

THE LOGIC OF AMERICAN NUCLEAR STRATEGY:

A Conversation with Matthew Kroenig

Interviewed by Dylan Land



Photo by Tony Powell

Fletcher Security Review (FSR): Your book, *The Logic of American Nuclear Strategy*, lays out a theory of deterrence that incorporates nuclear balances of power into games of brinkmanship, which you label “superiority brinkmanship synthesis theory.” Can you briefly describe what the theory predicts and how it advances our current thinking of U.S. nuclear policies?

Matthew Kroenig (MK): The superiority brinkmanship synthesis theory builds on the scholarship that has come before it. Thomas Schelling came up with the idea of brinkmanship, where he argued that competitions among nuclear states become games of nuclear chicken in which neither side wants the crash — nuclear war — but they both want to get their way. Each side wants to force the other to swerve. How can you do that when you can’t threaten to fight a nuclear war that could result in your own destruction? Schelling argues that in these scenarios, the countries play games of chicken and make nuclear threats to raise the risk of nuclear war, hoping that the other side will back down. Other scholars basically accepted this and assumed that since both sides can definitively hurt one another, nuclear balances of power don’t really matter. What matters is the resolve of each country and how willing one side is to run a risk of nuclear war. The country that runs the highest risk will win and the country that does not will back down and lose. In fact, Schelling said

international politics in the nuclear age has become a competition in risk taking.

The real world, however, doesn’t seem to have agreed that the nuclear balance of power doesn’t matter. The United States has always been interested in, as President Kennedy put it, having a nuclear arsenal “second to none.” We see China engaged in a massive nuclear buildup now. So, the real world thinks that numbers of nuclear weapons and the nuclear balance of power matter. In my book, I tried to make sense of this puzzle. Essentially, and I think quite simply, I argue that the nuclear balance of power matters because it influences your ability to run risks in crises. It is not that the superior side thinks it can fight and win nuclear wars easily, but rather when they are in these high-stakes games of nuclear chicken, the country with the nuclear advantage is going to be more likely to stand firm and the country that is outgunned is more likely to look for off-ramps. That is the theory; it marries traditional brinkmanship theory with the idea that the nuclear balance of power — and nuclear superiority — does matter. I think this theory does a better job explaining the way the real world works than traditional deterrence theories.

FSR: The superiority brinkmanship synthesis theory posits that nuclear superior countries benefit from their ability to out-escalate inferior states because the expected payoffs of escalating exceed the expected payoff of submitting, which increases resolve and



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toleration of greater risks. With possibilities for a win, lose, or disaster outcome, if the superior state is unlikely to ever lose, are there incentives for the superior state to deescalate, and if so, what do they look like?

MK: Political science is not physics; it does not explain everything perfectly. The best we do is to find on-average relationships, and, on average, superior states have the advantage and inferior states do not.

There are no monocausal explanations. It is not that nuclear superiority explains everything; there are other things that matter, like stakes in the crisis and conventional military power. I argue that nuclear superiority is among the factors that do matter, whereas I think previous scholars were too quick to dismiss it and say that nuclear superiority is completely irrelevant. Other stuff matters but nuclear balances of power matter as well. I would not want somebody to think from this that the United States should maintain nuclear superiority to just escalate and always win, because there is a real risk that things spin out of control and result in nuclear war. At every stage of the crisis, leaders on both sides are facing gut-wrenching decisions of whether to escalate and win an important geopolitical victory at the potential risk of a catastrophic nuclear war, or to back down and avoid nuclear war, but lose an important geopolitical interest. So even in the superior states — and we have seen this with Kennedy and the Cuban missile crisis and other examples — leaders are quite cautious, and they worry about nuclear war. Leaders are thinking about other things, it is just that on

average, they are going to be more likely to show resolve in the conflict if they have nuclear superiority, and the inferior country is more likely to anticipate more costs than benefits and look for off-ramps. Some have taken from my argument that the implications are to massively expand our nuclear arsenal and go push other countries around but, in fact, that is not what I argue.

FSR: You argue that security interests can be maximized when the United States can minimize its own vulnerability and maximize that of its adversaries. This leads you to the conclusion that it is beneficial for the United States to have nuclear superiority in its force structure. If the United States should seek to maintain its nuclear superiority, how should it approach modernization and how can policymakers maneuver through such contentious debates?

MK: I provide logical, rational reasons why superiority matters. Some have questioned whether it is just that the bigger side thinks it is bigger and stronger and the weaker side thinks its weaker, so it is more of a psychological effect than anything else. But that is not it at all. I go through some nuclear exchange calculations in the book that show that the larger the U.S. force, the smaller the enemy's force, the less physical damage there would be to the U.S. homeland in the event of a nuclear war. That is true both if the enemy strikes first, or if the United States strikes first. So, if we reduce the size of our arsenal, it means that we are making ourselves more vulnerable. If we increase the size of our arsenal, we are making the U.S. homeland less vulnerable — so, force structure and size do matter.

