Stanton Nuclear Security Fellows Seminar

PANEL 1: Crisis and Escalation

1. William Norris, CARNEGIE

Inadvertent Escalation in Asia: The Strategic Nuclear Dimensions of Air-Sea Battle

Objectives: According to publicly available documents, the operational concept of Air-Sea Battle (ASB) currently being developed as a US doctrinal response to anti-access/area denial (A2/AD) challenges neglects important nuclear aspects.[1] Pentagon policy makers and shapers of Air-Sea Battle tend to assume that nuclear deterrence will hold and have largely defined the nuclear elements of ASB as being "out of scope."[2] This study aims to explicitly examine the nuclear dimensions of the emerging US policy responses to the A2/AD challenges in East Asia. Specifically, this study seeks to evaluate the potential inadvertent escalation risks inherent in the contemporary East Asian security landscape.[3] This research seeks to answer the following questions. Should Air-Sea Battle prompt inadvertent escalation concerns? Why? What particular elements of Air-Sea Battle raise the greatest potential for inadvertent escalation? What is the causal logic driving these concerns?

Overview: As the Cold War was drawing to a close, Cornell Studies in Security Affairs published a book by MIT scholar Barry Posen entitled *Inadvertent Escalation: Conventional War and Nuclear Risks*. The book was primarily addressed to the balance of conventional forces in Europe and the propensity for

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[1] The 2012 Defense Strategic Guidance has highlighted A2/AD as a challenge that the US must overcome: "**Project Power Despite Anti-Access/Area Denial Challenges.** In order to credibly deter potential adversaries and to prevent them from achieving their objectives, the United States must maintain its ability to project power in areas in which our access and freedom to operate are challenged. In these areas, sophisticated adversaries will use asymmetric capabilities, to include electronic and cyber warfare, ballistic and cruise missiles, advanced air defenses, mining, and other methods, to complicate our operational calculus. States such as China and Iran will continue to pursue asymmetric means to counter our power projection capabilities, while the proliferation of sophisticated
weapons and technology will extend to non-state actors as well. *Accordingly, the U.S. military will invest as required to ensure its ability to operate effectively in anti-access and area denial (A2/AD) environments.* This will include implementing the Joint Operational Access Concept, sustaining our undersea capabilities, developing a new
stealth bomber, improving missile defenses, and continuing efforts to enhance the resiliency and effectiveness of critical space-based capabilities." Available at: http://www.defense.gov/news/defense_strategic_guidance.pdf [Italics and bolding in the original].

[2] "Attacks on each side's space early warning systems would have an immediate effect on strategic nuclear and escalation issues. However, this issue lies beyond the scope of this paper and is therefore not addressed here." Jan van Tol, Mark Gunzinger, Andrew F. Krepinevich, and Jim Thomas *AirSea Battle: A Point-of-Departure Operational Concept* (Center for Strategic and Budgetary Assessments May 18, 2010) FN 49, p. 34. There is no mention of nuclear considerations in *AIR- SEA BATTLE: Service Collaboration to Address Anti-Access & Area Denial Challenges* (Air-Sea Battle Office May 2013). "Because their focus is on conventional warfare, advocates of all three approaches [Air-Sea Battle, maritime denial and distant blockade] tend to ignore or downplay the role of nuclear weapons." Aaron Friedberg, *Beyond Air-Sea Battle: The Debate over US Military Strategy in Asia* (Adelphi Paper 54:444 May, 2014) p. 134.

[3] Posen defined inadvertent escalation as the "large-scale conventional operations that produce patterns of damage or threat to the major elements of a state's nuclear forces" that could lead to nuclear use. Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca, NY: Cornell University Press 1992) p. 3.

various types of conventional NATO/US conflicts with the Warsaw Pact/Soviet Union to escalate to the nuclear threshold.[4] The theoretical properties of the conventional-nuclear divide raised by Posen seem strikingly appropriate to re-examine in light of the emerging security dynamics in East Asia today.

Pentagon thinking about Air-Sea Battle (originally inspired by the Air-Land Battle ideas about how to fight the Fulda Gap in Cold War Europe) runs the risk of the same kind of blurring between conventional and nuclear operations.[5] Because much of China's nuclear command and control may also serve conventional functions, operational requirements for Air-Sea Battle (like incapacitating Chinese command and control assets—through cyber or kinetic means) risks inadvertently crossing into the nuclear realm.[6] Yet, for a variety of bureaucratic, budgetary, and political reasons, the Defense Department has largely assumed away the nuclear dimensions of this problem.[7] This project seeks to explore these nuclear elements to surface the drivers and conditions under which nuclear deterrence in the East Asian strategic context may risk breaking down. This theoretical lens will be primarily focused on US responses to China's growing A2/AD capabilities and the strategic dynamics surrounding possible US-China confrontation.

Based on Posen's theory and my own work on East Asian security, I have identified four specific causal mechanisms that I am investigating as a Stanton Nuclear Security Fellow. The first is the security dilemma. I suggest this property of international relations operates along two paths in this context. Before a conflict starts, the security dilemma prompts decision makers to interpret force deployments in a way that makes them look unduly threatening to nuclear capabilities.[8] Once the shooting has begun and an adversary loses dual use assets (assets that serve both conventional and nuclear missions) the security dilemma could cause the defender to assume the worst. The loss of these dual-use assets would likely be interpreted in their nuclear context (even if they were only targeted for their conventional value). Seeing one's nuclear capabilities diminished could pressure decision makers to escalate out of fear that escalation *has already occurred* and these strikes may simply be the first move

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[4] For instance, Posen traces how the US-Soviet interactive dynamics involving suppression of enemy air defenses (SEAD), "offensive" and "defensive" sea control, and the ambiguous role played by nuclear capable strike aircraft (among a host of other tactical and operational elements) could set in motion a Soviet decision to use nuclear weapons.

