

*Event Transcript*

# India and Nuclear Asia: Forces, Doctrine, and Danger

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Featuring:

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More information and event video available at:

<https://www.stimson.org/content/india-and-nuclear-asia-forces-doctrine-and-danger>

Sameer Lalwani: Okay, we're going to go ahead and get started. Thank you all for joining us here at the Stimson Center and online, welcome to the Stimson Center, also for those who have also tuned into the live stream. This is an event hosted by the South Asia Program and the Asia Strategy Initiative, which is a joint effort by Stimson's Asia Program to feature regional perspectives on shifting strategic dynamics in the Indo-Pacific and Asia at large. I'm your host today, Sameer Lalwani. I'm the director of the South Asia Program. This event is India and Nuclear Asia: Forces, Doctrine, and Danger.

Sameer Lalwani: It's fitting to start off 2019 on this foot, with the first event of the 30th anniversary of the Stimson Center, that we're starting off discussing Asia and particularly strategic dynamics in Asia. Not only because it's a hot topic these days in Washington, DC, but it's been a central point of our research and conversation and focus at the Stimson Center for 30 years.

Sameer Lalwani: I'm really glad that Frank and Yogesh could join us here today. Their book that we're all featuring, "India and Nuclear Asia", which you should all take a look at and get a copy of later, is basically about India's nuclear profile, doctrine, practices that have evolved rapidly since the country's nuclear breakout since 1998.

Sameer Lalwani: The authors contend that multiple Asian powers have been-- I would actually argue, that multiple Asian powers have been undergoing rapid changes in the environment, ambition, military capability and strategy. I'm really interested to hear what Yogesh and Frank have to say about that. They're going to recount a little bit about their findings from their book. Then we'll have two other distinguished speakers to offer commentary and their takes on the evolving trajectories within Asia.

Sameer Lalwani: I wanted to take a moment though to reflect a little bit on a phrase that the authors used, which is the evolution of doctrine and forces. But often times I think we use another term these days around town and in the literature on modernization. Evolution sometimes is equated with "modernization".

Sameer Lalwani: As I was reading their book in the last few days and particularly this morning, I was puzzling on this, what exactly is force modernization? Because it's something that all states engage in and it sounds fairly benign, or maybe even appealing, but it means a lot of different things to a lot of different actors.

Sameer Lalwani: Do we basically mean arms racing, trying to gain an advantage over adversaries? Do we mean arms pacing, trying to close a gap with other peers? Or arms replacing, trying to stay in place essentially through replacement of existing capabilities that are deteriorating or have deteriorated?

Sameer Lalwani: I think this is a question that you can ask about India in its force modernization project, but also a number of other countries in Asia and the United States as well.

Sameer Lalwani: There's some other questions that were teased out in reading this book. Does the pace of modernization and components of modernization start to overwhelm intention? Even if you have benign motives, or motives to enhance stability and deterrence, does that matter if it's perceived in very different terms? That seems to dovetail with another question, are these the effects of modernization stabilizing or destabilizing?

Sameer Lalwani: I think the authors start to push this question really well in asking questions not only about deliberate escalation, but also inadvertent escalation scenarios and how those could be perceived and what that means for a crisis stability. Particularly, I think the authors did a really good job of drawing out the role of conventional counterforce.

Sameer Lalwani: I think the discussion in Washington seems to have missed that the military technical revolution has hit a lot of countries around the world. We thought a lot about conventional counterforce in terms of what we can do to adversaries. But we haven't really thought about how those parties interact with each other. So as advanced conventional capabilities develop, what they can use those for actually has strategic implications, not just day-to-day conventional deterrence implications.

Sameer Lalwani: Another question, I think, is drawn out in the book, that I'm sure we'll get into this afternoon, is a question of efficacy because it doesn't really matter if you're modernizing your forces if you don't have the right national security software. By this, I think some of the scholars here have done a lot of work on questions of national security decision-making processes, civil military relations, intra-military jointness. All those questions seem to either be force multipliers or force limitations, regardless of the pace of modernization.

Sameer Lalwani: The last thing I was thinking about while I was reading this book is how do I square these discussions? Because it seems to happen-- these discussions on strategy in Asia seem to happen apart from, I think, what

has become a really popular discourse in Washington on the Indo-Pacific, on influence operations, on predatory economics. How do these two discourses interact?

Sameer Lalwani: One question is, do these strategic forces, are they still relevant in employing political influence and geopolitical influence in a non-kinetic set of engagements? Because it seems today a lot of discussion with respect to China and even Russia, is about information warfare, hybrid warfare, but theoretically avoiding a lot of kinetic engagements. Are these tools that we're talking about, that states are modernizing, are they really going to be useful for the kinds of future engagements that they're being drawn into or preparing for?

