



NARROWING THE GAP BETWEEN THE WORLDS OF NUCLEAR SCHOLARSHIP AND PRACTICE

Bringing the Academy Back In

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A striking contrast exists between the reinvigorated debate over the value of nuclear weapons taking place across international policy-making communities and the absence of intellectual fervor surrounding these issues within the academy. The excitement over exploring novel visions and practical steps toward nuclear disarmament exhibited by Cold War stalwarts and youthful policy denizens alike has mostly fallen on deaf ears within the mainstream study of war and peace. The seemingly tight fit between scholarship on nuclear strategy and the worlds of force modernization and diplomacy no longer exists, becoming even an object of scorn among many in both communities. Accordingly, it is common to lament the passing of the halcyon days of strategic studies and of a “lost generation” of nuclear security expertise. Unlike the past, when national interest and resources could be relied on to stir academics out of their “ivory tower,” there seems to be an air of resignation that the gulf will inevitably widen, rendering each community shamefully irrelevant to the other.

Is bridging the gap between the academy and policy-making communities on nuclear security matters simply a “bridge too far?” Are we doomed to a fundamental parting of the ways, just when the opportunity to make unprecedented headway toward nuclear disarmament and nonproliferation seems so ripe?

Answers to these questions are neither obvious nor predetermined. The record to date certainly is not encouraging. Yet there is room for cautious optimism about forging greater complementarity between the study and practice of nuclear-related issues. Notwithstanding fundamental differences in professional purpose, incentives, and ethos, both communities are undergoing transformation that creates windows of opportunity for mutual advancement. The challenge, however, rests with cultivating points of convergence and reciprocal exchange, while resisting urges to “reinvent the wheel” with hybrid programs. Rather than chide the academy for its disciplinary parochialism and esoteric musings, or scoff at the “inside-the-box” mentality of policy wonks, members of both communities need to appreciate that the uncertainty of the contemporary nuclear landscape offers a propitious moment to deepen and broaden critical approaches for redressing real world problems.

Back to the Future?

The divide between scholarship and policy making on nuclear-related issues is both unfortunate and long-standing. As noted by others, theory and policy ultimately can be mutually reinforcing, with scholarship guiding practice and policy inspiring new directions for theoretical development.¹ Yet harmony has been far from the norm. Though it is tempting to wax fondly about a golden age when teaching and scholarship from the diverse fields of math, physics, economics, and political science readily permeated the walls and thinking in government and policy analysis, it is easy to lose sight of persistent tensions. Theories of deterrence and strategic stability were neither monolithic nor readily translated into coherent nuclear strategies, doctrines, force postures, targeting policies, or negotiating positions for the United States or any other nuclear weapon state. With the ascendance of deductive reasoning and the marginalization of area studies in political science, scholars had become preoccupied with developing abstract “structural” explanations for nuclear strategy and proliferation. The focus turned to discerning general patterns in the demand and consequences of nuclear acquisition, at the expense of informing practical choices among nuclear policy dilemmas or detailing the various processes of diffusion in manners accessible to decision makers.

What is new, however, is how conspicuous the gap between respective discourses has become. One the one hand, calls for radically reducing nuclear weapons and for contending with proliferation “tipping points” are reaching a crescendo among policy makers and nongovernmental analysts. There is demand for enhancing practical, contextual, and interdisciplinary training (what some call “new nuclear science”) to tackle “real world” problems coming from within the nuclear weapons complex, stoked as much by fears of tectonic shifts in the landscape as by opportunity.² One the other hand, scholars are becoming more and more insular, content to test well-oiled but arcane and increasingly statistical methodologies that often produce findings that are neither counterintuitive nor easily distilled into policy. Policy relevance is simply a residual category for top-notch academic research. Nuclear issues must vie with other burning security-related challenges—such as non-traditional warfare, cyber security, energy/environmental security, ethnic conflict, global terrorism, military transformation—to capture the research interests of new scholars and attention at professional conferences. Moreover, much of the scholarship in leading academic publications tends to buck the trend in policy circles by continuing to equate deterrence with strategic stability and by fixating on explaining why there has been so little, not so much, nuclear proliferation among state and non-state actors. The upshot is that the study of nuclear-related issues no longer commands the scholarly respect or interest once enjoyed during the Cold War, with a footprint confined to a few “boutique” programs at public policy institutions and centers.

¹ Stephen M. Walt, “The Relationship Between Theory and Policy in International Relations,” *Annual Review of Political Science* 8 (2005), pp. 23–48.

² James E. Doyle, “Nuclear Security as a Multidisciplinary Field of Study,” paper presented at Eighth International Conference on Facility Operation-Safeguards Interface, March 30–April 4, 2008, Portland, Oregon.