[5] A dedicated Office of Air-Sea Battle has been set up within the Pentagon to further develop the Air-Sea Battle Concept (which was on version 9.0 as of mid-May 2013). Apparently as of this summer, the Air-Sea battle Office was staffed with only eleven uniformed military officers and six contractors. "The Air-Sea Battle Office has just 17 staff: those eleven uniformed officers, drawn from all four services, plus six civilian contractors. None of them ranks higher than colonel or Navy captain. Even these personnel are technically 'on loan,' seconded from other organizations and paid for out of other budgets." From: Sydney J. Freedberg Jr., "Glimpse Inside Air-Sea Battle: Nukes, Cyber At Its Heart," Breakingdefense.com (July 9, 2013) available at: http://breakingdefense.com/2013/07/glimpse-inside-air-sea-battle-nukes-cyber-at-its-heart/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A%20BreakingDefense%20%28Breaking%20Defense%29

[6] For a detailed discussion of Air-Sea Battle see: Mark Gunzinger, Jan van Tol, Andrew Krepinevich, and Jim Thomas. *AirSea Battle: A Point-of-Departure Operational Concept*. (Washington, DC: Center for Strategic and Budgetary Assessments 2010). Available at http://www.csbaonline.org/publications/2010/05/airsea-battle-concept; for a sample of some of the subsequent debates about the merits of Air-Sea Battle see: Colby Elbridge, "Don't Sweat Airsea Battle," The National Interest, July 31, 2013; T.X. Hammes, "Sorry, Airsea Battle is No Strategy," The National Interest, August 7, 2013; Amitai Etzioni, "Who Authorized Preparations for War with China?" Yale Journal of International Affairs, (Summer 2013) pp. 37-51.

[7] September, 2014 conversation with Joint Staff Strategy and Plans military officer.

[8] For a twist on this logic see: Raoul Heinrichs, "America's Dangerous Battle Plan," The Diplomat, August 17, 2012, available at http://thediplomat.com/2011/08/17/america%E2%80%99s-dangerous-battle-plan/

of an effort to pre-emptively incapacitate one's nuclear forces. Such use-or-lose dynamics are especially pernicious with medium sized nuclear powers who may only possess questionable second strike survivability. This logic informs the first hypothesis:

H1: The security dilemma makes nuclear escalation in a potential US-China conflict more likely.

The second causal mechanism is what Clausewitz has termed the "Fog of War." In war, both sides experience an inevitable difficulty in understanding communications and intelligence about how the fight is proceeding. In addition to the causal logics discussed above, the security dilemma also exacerbates China's fears that the US would take advantage of China's imperfect information conditions. The ambiguity of real-time battlefield information forces policy makers to rely on prior assumptions and implicit or explicit causal logics. This is a natural human tendency to extrapolate under uncertainty. The security dilemma would be likely to interact with the "fog of war" to generate worst case assumptions. The "fog of war" also operates along its own discrete causal path making it difficult to understand how the other side interprets one's own actions. Similarly, the "fog of war" complicates one's ability to accurately perceive and interpret your opponent's actions. Both conditions feed fears of a pre-emptive nuclear first strike. Such fears are made even more pernicious given the growing perceptions of a distinct first mover advantage characterizing potential future conventional conflicts in East Asia.[9] Finally, the "fog of war" makes centralized control more difficult. The pressures of combat frequently require that decision making authority is devolved to local commanders who have a better grasp of the conditions on the ground.[10] These ideas underpin the second hypothesis:

H2: Clausewitz's "Fog of War" makes nuclear escalation in a potential US-China conflict more likely.

Another hypothesis that may influence the system's propensity toward inadvertent escalation is what Posen posits is a military's tendency to prefer offensive orientations. This preference impacts planning and contingency thinking. A military preference for offensive orientation might also filter how the opposing sides will process incoming information, interpret developments on the ground (or at sea, or in the air, as the case may be), and understand orders from above. Such biases may be particularly applicable in the maritime and aeronautical domains. These tendencies might be compounded by military planners' proclivities to assume the worst. For good reason, we ask our military to plan for worst case scenarios. This conservative tendency generates a systemic filter that is likely to interpret ambiguous developments in the worst possible light (just to be safe), furthering the potential for misinterpretation that may lead to escalation.

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[9] Domains in which the first mover is perceived to have a potentially decisive advantage include the nuclear realm but also encompass: space-based communications nodes, cyber attacks, etc. A significant portion of emerging Chinese A2/AD doctrine seems to indicate the strategic assumption of a first mover advantage. Worryingly, there was a strain of strategic logic that was driving the Japanese surprise attack on Pearl Harbor which bore similar characteristics. Such reasoning tends to stress that the weaker power could overcome the asymmetric capabilities between the two sides by striking first.

[10] Note that the conventional wisdom is that Chinese nuclear decision making resides squarely in Beijing at the level of the Central Military Commission (CMC). One of the areas I will explore is the extent to which China has built in decentralized authority and what (if any) strategic decision making has been devolved to the Military Region commanders (these individuals are China's equivalent of the US Combatant Commanders).

H3: A military organizational preference for the offensive makes nuclear escalation in a potential US-China conflict more likely.