Sameer Lalwani: I don't think the book provides all the answers to this, but it certainly provides some. It helps, I think, refine our understanding and the types of questions we need to be asking.

Sameer Lalwani: I want to introduce all the speakers here and then turn it over to the panelists to offer discussions and comments. I'll start off, so from your left to right, Dr. Frank O'Donnell, is a Post-Doctoral Fellow in the National Security Affairs Department at the Naval War College. He was previously an associate and Stanton Junior Faculty Fellow at the Belfer Center and is also a Nonresident Fellow here with the Stimson Center.

Sameer Lalwani: To his right is Dr. Yogesh Joshi, the second author of this book we're here to fete today. He's a MacArthur Nuclear Security Post-Doctoral Fellow at CISAC at Stanford University. He was previously an Associate Fellow in the Strategic Studies Program at the Observer Research Foundation in New Delhi, received his PhD from JNU specializing in Indian foreign policy and security policy.

Sameer Lalwani: To his right, we are joined by Lieutenant General Balraj Singh Nagal, who is former commander-in-chief of Indian Strategic Forces Command. He was recently director of the Center for Land Warfare Studies in New Delhi. He's a former chief of strategic program staff and a director-general of operational logistics for the Indian Army, and a veteran of the '71 war and counterinsurgency operations in the Northeast.

Sameer Lalwani: Finally, to his right is Dr. Caroline Milne. She's currently a research staff member at the Institute for Defense Analyses where she focuses on nuclear weapons policy and strategy for the Department of Defense. In 2017, she earned her PhD from the Woodrow Wilson School at Princeton University and has previously worked at the RAND Corporation, where

we were colleagues across the hall, and specializes in US and Chinese perceptions of mutual nuclear stability and vulnerability.

Sameer Lalwani: Why don't we start this off with the book authors talking a little bit about their some of the key findings of the book, and then we'll move on to some discussants. I'll just ask quickly, as a matter of general housekeeping, to turn off your cell phones. After some opening remarks, we'll turn it over to some question and answers. With that, Frank, please take it away.

Frank O'Donnell: Okay, thank you. Yes. I'll lead off, just to start off, by saying thank you to the audience for coming along today, including those of you tuning in via the live stream, for the Stimson Center and Sameer, for putting together this excellent panel, for the panelists who have taken the time to be here and contribute to this book and its launch. Also, to Georgetown University Press for being such a great press to work with from the initiation of this project to being here today.

Frank O'Donnell: This book, as indicated by the title, has two principal roles. The first is to provide a comprehensive update of India's nuclear outlook, which spanned its nuclear force developments, conventional force developments, salience of nuclear policy, related doctrinal debates and developments, and also its nuclear non-proliferation policies. The second role is to situate these developments in India's wider regional strategic contacts, especially within the trilateral strategic complex of India, Pakistan and China.

Frank O'Donnell: We think this book is the most comprehensive update of these three different states in those developments in a single volume. Are there similar debates and developments going on within Pakistan and China as there are in India? How might those interact with the debates going on in India? Most importantly, for us, were there any trends that can be drawn across these three states that can be brought to the attention of scholars and policymakers alike?

Frank O'Donnell: We argue that in all three states, the nuclear and nuclear relevant doctrinal and force developments and their surrounding debates are elevating the dangers of inadvertent and accidental escalation within this trilateral complex.

Frank O'Donnell: In terms of definitions, we define inadvertent escalation as a conventional attack upon nuclear forces or supportive systems, which bears the risk of introducing nuclear implications to previously conventional conflict. An accidental escalation is defined as a military action that was ordered by policymakers but that still has unanticipated escalatory effects.