Knowledge Generation vs. Application

It is common to attribute the gap between the worlds of scholarship and practice to institutional artifacts imposed by a rarefied university setting. In most mainstream social science departments at Research I universities, for example, faculty members are not directly rewarded for focusing their teaching and writing on policy-relevant issues, including topics related to nuclear strategy and nonproliferation that are critically important to international and national security. Rather, promotion and tenure decisions turn heavily on peer assessments of the methodological and analytical rigor of scholarly research, as judged primarily from publications in a narrow band of jargon-laden professional outlets dedicated to each discipline. Similarly, there is tension between scholarship and education on the commercial and weapons sides of nuclear engineering programs that is exacerbated by classification and export control regulations imposed by government sponsors. These well-known institutional barriers precipitate disciplinary and professional myopia among academics working at the cutting edges of respective fields.³

Yet, the current state of affairs is not simply a function of disinterest or bureaucratic issues on the campus. Blame can be shared, of course, as there are conspicuous barriers to entry for reflective and innovative ideas imposed by various governmental and nongovernmental professional settings. These issues notwithstanding, the “disconnect” between policy and theory is emblematic of a structural challenge related to differences between knowledge generation and knowledge application.⁴ In short, the disciplinary structures that we see in the academy are mostly driven by focus on knowledge production. What excites social scientists are the “why” questions; the quest to explain root causes of recurrent patterns of strategic behavior. Historically, if we look at research universities, we see that when faced with complex problems, there is an impulse to become more disciplinary. The focus is on getting “back to basics,” with greater demand for specialized knowledge to account for general behavioral patterns. This contrasts starkly with the policy community’s preoccupation with “how” questions and grappling with the processes that directly guide the formulation and implementation of specific policies. For this task, the premium is usually placed on diagnosing and anticipating discrete problems and processes and overcoming practical challenges with actionable responses that bring different expertise and instruments to bear.

Although knowledge generation and application enterprises are distinct and fuel professional parochialism, they are inextricably linked. Notwithstanding weak professional links between the policy and scholarly communities, each needs the other, especially when neither can claim a monopoly on the truth amid the uncertainty imposed by transformation. This predicament is especially apropos to the contemporary nuclear security predicament, where we seem to be at the beginning of wisdom. Policy makers and scholars alike are flying blind, as bedrock concepts and the practical relevance of deterrence and traditional arms control mechanisms are in flux. What are the visions of a zero-nuclear world and how do we get there? What should stability

³ Walt, “The Relationship Between Theory and Policy in International Relations.”

⁴ Robert Frodeman and Carl Mitcham, “New Directions in Interdisciplinarity: Broad, Deep, and Critical,” *Bulletin of Science, Technology, and Society* 27 (December 2007), pp. 506–14.

look like, absent nuclear weapons? What are the modalities of “base camps” of stability, as we venture into uncharted territory with substantive advances toward disarmament? How do we think about stability, where there are new players and technologies, and where deterrence itself becomes the object of change?

As summed up by Lawrence Freedman, there is a new strategic landscape that demands new theories.⁵ Accordingly, we find ourselves steeped in the quest for knowledge generation and application simultaneously. Consequently, there is both an intrinsic pull within the academy, as well as a practical demand for greater, rather than lesser, disciplinary inquiry. An important challenge, therefore, rests with stretching the boundaries of disciplinary research to accomplish both tasks at once. To the extent that the best and brightest on our campuses can be encouraged to treat policy-relevant nuclear-related research and teaching as more than a sideshow, it will necessitate seizing upon opportunities to think deeply, critically, and broadly about these issues in manners that complement the time-honored disciplinary orientation.

Windows of Opportunity

There are several factors that reinforce closer academic-policy interaction to redress contemporary nuclear issues. First, there is the changing strategic landscape. As noted above, the policy-making community, in particular, is looking for new ideas to inform transformative policies across the gamut of nuclear strategy, arms control, energy security, and nonproliferation. The fundamental uncertainty pervading these policy domains is widely acknowledged. As evidenced by calls for pragmatic reductions, “tailored” deterrence, and “cultural mapping,” there is renewed appreciation for nuanced, conditional, and comparative analyses rather than the search for simplistic or generic policy solutions. This is augmented by a generational turnover in government service, with growing awareness of the need for “new blood” across the nuclear establishment under even the most conservative scenarios for commercial expansion and weapons proliferation. Together, these factors accentuate the demand for and interest in acquiring new knowledge among those connected to the policy world.

The second impetus for change is the current financial crisis. Although California may be paying an undue price, across the country the financial downturn has created an opportunity for “creative destruction” at public and private universities. There is acute and unprecedented pressure coming from both academic administrations and outside funding sources for departments and programs to deliver more for less, generating strong incentives for faculty across disciplines and campuses to act entrepreneurially and synergistically. With fewer dollars to chase, scholars confront imperatives to reduce inefficient redundancies and leverage complementarities in partnership with other campuses and expert communities.