The final causal mechanism suggests that there may be idiosyncratic characteristics of China's strategic situation operating to make inadvertent escalation a particularly vexing challenge. Although inadvertent escalation originated under a relatively stable bipolar Cold War paradigm in which two nuclear superpowers confronted each other, the theoretical dynamics driving inadvertent escalation may be even more pernicious when one of the powers believes it possesses only a brittle second strike capability. China has many fewer (and much less mobile/survivable) nuclear weapons than the USSR had. Also, China pervasively employs dual-use systems and platforms that are in some instances nuclear and other instances purely conventional. Often this distinction is not clear to outside observers. In addition to these characteristics, the US-China dyadic relationship may exhibit properties that make potential conflict escalation a problem. As China expands its military capabilities, conventional military encounters at sea or in the aerospace domain are becoming more commonplace. However, unlike in the late Cold War, there are very few "rules of the road" governing how these encounters are handled to ensure unintended incidences do not spark wider conflict. China has demonstrated a track record of cavalier behavior at the tactical level that has the propensity for national strategic ramifications.[11] Chinese strategic thinkers may also view nuclear weapons and nuclear options quite differently from what US strategic thinkers often see as universal, systemic properties and paradigms regarding deterrence. Finally, China has a suspect record of civilian control over its military, further increasing the possibility of a miscalculation or unintended escalation.[12]

H4: Characteristics specific to China make nuclear escalation in a potential US-China conflict more likely.

The null hypothesis for this project is that Air-Sea Battle doctrine as applied in the East Asian strategic context entails no inadvertent nuclear escalation danger. I expect to find that there are a number of specific, escalatory pathways that challenge the assumption that nuclear deterrence will hold. This research will examine these theoretical causal logics and compare them against the available evidence drawn from Air-Sea Battle doctrine, China's conventional and nuclear military modernization efforts, and likely East Asian conflict scenarios.

Research Design: This project is an out-of-sample, theory testing exercise that explores the extent to which Posen's theory of inadvertent escalation travels to the contemporary East Asian security domain. Although Posen's work was primarily focused on the propensity for various types of NATO/US conflicts with the Warsaw Pact/Soviet Union to escalate to the nuclear threshold, the theoretical properties of the conventional-nuclear divide raised by Posen seem strikingly appropriate to re-examine in light of the

[11] There have been a number of such incidences. Some of the more prominent ones included the January 2007 anti-satellite test in which China shot down one of its aging weather satellites, the ill-timed J-20 test flight in January 2011 during the visit of Secretary Gates to Beijing, the 2001 EP-3 plane collision, and *USN Impeccable*

[12] For example, the 1996 Taiwan strait crisis was largely driven by an aggressive PLA. Following the decision to crackdown on the protestors in Tiananmen Square, the 38th Army refused to mobilize against the protestors. Xi Jinping's creation of the Maritime Territorial Disputes Leading Small Group suggests an effort to recentralize and coordinate disparate bureaucratic equities involved in China's maritime claims. The ASAT test and J-20 test flight have also been noted as instances in which the civilian leadership may not have been fully in control of the Chinese military. At a minimum, these domestic civil-military dynamics seem to make avoiding escalation a much more complicated matter.

emerging security dynamics in East Asia. This research design employs net assessment to study the nuclear dimensions of likely air and sea littoral scenarios that would result from a US-China Air-Sea Battle conflict. To the extent possible, this project will also compare nuclear escalatory risks and the relative trade-offs among various ASB tactical and operational options. The result of this research will be a major research product which I hope to submit to a high-quality journal like International Security or a Carnegie monograph. If I find there is enough material to warrant a larger book project, my Stanton work would also form the foundation of a book manuscript on inadvertent escalation in East Asia.

Target Audience and Policy Contributions: There three types of target audiences for this work: 1.) DoD practitioners and policymakers like the service chiefs (particularly the Air Force and Navy), the Air-Sea Battle Office, the Office of the Secretary of Defense (particularly the policy planning staff), Strategic Command, and Pacific Command; 2.) the Chinese strategic nuclear policy and academic communities; 3.) non-DoD policymakers and strategists (e.g. NSC, State Department, Congress, and think tanks) as well as international relations/security studies scholars.

In addition to contributing to the academic literature on deterrence (particularly deterrence failure and escalation), this work also seeks to make three specific policy contributions. First, raise awareness of the nuclear aspects of Air-Sea Battle and operational doctrine currently being debated in the Pentagon. Second, bring academic theories and rigor to bear on potentially one of the most dangerous policy challenges facing the US in the 21st century. Third, act as a catalyst for generating creative solutions to the A2/AD problem that do not pose as great of a risk for nuclear escalation. These contributions will be primarily advanced via three channels at Carnegie: 1.) a monthly working group; 2.) academic and policy-oriented publications; 3.) personal interviews, briefings, and Track II/Track 1.5 meetings.

2. Caitlin Talmadge, CFR

Preventing Nuclear Escalation in Conventional Conflicts

Objectives

My project studies the risk of nuclear escalation in conventional conflict. The research will generate a theoretical framework for understanding this problem, drawing on both history and deductive logic; use that framework to analyze regional scenarios that pose dangers of potential nuclear escalation, particularly in East Asia; and produce policy-relevant recommendations on how to reduce the threat.

Overview

Conventional crises or wars between nuclear-armed states pose inherent risks of deliberate or accidental nuclear escalation. These dangers were acute in the second half of the Cold War, when the United States responded to the Soviets' decisive conventional advantage in Central Europe by adopting a strategy that threatened rapid escalation to the use of nuclear weapons.[1] Additionally, even the purely conventional operations envisioned by American strategists in this period raised serious risks of inadvertent nuclear escalation by the Soviets.[2]

Although this problem receded in the post-Cold War era, it is relevant once again. The United States' intended "pivot" or re-balancing to the Asia Pacific will bring U.S. conventional forces head to head with two nuclear-armed potential adversaries, China and North Korea. The possibility of Iranian nuclear proliferation presents a similar possibility in the Persian Gulf.

Unfortunately, U.S. policies conceived over the last 20 years for deterring and combatting conventionally weak opponents devoid of nuclear weapons may be inappropriate and outright dangerous in these contexts.[3] New operational concepts such as AirSea Battle, which emphasize preventive attacks on adversary command and control infrastructure and missile sites, may make the situation even more unstable, encouraging future opponents to intentionally or inadvertently escalate to nuclear use in response to U.S. conventional operations.[4] After all, unlike in the Cold War, the United

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[1] Richard Smoke, *War: Controlling Escalation* (Cambridge: Harvard University Press, 1977); Desmond Ball, *Can Nuclear War Be Controlled?* (London: IISS, 1981); and Ashton Carter, John Steinbruner, and Charles Zraket, eds., *Managing Nuclear Operations* (Washington, DC: Brookings, 1987).

