Princeton: Princeton University Press, 2005).

energy-poor targets” (p. 296), and “using democracy—where available—as an ally of denuclearization” (p. 297).¹¹

All these principles require far stronger coordinating and enforcement efforts by major powers, international institutions, and NGOs (pp. 30, 124, 264–65), as Choubey and Ford rightly emphasize. Stemming from their legitimate differences and distinct legal positions, the two disagree on policy implications related to Article VI of the NPT. Ford is disappointed with the characterization of “lack of progress” on Article VI and absence of full compliance in reducing nuclear arsenals. Though not a focal point of the book but in line with its core argument, I find that the failure of nuclear weapons states to make adequate progress on Article VI, a contractual obligation under the NPT, may indeed not be the main driver of nuclearization. Yet this failure both provides inward-looking proponents of such weapons worldwide with added pretexts and weakens domestic constituencies receptive to denuclearization and internationalization (p. 299). Finally, Ford proposes that internationalizing opponents of nuclear weapons must also pay the price of isolation when their inward-looking state leaders fail to comply with nonproliferation commitments. However, as a blanket statement of policy this may be misguided if isolation strengthens the ruling pro-nuclear camp and decimates its opposition. Both positive and negative incentives must be part of an effectively crafted package that entices and empowers internationalizing constituencies at the expense of their opponents.

In sum, this is not a negligible set of recommendations for a theoretical book, and indeed Ford finds most of them “sensible, as far as they go.”¹² Yet so much more remains to be done. One logical next step, already under way, will seek to build on the lessons learned here in an effort to improve our understanding of how international positive and negative inducements work in nuclear proliferation. Stay tuned.

¹¹ For an early effort, see Etel Solingen, “The New Multilateralism and Nonproliferation: Bringing Domestic Politics In,” *Global Governance* 1, no. 2 (May–August 1995): 205–27.

¹² See also *PS: Political Science & Politics* 41, no. 4 (October 2008): 989–90.