- Frank O'Donnell: There is an important distinction here, in that, compared to inadvertent escalation, accidental escalation accords greater comparative weight to the perceptions of the political leadership, the decision makers and the surrounding security community, rather those of operational military forces under inadvertent escalation.
- Frank O'Donnell: Looking at inadvertent escalation as a general trend, we find that there are three principal factors across the three states that are elevating inadvertent escalation risk. The first is the looming extension of the India-China-Pakistan trilateral complex and the nuclear competition to the naval domain. India and China are both fielding a new generation of nuclear armed submarines and will necessarily learn about their operation partly through trial and error. Pakistan is also seeking its own naval and nuclear forces.
- Frank O'Donnell: Within this context, all three deploy strident maritime practices and doctrines. India has long viewed itself as the primary leader in the Indian Ocean. Pakistan has a tradition of using high-risk maneuvers and brinkmanship at sea to force adversaries to back down and is investing heavily in anti-access area denial capabilities, while China conducts regular submarine forays around Indian coastlines.
- Frank O'Donnell: The actual naval nuclear intentions, patrol routes, general maritime territories to be defended by all three states remain unclear. There's little regional dialogue around these issues, never mind how to manage, for example, a specific scenario in which a conventional boat comes with a hostile contact with the nuclear-armed vessel of another state. How do both states manage this kind of situation?
- Frank O'Donnell: The second inadvertent escalation factor is the growing prominence of dual-use delivery vehicles in all three states. At sea, nuclear weapons can be carried aboard surface ships and submarines. On land, it remains unclear.
- Frank O'Donnell: With regards to India, whether Indian conventional missiles, such as the Prahaar, Nirbhay, or Brahmos, missiles will be solely conventional or dual-use. China also emphasizes dual-use missiles, such as the DF-21, in its offensive strike planning. With regards to Pakistan, the missions of the Pakistani Nasr tactical nuclear weapon and the Babur cruise missile, it's still unclear whether or not these will be solely nuclear or nuclear or conventional, they remain undetermined.

Frank O'Donnell: The third inadvertent escalation factor is the intentions of all three states to conduct early and consequential strikes upon adversary territory and quickly force conflict termination on their own terms.

Frank O'Donnell: China military thinking prioritizes conventional missile barrages at an early stage in the conflict. Indian conventional force commanders will reportedly seek to destroy any adversary missile launchers within range, regardless whether or not these have a nuclear or conventional mission. Also, in a lot of the current Indian doctrinal conversations and posturing developments, they are also starting to build the kind of capabilities for a similar early Chinese-like conventional missile barrage. Pakistan's Panther nuclear missile force is also a threat to significantly alter and escalate a regional conflict.

Frank O'Donnell: The understanding by all three states of these adversary plans and their potential responses and how they might view these kinds of operations in terms of their escalatory significance, appears to be fairly unclear. They don't seem to be fully certain about how the adversary will read and respond to these sorts of operations.

Frank O'Donnell: Moving now to accidental escalation. We find that there are two principal drivers of accidental escalation risks across these three states, which actually amplify the drivers which we talked about previously.

Frank O'Donnell: The first factor is the near absence of regional strategic dialogue. To give an example of the kinds of misperceptions that can flow from this absence of a dialogue. Pakistan doubts India's claimed No First Use (NFU) policy. India doubts China's No First Use policy and conditions that involve India. China refuses to officially recognize India as a nuclear weapons state. India refuses to believe that Pakistan will use attacker nuclear missiles early in the conventional attack.

Frank O'Donnell: As part of this absence of dialogue and the improved understanding of mutual thresholds, doctrines, force constitutions, development plans and perceptions, thus, amplifies the dangers of each of the developments that is mentioned above.

Frank O'Donnell: The second accidental escalation factor are just the trends in nuclear posturing and debates across all three states. India's doctrine of No First Use and massive retaliation and its posture of credible minimum deterrence is coming under ever greater public contestation within India. There are growing voices calling for an end to No First Use and the

massive retaliation commitment and toward developing a larger and more technically diverse nuclear force.

Frank O'Donnell: The public 2003 India Nuclear Doctrine has still not been updated. But the direction of this debate and the tenor of the new platforms being developed do suggest a certain level of Indian interests in counterforce war fighting capabilities. The Indian defense scientific agency DRDO has expressed an interest in developing MIRVs. There remain the questions about what role the Prahaar, Brahmos and every missiles have, perhaps for having nuclear rules. The problem is the growing ambiguity about what India's intentions are add to this atmosphere of creating conditions that are right for adversary misperception.

Frank O'Donnell: Pakistan is moving from credible minimum deterrence to full-spectrum deterrence, meaning having a tailored nuclear capability to asymmetrically respond to an Indian conventional threat that virtually most levels of Indian conventional escalation. However, it remains generally unclear, even to Pakistani analysts, how much conventional damage Pakistan will tolerate before it starts thinking about activating the nuclear threshold.

Frank O'Donnell: Similar ambiguities are growing in China. It's merging its conventional and nuclear missile forces under a single command while it's reorganizing its two previous India-facing military commands into functionally three. However, each of them has a more aggressive overall operational concept. There also ongoing similar debates within China and within its influential PLA Academy of Military Sciences around revising or reinterpreting its No First Use commitment, for example, to permit launch on warning.