[2] Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca: Cornell University Press, 1991).

[3] Keir Lieber and Daryl Press, "The New Era of Nuclear Weapons, Deterrence, and Conflict," *Strategic Studies Quarterly* (spring 2013), pp. 3-14; Keir Lieber and Daryl Press, "The Next Korean War," *Foreign Affairs*, April 1, 2013, available online; and David Ochmanek and Lowell H. Schwartz, *The Challenge of Nuclear-Armed Regional Adversaries* (Washington: RAND, 2008).

[4] On the concept, see General Norton Schwartz and Admiral Jonathan Greenert, "Air-Sea Battle: Promoting Stability in an Era of Uncertainty," *The American Interest*, February 20, 2012, available online; Jan Van Tol, *AirSea Battle: a Point-of-Departure Operational Concept* (Washington: The Center for Strategic and Budgetary Assessments, 2010); and Andrew Krepinevich, *Why AirSea Battle?* (Washington: The Center for Strategic and Budgetary Assessments, 2010). On possible dangers, see Joshua Rovner, "Changing Military Dynamics in East Asia," Policy Brief 12, Study of Innovation and Technology in China, January 2012; and Greg Jaffe, "U.S. Model for a Future War Fans Tensions with China and Inside Pentagon," *Washington Post*, August 1, 2012, available online.

States is now likely to be the conventionally superior power. Combined with technological developments that have changed important features of both conventional and nuclear weapons, the result may be a very different set of opportunities and challenges than those the United States experienced in Central Europe, even though the overall context is familiar.

My project will draw on history and deductive logic to develop a theoretical framework for understanding the overall relationship between conventional and nuclear warfighting. The framework will seek to identify how aspects of conventional technology, force posture, doctrine, and deterrence/warfighting strategies affect state decisions about nuclear technology, force posture, doctrine, and deterrence/warfighting strategies, and vice versa. For example, under what conditions do aspects of the conventional balance of power between two states create incentives for nuclear use or nuclear restraint? I seek to understand how these factors affect state choices in both peacetime and wartime—that is, both pre-crisis decisions (which sorts of weapons to build, where to deploy them, and how to write doctrine concerning their use) and intra-crisis decisions (choices within a given conflict about whether, when, and how to escalate to nuclear use).

The project will then apply this framework to understanding future U.S. interactions with three potential opponents: China, North Korea, and Iran. That said, I am most interested understanding the dynamics of U.S.-China interaction because I believe they are the most probable and consequential. As mentioned, China's growing conventional power, particularly its acquisition of more advanced anti-access, area-denial (A2/AD) technologies that could threaten U.S. freedom of action in the Western Pacific, have led the United States to adopt an emerging operational concept known as AirSea Battle. Although details about the concept remain somewhat murky, AirSea Battle appears to call for deep and early strikes on the Chinese mainland in the event of a crisis, in order to disable Chinese land-based missiles, long-range radars, command and control systems, satellites, and anti-satellite weapons.

Unfortunately, this type of rapid, preventive "blinding" attack in the early stages of a conventional crisis could raise the risk of Chinese nuclear use. China's no first use pledge is well known, but as U.S. conventional counterforce capabilities grow and China's own politics continue to evolve, the commitment to that posture could change. Furthermore, from China's perspective, it might be difficult to distinguish the opening salvos of a blinding attack in a conventional conflict from a U.S. attempt at a splendid first strike. This danger could be particularly acute given that China apparently couples its nuclear and conventional command and control systems, co-locates nuclear and conventional missiles, and possesses a relatively small arsenal. In short, U.S. conventional doctrine might create incentives for China to "use or lose" nuclear weapons in what begins as a purely conventional crisis.

It is unclear whether the United States has devoted serious thought to how it might credibly signal limited aims in such a scenario. U.S. war planners tend to focus on what scholars call "general deterrence"—that is, preventing the outbreak of crises in the first place—rather than on intra-war or intra-crisis deterrence, that is, efforts to deter an adversary from taking particular actions once a conflict has already begun. Yet U.S. pre-crisis behavior (its diplomacy, basing and forward deployment decisions, and other military signaling) and intra-crisis behavior (statements by political leaders and military

officers, targets chosen and targets held in reserve, and coordination with allies) all may have a role to play in creating incentives for Chinese restraint both before and during conflicts.

The analysis also may point to the need for the United States to fundamentally reshape its conventional and nuclear doctrines. Beyond the potential risks posed by AirSea Battle's conventional attacks, U.S. nuclear capabilities also could incentivize Chinese nuclear use in a conventional crisis. To the extent that the United States deliberately limited its own nuclear damage limitation capabilities, for example, it might be able to lessen Chinese incentives for nuclear escalation (although this would be very hard if China's arsenal remains as small as it is now).

Additionally, the analysis could point to stabilizing changes in Chinese force structure—changes that the United States might want to encourage. For example, China's nuclear arsenal currently consists of a small number of relatively vulnerable land-based missiles. To the extent that China accelerates development of its new Jin-class SSBN's armed with the JL-2 SLBM, its second strike capability could grow much more secure and its incentives to engage in nuclear escalation in the face of uncertainty about U.S. intentions in a crisis might diminish. However, the effects of this change in Chinese posture would depend on the balance of U.S.-China submarine warfare capabilities. Counter-intuitively, a sea-based Chinese nuclear capability could be destabilizing if U.S. attack submarines prove better at finding Chinese SSBNs than China is at hiding them. These are exactly the sorts of assessments that I hope my analysis can address.