On modernization, there are critics of U.S. nuclear policy and U.S. nuclear modernization that make the same arguments over and over. Fortunately, I do think there is still a bipartisan, mainstream consensus on the need for a strong U.S. nuclear deterrent and the need for modernization. In fact, the United States is in the process of a nuclear modernization program now that started under Obama and continued under Trump. Biden will release his Nuclear Posture Review, and I suspect they are going to continue the same modernization plan. So, I do think the United States will stay on track.

The other question here is about what the right size is for the U.S. nuclear arsenal and whether the United States has sufficient numbers right now. Currently, the U.S. arsenal is capped by the New START Treaty with Russia at 1550 deployed strategic nuclear weapons. But that number was decided in 2010 when New START was signed. Twelve years later, Russia, China, and North Korea have all significantly expanded and modernized their nuclear weapons programs. I think there is no chance that the arsenal we thought was sufficient 2010 is still sufficient in 2022. As such, I have recommended that we really look hard at those New START numbers and think about a possible increase in the size of our nuclear forces.

FSR: Your book critically assesses various arguments about strategic stability and second-strike theory. One of the criticisms of nuclear superiority is that it may degrade strategic stability by incentivizing an inferior adversary to strike first. On the other hand, second-strike theory argues that so long as a country has a second-strike capability, the incentives to conduct a nuclear attack are outweighed by the risks. Can you elaborate on this tension?

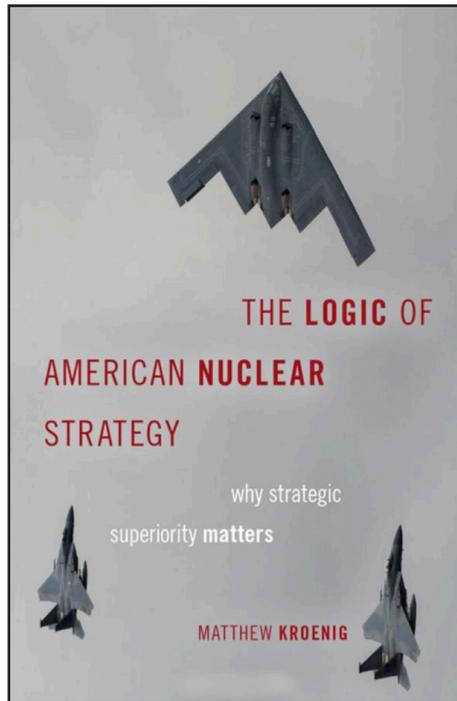
MK: There is this conventional notion of strategic stability, which essentially argues that so long as two nuclear powers, say the United States and Russia, both have secure second-strike capability — where they can both ride out an enemy nuclear attack and retaliate with a second strike — there will be stability, and neither side will have an incentive to launch a first attack. Some people argue that it would therefore be irrational for the United States to build more than what is needed for a second strike because it would not buy us anything in addition — Russia will still be deterred by our second-strike capability. At the same time, they also say that if the United States builds up its nuclear forces, its missile defenses, and other capabilities, then maybe Russia will be afraid the United States is going to launch a first strike, and instead of waiting for that first strike — and facing a potential use-them-or-lose-them scenario — decide to attack the United States first. But there is a contradiction here because both of those things cannot be true at the same time. If a second-strike capability is enough to reliably deter an adversary, then even if the United States has a first-strike

and a second-strike capability, then that should still hold. Why would an outgunned country purposely start a nuclear war that it is going to lose? I think there are some smart analysts on the other side, but I think it is often advocacy for certain positions where people look for the arguments to get to the conclusion that they want and do not really engage in a rigorous thought process to get to those arguments. If you think about it logically, both of those things cannot be true at the same time.

FSR: You co-authored a 2020 report on Russia's exotic weapons that analyzes Moscow's possible motivations for developing novel weapons systems. The report concludes that a sense of genuine paranoia about the vulnerability of Russia's deterrent may, in part, contribute to its desire for exotic weapons. While you argue that there are benefits to American nuclear superiority, might the U.S. pursuit of nuclear primacy contribute to Russia's paranoia and therefore accelerate Russia's exotic weapons development? On the other hand, you make very clear that the United States has neither the capability nor the intent to undermine Russia's deterrent. How can these misunderstandings be mitigated?

MK: It is hard to know if and how these misunderstandings could be mitigated. Even if the United States was trying to develop a perfect first-strike capability against Russia, we wouldn't tell them. We would probably tell them that the United States is not trying to undermine Russia's deterrent. So, Russia does not believe us when we say that missile defenses are not aimed at them. It would make sense for cautious military planners in Moscow to assume the worst case. I also think the Russians have been impressed by America's technological superiority

in the past, for example with stealth technology and precision-guided munitions. Russia has seen what the United States has been able to do in the past, and I think they are not necessarily worried about where we are right now, it is more about where we could go in the future. If the United States continues to invest in missile defenses, or a space-based laser system that Reagan dreamed about that would just zap missiles out of the sky, it is hard to know how that would affect Russia's deterrent. The United States has done things in the past to help ease Russia's anxiety, for example we have done technical briefings to them about the limits of our missile defenses in Europe, and we are a democracy, so it is easy for them to penetrate our information system. I suspect they could be reading some of our classified documents on nuclear capabilities. They can see that we are not able to undermine their deterrent now, but I think that Russia mostly worries about technological breakthroughs and what we might be able to do ten years from now.