Contemporary theory construction in political science also is more conducive to bending stovepipes. It is becoming commonplace for scholars to rethink many basic principles and

⁵ Lawrence Freedman, “A New Theory for Nuclear Disarmament,” *Bulletin of the Atomic Scientists* (July/August 2009), pp. 14-30.

artificial assumptions—such as the meaning and role of hard versus soft power, rationality, expected utility maximization, risk-taking, non-state actors, personality, and emotion—in systematic explanations for international security challenges. Nuclear security issues no longer are examined in an analytical vacuum. Recent scholarship now highlights conditions that influence divergent policies and integrates both supply- and demand-side factors into models of (non)proliferation processes. There also are attempts to divorce concepts of deterrence from strategic stability and to draw comparatively on insights from illicit trafficking, forensics, international rule enforcement, network behavior, and “strategic signaling” from non-nuclear activities. All of these efforts stand to offer more realistic assessments that could generate non-trivial and tangible insights upon which to base new policies.

Still another conspicuous motivation for change comes from growing student interest in nuclear affairs. One of the issues that was not featured in the 2002 survey of nonproliferation education conducted by the Center for Nonproliferation Studies was student enrollment trends.⁶ Yet, casual observation suggests that enrollment in related undergraduate courses, including those dedicated to nonproliferation or nuclear security or that treat such issues as a component of the curriculum, has actually increased over the past several years. Students seem anxious to get into the field and to be driven less strictly by narrow focus on the pecuniary bottom line of post-graduation careers. The events of September 11, 2001 indeed may have contributed to a growing sense of civic duty and higher calling. These factors, along with others, potentially create new opportunities not only for closing the gap between the worlds of theory and policy but also for attracting a new generation into the field.

What Is to Be Done?

Although it is easy to think that more money would offer a panacea, what is really needed is to alter our sights for change. The goal does not need to be to overhaul the academy and put at risk positive elements, including the critical impulse for knowledge generation. Rather, a more realistic recommendation would be to win over important stakeholders from within respective disciplines. This could include cultivating a cohort of associate professors who have passed the tenure bar but who have an incentive to be entrepreneurial. Faculty at this level typically represent the bulwarks of new programs in departments and possess the professional standing and responsibilities for engaging both their colleagues and students. Similarly, more effort should be devoted to seeding the work of assistant professors approaching the tenure bar but who have completed their first work and are looking for a second project or beginning to think about their broader post-tenure footprint. In this respect, external sponsors could give more attention to fostering scholarly exchanges and virtual networks aimed at refining methodologies and developing common data sets used to tackle related nuclear security problems. Funding also could be directed at supporting qualitative research to flesh out the practical processes of (non)proliferation in significant case studies and at teasing out the implications for solving real world problems of general theories of nuclear strategy and arms reductions.

⁶ “Nonproliferation Education in the United States Part I: Undergraduate Education,” *Nonproliferation Review* 9 (Fall/Winter 2002), pp. 9–30.

On the pedagogical front, more effort should be placed on cross-disciplinary training. The challenge is to expose scholars from different disciplines to the comparative strengths of the others in a manner that would allow each to advance specialized careers (as opposed to converting engineers into policy wonks or vice versa). Here, the social sciences have a lot to offer. Rather than creating “one-off” hybrid learning experiences, there is much to be gained from making rigorous methods and approaches to addressing “why” questions more accessible to scientists, engineers, and policy scholars. The purpose here is to frame nuclear policy dilemmas and empirical puzzles in ways that are interesting to all those working in the field so that they can together analyze the strengths and weaknesses of alternative approaches. By creating such cross-disciplinary opportunities in the classroom, teams of engineers and social scientists can begin to forge a common dialogue for tackling real world problems on the nuclear agenda that could augur well for their subsequent professional interaction and networking.

In addition, external funding sources could place greater attention on fostering closer interaction between scholars in research universities and policy scholars in nongovernmental organizations. The latter constitute obvious bridge-builders between the worlds of policy and scholarship, as they directly serviced clients working on real world problems and generally have received strong academic training and draw on this scholarship to frame, diagnose, and predict policy behavior. Strengthening networks between younger generations of academics and policy scholars can help to promote a “two-way” flow of ideas, providing opportunities for policy scholars both to communicate the puzzles that hound contemporary policy challenges and to replenish their intellectual capital.

Finally, greater attention should be devoted to introducing a practical element into teaching. However, the burden here does not need to fall strictly on tenure-track faculty. There are many opportunities for engaging senior technical experts and others with policy experiences that can offer a practitioner’s perspective to augment the curricula otherwise provided by tenured faculty. As is well known, the national nuclear labs are experiencing transformation. There is a tremendous wealth of resources there that can be engaged via cooperative ventures with universities. In many ways, lab experts historically have been sensitive to the need to balance basic research and applied research. In the same vein, professional internships for undergraduates that are funded on campus, as well as off-campus and abroad, are crucial.

The bottom line is that more can and should be done. But rather than urging the academy to jettison its mission, mores, and incentives, those working in policy ought to embrace it. We need to take advantage of the opportunities to be creatively entrepreneurial to push the boundaries of this disciplinary orientation in search of “broad, deep, and critical” new thinking on issues that are atop the disarmament and nonproliferation agenda. This should pay great dividends, not only in terms of redressing short-term policy problems but also producing the knowledge necessary to advance the vision of and steps toward a world free of nuclear weapons.