The null hypothesis is that conventional warfare between nuclear-armed adversaries does not pose risks of nuclear escalation, or that if such risks exist, there is no way to mitigate them.

Research Design and Expected Final Product

The project is qualitative, relying on a mix of documentary and interview sources for its information. I will use both inductive and deductive reasoning to build my theoretical framework. Inductively, I seek to draw on two data-rich instances of conventional conflict between nuclear-armed adversaries: the United States and the Soviet Union during the second half of the Cold War, and India and Pakistan since their nuclear tests in 1998. The large secondary literatures on these pairs of states should provide a rich source of insights on how nuclear-armed states have managed (and mismanaged) the challenge of keeping conventional wars conventional. I intend to use a thorough knowledge of these past cases to identify the major factors relevant to future cases.

Naturally, though, the future is unlikely to be identical to the past, and for this reason I also intend to use deductive reasoning to help identify the factors that may make these past cases similar to or different from the scenarios likely to face the United States down the road. These might include factors such as geography, terrain, changes in technology, specific features of nuclear posture and doctrine in the relevant countries, the nature of relevant political relationships, civil-military relations, and the role of allies. Combined with the historical research, I expect the result to be a useful framework for identifying the most important variables that affect state decisions about nuclear use in the context of conventional crises or wars.

To apply the framework to current cases, I then intend to gather data on U.S., Chinese, and North Korean conventional and nuclear force postures and doctrines, much of which is available in the secondary literature. I also intend to interview senior U.S. military officials, most likely on the Joint Staff and at U.S. Pacific Command and U.S. Strategic Command, and civilian analysts in both Washington, DC, and the Asia Pacific (e.g., Seoul, Taipei, Tokyo, and Beijing). From this baseline I will explore how military and political decision-makers in the relevant countries are likely to behave in response to various conventional crisis scenarios, again through the use of interviews with current and most likely former officials.

At a minimum, I expect the above research to result in a peer-reviewed journal article, as well as related op-eds and/or shorter articles in highly visible policy-related outlets.

Target Audience and Contribution to the Policy Process

The findings should be of interest to both scholars and practitioners of international relations. For those in the academy, the project has the potential to reunite literatures on conventional and nuclear war that have grown disconnected since the end of the Cold War. For policymakers, the project brings history and theory to bear on issues of immense current relevance, particularly in the Asia Pacific. The resulting analysis should generate policy-relevant recommendations on U.S. conventional and nuclear force structure and doctrine, and on how U.S. diplomacy, military signaling, alliance relationships, and crisis behavior can work to reduce the likelihood of nuclear escalation in otherwise conventional crises. Consistent with my past practice, I aim to disseminate these results in both academic and policy settings.

3. Caroline Reilly Milne, RAND

The MAD Imperative? Perceptions of Mutual Vulnerability between the United States and China

Objectives: Reciprocal deployment of assured retaliatory capabilities by nuclear adversaries is a material condition that was first confronted by the United States and the Soviet Union during the Cold War. While this condition of "mutual vulnerability" is likely to have a recurring role in international politics, the existing literature does not offer conclusive expectations regarding the policy guidance that actors derive from this particular type of force balance.

[1] The following project will analyze a contemporary case of this phenomenon, illuminating the drivers behind and process by which the United States and China address the notion of mutual vulnerability, a potentiality made more salient by the increasingly secure and diverse Chinese strategic arsenal. The study seeks first to clarify the extent to which current U.S. and Chinese actors perceive the possession of secure second-strike capabilities by both states as reality and the array of resultant policy responses such actors advocate. These assessments will then be contrasted with a historical understanding of U.S. and Soviet appreciations of and responses to mutual vulnerability, and finally used to formulate potential steps that the United States and China can take to cope with the condition in ways most conducive to stability.

Overview: A key takeaway from the nuclear revolution stipulates that total military victory becomes impossible for two states equipped with secure second-strike forces because the capabilities cause a relationship of mutually assured destruction, or a condition of mutual vulnerability, to obtain between the pair.[2] Premised on the notion that once it has materialized, mutual vulnerability is an inescapable fact that nuclear rivals must learn to manage[3], my dissertation ask two questions:

> 1) How, or under what conditions, do actors on opposing sides of a rivalry perceive or recognize the possibility or presence of mutual vulnerability?
>
> 2) How do nuclear adversaries respond to the possibility or presence of mutual vulnerability? In other words, what is the impact of mutual vulnerability on a state's strategy and behavior?

My dissertation first approaches these questions with historical analysis, tracing the evolution of U.S. and Soviet perceptions and policies related to mutual vulnerability throughout the course of the Cold War.[4] The remainder of the dissertation comprises the project discussed here, which focuses on the

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[1] George, Farley, and Dallin, eds. (1988), p. 644; for the broader structure of this argument see Weber (1990), p. 66.
[2] See Brodie (1960) and Jervis (1989). It must be pointed out that not all analysts would highlight the importance of reciprocal secure second-strike capabilities as the primary takeaway of the nuclear revolution; key references for such views can be found in Snyder (1965); Nitze (1976); Wohlstetter (1985).
[3] The inescapable nature or fact of mutual vulnerability is an assumption or methodological bet I make in order to construct the analytical lens used in this project. While some scholars may question this assumption, the way in which the study is designed does not preclude the influence of such views on nuclear policy.
[4] The historical target for comparison with the U.S.-China-focused project discussed here is thus a separate research endeavor that I am currently working on.

current confrontation by the United States and China with the possibility of mutual vulnerability, as well as bringing the Cold War record of nuclear arms racing and arms control to bear in a structured manner on policies shaping the strategic dimension of a contemporary rivalry.