FSR: You argue that a more benign international environment must precede arms reductions. In today's geopolitical environment, what should the U.S. approach be to arms control?

MK: When it comes to arms control, there are three main positions. There are some people who see arms control as good in and of itself: it means adversaries are cooperating with each other, they are building fewer of these dangerous weapons, and so it should be pursued regardless of the details. I would put some progressive Democrats in that camp. On the other hand, let's say for some more hawkish Republicans, arms control is always bad because it limits U.S. capabilities, and we cannot trust our adversaries, so let's tear up all agreements. I put myself in the middle, and I think that is where the mainstream of national security policy is. The middle ground, as I see it, believes that arms control is a tool, and so whether the United States should agree to certain treaties or limits depends on the details of arms control agreements. Arms control can be bad, depending on the details, in the same way it can be good, depending on the details. If you have an adversary you think you can actually trust, or one you can trust and verify as Reagan put, and the terms of the deal are advantageous to you, then arms control can make sense. The bottom line is that we should not pursue arms control just for its own sake. A good example is strategic arms control with the Soviet Union during the Cold War. During these arms control negotiations, the United States essentially locked in quantitative parity, but our capabilities were so much better, so much more accurate and prompt. The United States essentially had a qualitative advantage. On paper it looked like parity, but, in reality, the United States was locking in advantages. That is one case in which arms control quite clearly benefited the United States and its allies.

FSR: China seems to be moving beyond a "lean-in effective" nuclear deterrent force, with recent findings indicating that Beijing plans on tripling the size of its nuclear arsenal. What do you think this implies about China's nuclear ambitions, and how does the shifting multi-polarity affect U.S. deterrence?

MK: This is the topic of a recent report I wrote for the Atlantic Council. Deng Xiaoping said that in foreign policy, China should hide its capabilities and bide its time.^[239] I think Xi Jinping has thrown that out the window and thinks it is now time for China to be a superpower. We can see evidence of this shift with his crackdowns on Hong Kong at home, his wolf warrior diplomacy overseas, his military threats against Taiwan, and we see it with this nuclear buildup as well. Xi has ordered the People's Liberation Army to build a nuclear superpower arsenal, and that is what they are doing. The nuclear buildup does raise a challenge the United States has never really faced before: two nuclear superpower peer and near-peer competitors. This is a

Country	Military Stockpile	Retired Weapons	Total Inventory
 Russia	4,477	1,500	5,977
 United States	3,708	1,720	5,428
 France	290	0	290
 China	350	0	350
 United Kingdom	180	45	225
 Israel	90	0	90
 Pakistan	165	0	165
 India	160	0	160
 North Korea	20	0	20
Total	9,440		12,705

Estimated Number of Nuclear Warheads as of 2022 // Source: Federation of American Scientists

new problem that we do not really know the answer to. Many nuclear strategists, including myself, are trying to wrestle with the implications of this growing multi-polarity right now.

FSR: You state that strategic technology will continue to change but the benefits of strategic superiority will not. Given the current environment of rapid technological innovation, what do you see as the most important technology the United States should prioritize?

MK: A lot of people who follow traditional academic models of deterrence have been worried that these new technologies are going to undermine stability and possibly call into question second strike capabilities. My main concern is about how technology might undermine U.S. superiority. I believe, however, that so long as the United States and its allies maintain the technological edge, we will be able to maintain stability. If Russia and China — which are revisionist powers — use new technology to gain military advantages, the world could become a very unstable place. We might be on the verge of a new revolution in military affairs: there are so many new technologies coming online at the same time — artificial intelligence, quantum computing, hypersonic missiles, directed energy — and I think we don't quite know which of those, or which combination of those, is going to have a decisive military advantage. I think it would be prudent for the Department of Defense to hedge its bets and invest in a lot of different areas. If I had to place my bet right now though — and I think many would agree with me — my hunch is that artificial intelligence is going to be the big one. If the United States can program algorithms that operate swarms of drones or other existing capabilities more effectively than an adversary, I could see how that could be quite significant on the battlefield.

[239] Matthew Kroenig, "Deterring Chinese Strategic Attack: Grappling with the Implications of China's Strategic Forces Buildup," *Atlantic Council Scowcroft Center for Strategy and Security*, November 2021, <https://www.atlanticcouncil.org/in-depth-research-reports/report/deterring-chinese-strategic-attack-grappling-with-the-implications-of-chinas-strategic-forces-buildup/>.

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