In the context of rivalries where mutual vulnerability has become a reality, classic arms control theory specifies that the most direct and cost-efficient route to a stable result is provided by the joint pursuit (by both adversaries) of capabilities that promise to (1) withstand and respond to a disarming attack by the other and (2) leave the viability of the other's own second-strike forces intact.[5] Critical for the focus of this project is the notion that a nuclear dyad's deviation from the most efficient route to stability depends on the process by which each side's respective decision-makers wrestle with the notion that mutual vulnerability cannot be escaped; the longer one or both members of a dyad resist acknowledging mutual vulnerability as a strategic fact and acting on that basis, the more complicated that dyad's path to stability will be. The generalizable nature of the deterrence literature suggests that highlighting how the internal workings of a historic rivalry produced its response to the condition of mutual vulnerability can go far in predicting the steps that current rivalries can take in the future to secure a stable outcome more quickly and with less risk.

Accordingly, this project has several implications for the United States and China. For example, if the Cold War superpowers arrived at some understanding of the stability benefits inherent in the condition of mutual vulnerability, the current study can comment on how the United States and China might realize such benefits more efficiently, and whether this possibility is facilitated by China's apparent belief that relatively low levels of capability are sufficient for the deterrence of nuclear aggression. Conversely, the project may be able to outline how the United States and China can avoid drawbacks to the condition of mutual vulnerability experienced by the United States and Soviet Union.

Furthermore, this project will speak to observations by contemporary analysts of U.S.-China nuclear relations that the different way each country thinks about questions of nuclear deterrence limits opportunities for cooperation and increases the chances for potentially dangerous misperceptions.[6] Using the U.S.-Soviet case as precedent, this analysis can shed light on whether the ostensible contrast in U.S. and Chinese nuclear strategy will endure. The Cold War experience may demonstrate a convergence over time of U.S. and Soviet responses to mutual vulnerability, which would suggest that current concern about United States and China might be more than warranted. With time, mutual vulnerability might bring the disparate mindsets closer together, a trend that could foster more fruitful discussions between the two states.

Research design: This project is composed of three methodological tasks that will result in several chapters of a dissertation. First, a series of nuclear exchange models based on past, present, and anticipated U.S. and Chinese strategic capabilities will be built and run in order to ascertain when, whether, or under what future conditions U.S.-China mutual vulnerability can or could be said to exist. In addition to providing a material context against which variation in U.S. and Chinese perceptions of

[5] For a synthesis of the literature that results in this conclusion, see Miller (1988), pp. 92-222.
[6] See for example, Kulacki (2011) and Saalman (2011).

mutual vulnerability can be judged, this exercise will produce a rough measure of the capability assessments informing the ongoing development of U.S. and Chinese nuclear policy and related defense programs.

The second research task situates the physical measure of mutual vulnerability against its perceptual counterpart. In-depth interviews with U.S. and Chinese experts and officials and an examination of U.S. and Chinese nuclear policy debates and literatures will be conducted to characterize the contemporary understanding of the possibility of U.S.-China mutual vulnerability. In addition to specifying the degree to which U.S. and Chinese experts and policy-makers perceive mutual vulnerability as having emerged within the nuclear force balance, a primary goal is to determine whether there is a bottom-line judgment within or across both sides about the condition of mutual vulnerability, and how this judgment tracks with reality.

Finally, the study will compare current U.S.-China thinking on mutual vulnerability with U.S.-Soviet perspectives at various points throughout the Cold War, with the aim of making predictions about how mutual vulnerability is likely to matter in U.S.-China nuclear relations and developing recommendations for U.S. policy towards China accordingly. Factors that the U.S.-Soviet experience suggests are pulling the U.S.-China rivalry toward a stable relationship, in which both sides forgo perfect defenses and offensive capabilities, and factors that might encourage more competitive tendencies will be assessed to outline steps the United States could take to encourage stability with China at lower cost than the Cold War experience.

Target Audience and Policy Contribution: The findings of this project stand to inform U.S. policy towards China, and thus ideally it will be of interest to government officials and issue experts focused on this facet of U.S. national security strategy. While the United States and China are by no means engaged in a rivalry on par with the Cold War competition, the sensitivity of future U.S.-China relations to the stability of the relationship's nuclear dimension underlines the relevance of this project from several policy perspectives.

First, what are the benefits and drawbacks of a U.S. strategy that explicitly recognizes a relationship of mutual vulnerability with China, as compared to a strategy that refuses to acknowledge the relationship?[7] How do these alternatives affect the ability of U.S. nuclear forces to meet deterrence requirements? And what impact would U.S. recognition of mutual vulnerability with China likely have on the prospects for bilateral and multilateral arms control measures? A comparison with the process by which the Cold War superpowers came to recognize this factor in their interactions can demonstrate the role of mutual vulnerability in determining U.S. and Chinese force posture requirements and the level of cooperation between them.

Second, U.S.-China mutual vulnerability may significantly impact the security outlook of countries in northeast Asia that are currently protected under the U.S. extended nuclear deterrent guarantee. Tangible anxiety among states like Japan regarding the ongoing modernization of Chinese strategic

[7] Thus far the United States appears unwilling to do this. See Saalman (2011); Santoro and Glosserman (2013).

forces suggests the consequences of this condition on regional allies' perceptions of U.S. "commitment and resolve" is another important factor this project can investigate.[8]

Finally, this project is situated to speak to the influence of mutual vulnerability in other domains of potential conflict between the United States and China. Building on the rich Cold War debate on whether U.S.-Soviet mutual vulnerability made it safe for conflict at lower levels of capability,[9] this project will offer a preliminary assessment of how U.S.-China mutual vulnerability might impact their relations in other domains, including the prospects for conventional, space and possibly cyber conflict.[10] The degree to which mutual vulnerability can transcend different realms of conflict may be significant for the United States and China, given the ostensible interest by both countries in capabilities that permit "cross-domain" operations.[11]

[8] Friedberg (2012), p. 53; Acton (2011), p. 38.

[9] This phenomenon is known as the "stability-instability paradox." Snyder (1965) is credited with coining this term, but see also Gray (1980), Nitze (1976), and Wohlstetter (1985).

[10] For a compelling analysis on the stability-instability paradox in the U.S.-China context, see Christensen (2012).

[11] For example, see Air Sea Battle Office (2013); United States Department of Defense (2012); David Kearn (2014).

4. Julia Macdonald, MIT

Credibility in Crises: The Domestic Determinants of State Threat Assessments

Project Objectives: The purpose of this project is to better understand how coercion operates in international politics. Despite an abundance of scholarship on interstate crises and conflict, the ability of states to effectively employ threats of conventional and nuclear force to achieve their interests is still poorly understood by academics and policymakers alike. This is due in part to our limited understanding of how threats are received and processed by the targets of coercive demands. This dissertation is thus designed to explore how states interpret threats in international politics and to demonstrate the importance of domestic political environments in shaping how coercive power – both conventional and nuclear – is perceived. In doing so, this project hopes to contribute important insights to academic debates, while also providing policymakers with a better understanding of the conditions under which crisis signaling can be effectively employed.

Project Overview: At a general level, this dissertation is interested in understanding how states assess each other's threats during international crises. More specifically, I seek to understand how states interpret each other's *signals* intended to establish the credibility of threats – both conventional and nuclear – during these periods. In recent years International Relations (IR) scholarship has attempted to answer these questions by moving beyond the traditional treatment of states as black boxes. This shift has pushed scholars to focus on threatening states and locate the various mechanisms through which these actors can credibly convince others of their intentions. Yet despite efforts to disaggregate the black box of states in crises, this latest movement has been a somewhat one-sided affair. While we now know a lot about the coercing states in crisis interactions, we know much less about how these efforts to establish credibility and to communicate resolve to adversaries are perceived by the targets themselves.

[1] This project thus focuses on the targets of coercive interstate threats in order to understand how these states interpret signals intended to establish credibility during crises.[2]

In brief, and counter to standard rationalist and power-based theories, I argue that varying domestic political environments in the target state are key to understanding how signals are interpreted during crises. Recent findings in political science show that decision makers' differing worldviews and their assumptions about the nature of international politics can hold important implications for political outcomes. I build on this research to argue that these differing understandings and expectations about

[1] I should note that cognitive and organizational theories have focused their attention on explaining how states determine the credibility of threats, and specifically describe instances in which states perform poorly at this task. These accounts are often highly descriptive, however, and tell us little about when we might expect to see biases and various organizational dynamics resulting in sub-optimal policy outcomes.

[2] This interpretation is based on the signal or action observed rather than on an assessment of the intentions of the threatening state. A state's credibility rests on having the military capability to carry out a threat and the will to employ that capability should the threat fail to induce the desired behavior. Since the relative balance of capabilities is often known prior to the conflict and is "public" knowledge, the credibility of a threat often rests on the ability to convince an adversary of one's willingness to carry out the threat should it fail. Recent scholarship posits a variety of sources of information available to target states in assessing an adversary's willingness to act: information generated through so-called "costly" signals; information derived from the balance of power in a given dispute; or finally information generated through costless but "vivid" signals often resulting from personal experiences and face-to-face interactions.

the way the world works act as important "lenses," filtering information and conditioning which indicators or signals of threat credibility are received by a target state. I further theorize that there are important differences in the worldviews of leaders of military versus civilian regimes, and across civilian-led regimes themselves (both democratic and non-democratic) with important implications for how states assess threats.

Military-led regimes are unique insofar as military organizations are not designed to govern states. As a result, the worldviews and "lenses" employed by military regimes to filter information in the international environment are strongly influenced by the military's organizational mission and its interest in military capabilities. I thus expect military-led regimes to focus on military signals when assessing threats, and to infer the extent of an adversary's interests from its capabilities and military movements.

H1: Where the military dominates decision making, either because political leaders defer to the military or because the military is running the state, military signals will be received and used to assess the adversary's capability and willingness to carry out a threat. *This is a Militarized Assessment.*

In contrast to military-led regimes, civilian decision makers have broader political interests and an array of expertise to draw on from military and intelligence communities when assessing an adversary's threat. As a result, I expect civilian decision makers to look beyond solely military indicators when assessing an adversary's broader interests at stake. But which signals matter to civilian decision makers, and under what conditions should we expect them to do so? This is an important question since civilian decision makers have no clear organizational mission from which to deduce a collective worldview.

I hypothesize that civilian leaders develop individual worldviews and beliefs about potential adversaries throughout their careers and carry these views with them into political office.[3] Once in office, these worldviews and expectations about a given adversary's intentions act like organizational filters, enabling civilians to read meaning into other state's actions and to make threat assessments.[4] More specifically, I hypothesize that where civilian leaders hold positive views about an adversary's intentions prior to the onset of a crisis, they will actively ignore or dismiss pessimistic military estimates and costly signals intended to convey threat credibility, latch on to non-costly signals that appear reassuring, and they will interpret the adversary's actions as benign. For adversaries facing these leaders, then, threat credibility is difficult to establish. On the other hand, where civilian leaders hold negative views about an adversary's intentions prior to the onset of a crisis, these decision makers will be primed to focus their attention on military signals and costly statements confirming their prior views, will have a tendency to read malign intent into non-costly statements, and importantly will overlook any signals of reassurance from the coercing state. For adversaries facing these leaders, then, threat credibility is easy to come by because the threatened action is seen as an inevitable consequence of the coercing state's aggressive nature.

[3] Note that these beliefs can develop through a number of different pathways, including educational background, professional training (including military), and personal experiences. The purpose of this project is not to provide a theory of belief formation, but rather to show how these beliefs impact assessments of threat credibility.

[4] I look solely at the "dominant leaders" or those with the power to make foreign policy decisions in each state.

Finally, for cases in which leaders hold no prior expectations or have weak views about an adversary, I hypothesize decision makers in the target state will behave as rational theories would expect; that is, they will actively seek out all military estimates and "costly" information from which to judge the credibility on the adversary's threat.

H2: Where civilian leaders hold positive views of an adversary's intentions prior to a crisis, costly and non-costly signals intended to establish a coercing state's threat credibility will be perceived as benign and threat credibility will be difficult to establish. This is an *Understated Threat Assessment.*

H3: Where civilian leaders hold negative views of an adversary's intentions prior to a crisis, costly and non-costly signals intended to establish a coercing state's credibility will be perceived as evidence of malign intent and threat credibility will be easy to establish. This is an *Inflated Threat Assessment.*

H4: Where civilian leaders have neutral or weak views about an adversary prior to a crisis, leaders in these states will actively seek out military estimates and "costly" information from which to judge the credibility of the adversary's threat. This is a *Rational Assessment* insofar as it provides the rational baseline expectation.

In the course of contributing to our understanding of how states assess threats, this dissertation is also designed to explore whether different types of threats influence target state assessment processes. In particular, this project is designed to look at cases of coercive threats across time, and across conventional and nuclear worlds. This is of particular interest given the ongoing debate within IR over whether nuclear weapons offer coercive advantages in crisis bargaining. I hypothesize that the threat of nuclear force could affect target state threat assessment processes in two different ways. On the one hand, nuclear threats are distinct from conventional threats in the level of destruction that they promise to inflict on a state if a coercive demand is not met. This might force target states to overcome their organizational biases or to update their prior beliefs in the ways expected by rational theories. On the other hand, nuclear weapons - precisely because of their highly destructive nature and the nuclear "taboo" - might be perceived as unusable. If this is the case, then nuclear threats will have no impact on state assessment processes, and leaders' prior worldviews will dominate in determining state threat assessments. This generates two additional hypotheses:

H5: Nuclear threats will challenge the prior worldviews of leaders in target states and force them to update their assessments of an adversary's threat credibility.

H6: Nuclear threats will have no independent effect on target state assessments of threat credibility.

I expect to find that civilian-led regimes with leaders holding prior positive views of an adversary's intentions will systematically underestimate that state's willingness and/or capability to follow through on its threat. On the other hand, civilian-led regimes with leaders holding prior negative views of an adversary's intentions will tend to see the threatened outcome as inevitable, will overlook reassurances and opportunities to resolve the crisis peacefully, and will therefore produce inflated threat assessments. Since I expect military-led regimes to produce threat assessments based only on the military capabilities and movements of the adversary, leaders in these states will tend to miss important

non-military costly and non-costly signals of threat credibility as well as non-military signals of reassurance. Assessments in these cases, then, will be either understated or inflated depending on the nature of the military activities observed. Civilian regimes with leaders holding no prior views will produce the most balanced assessments of threat credibility. Finally, I expect to find that nuclear threats raise the risks of crises to such great heights that leaders' prior beliefs will update and an adversary's threat will be seen as more, not less, credible.

Research Design: In order to assess my argument and test it against competing hypotheses, I will conduct a series of structured historical comparative analyses of state threat assessments when faced with a coercive demand from an adversary.[5] The universe of cases for this project thus comprises all coercive interstate threats. From this universe I have selected six cases for in-depth analysis, capturing variation on both of my independent and dependent variables to avoid concerns of selection bias. These cases are: the Russo-Finnish War (1939); the Suez Crisis (1956); the Cuban Missile Crisis (1962); the Sino-Soviet Border Crisis (1969); the Falklands War (1982); and the Gulf War (1990/91). In addition, this case selection includes both democratic and non-democratic target states and allows for variation across conventional and nuclear worlds to evaluate the effect of nuclear weapons on target states' perceptions of threat.

The data for this project will be drawn from a variety of primary and secondary sources. One of the benefits of my research design is the presence of an English-speaking democratic state in many of the crisis dyads. This enables increased access to archival records and historical material that do not require foreign language expertise. I will capitalize on this advantage by visiting national archives in both the United States and the United Kingdom to locate recorded minutes and transcripts of high level meetings, private correspondence, government documents including speeches, testimony, military plans, intelligence reports, memos, and memoirs of the participants of the crises themselves. In addition, for many of the cases I will also refer to volumes from the Foreign Relations of the United States collection, newspaper reports, and of course to the rich secondary literature on these international crises. The final product of this research project will be a dissertation/book manuscript.

Target Audience and Policy Contributions: This dissertation hopes to contribute to both the academic and policy communities in a number of ways. With regards to its scholarly contributions, this project seeks to highlight the context dependence of crisis interactions and to reject the assumption that there is a "gold standard" for credible threats or a set of mechanisms that any state can employ to make its intentions understood. States do not always infer the same meanings or arrive at the same assessments of credibility from observing costly signals, and this project provides a better understanding of why that is not the case.

This dissertation also offers important insights to policymakers. Over past years the United States and its allies have been the targets of coercive threats issued by a growing number of adversaries, some already

[5] A coercive threat is an explicit demand issued by one state to another in order to either a) compel a material change to the status quo, or b) deter a state from making a material change to the status quo. In both cases this verbal demand is accompanied by a threat to use force if the demand is not met and/or a threatening action (typically mobilization of forces or movement of forces to the affected area).

with nuclear weapons, and others with ambitions to achieve this capability. Producing high quality assessments to evaluate the credibility of these threats and gauge the resolve of these adversaries will be crucial to avoiding future conflict. To help achieve this end, this project provides policymakers with a better understanding of the limitations and biases inherent in many of U.S. domestic processes as well as an appreciation of the strengths and weaknesses of other states' threat assessment procedures. Understanding the domestic determinants of state threat assessments in this way can help policymakers understand some of the limitations inherent in interstate communication, and to identify the specific conditions under which signaling mechanisms can be employed effectively to convey U.S. resolve.