Frank O'Donnell: That's an outline of really what the first half of the book is. I'll now turn it over to you, Yogesh, who will take you through India's doctrinal history and how its reached this stage, as well as its nonproliferation policies, and the policy recommendations that we propose for these issues.

Yogesh Joshi: Thanks, Frank. Thanks to the audience for coming along, really appreciate that. Let me begin by thanking the Stimson Center, particularly Sameer and his team, who's doing such a fabulous job in South Asian issues, and to organize this panel. Thank you so much. We are also equally grateful to the panelists, Lt. General Nagal and Dr. Caroline Milne to have joined us and we look forward to their comments and suggestions.

Yogesh Joshi: I will concentrate my bit of comments on the latter half of the book, which kind of looks at how India is responding in terms of doctrinal responses to this changing strategic scenario in South Asia, but also look at what kind

of policies is India following in the nonproliferation front, and finally, the policy recommendations.

Yogesh Joshi: Henry Kissinger in his treatise “The Necessity of Choice”, basically says that deterrence is a sum of three variables which is power to project deterrence, the will to use it, and how it is perceived by the adversaries. But the doctrine part covers the latter two, the will to use nuclear weapons and how your adversaries actually look upon and assess that will.

Yogesh Joshi: India's doctrine particularly caters to one thing: how shall India employ its nuclear weapons in peace to strengthen deterrence; and, if deterrence fails, in war. There are two larger philosophical principles which underlie India's nuclear doctrine. The first of that was the nuclear weapon is an instrument of politics rather than an instrument of war fighting. It privileges deterrence over coercion or deference.

Yogesh Joshi: The second issue which looks at the philosophical underpinnings of deterrence thought in India was the issue between credibility and risk when it comes to projecting deterrence, which was the whole debate between P.M.S. Blackett and Albert Wohlstetter in 1960s for that matter. For deterrence to sustain for a long time, Indians look, not at the credibility of response, but the risk which any response poses in the minds of the adversaries. For a certain time minimal risk was sufficient for deterrence to operate.

Yogesh Joshi: Those two philosophical principles lay down the barometer for two operational principles, which the first was No First Use. That you don't really need because you don't think about them in terms of war fighting, you don't really need to use nuclear weapons first. But also a retaliation-only posture, which basically says that neither for defense nor for push and you can actually use nuclear weapons.

Yogesh Joshi: How did India obtain these doctrinal principles? As we argue in our book, it was both a product of historical contingencies, an evolution of India's nuclear thought during the Cold War, but also the 1999 and 2003 it was a pragmatic foreign policy choice as well. If you look at the doctrine, it was much more of a statement of foreign policy rather than a military doctrine itself.

Yogesh Joshi: It's only that the military considerations start coming in after 2008, when India signed the Indo-US nuclear deal, and to a certain extent that accommodation that foreign policy objective has been met.

Yogesh Joshi: How, in the last decade or so, both India's will to use power and how it is assessed by its adversaries has come into question? Fundamentally, the problem is from Pakistan-- that has been the singular source of doctrinal evolution. It has never believed in the NFU the whole, full spectrum of deterrence challenges India's nuclear doctrine in NFU and massive retaliation. But India has not been able to resolve the stability/instability paradox, that Pakistan continues to form means of conventional warfare and the shield of nuclear weapons.

Yogesh Joshi: The second factor is that China and the growing conventional asymmetry and there's this whole debate, which used to be a debate in 1960s, to use nuclear weapons to manage that asymmetry at conventional levels. That debate has again resurfaced as the capabilities gap between China and India kind of increases.

Yogesh Joshi: But, lastly, it's the technological force development, which is driven largely, because of India's arm spacing with China to kind of level their gap for deterrence stability but allows greater options to Indian decision-makers to reach out Pakistan, or at least Pakistan perceives it to be the case.

Yogesh Joshi: Lastly, the factor is that, as I said earlier, those foreign policy requirements of post-1998, more or less, now fully met with the Indo-US nuclear deal. Those considerations of restraint and a responsible nuclear power doesn't really figure in so much now.

Yogesh Joshi: That has led to specific complaints about NFU and massive retaliation. To give an example, NFU allows the adversary to take the initiative, restricts India's options, it hasn't helped the trust deficit with Pakistan, but also in a sense that the Indian decision-makers are holding hostage the Indian populace, which is very undemocratic. The recommendation, which has come from the strategy communities to make it more ambiguous, to give up NFU or make it much more ambiguous.

Yogesh Joshi: On the other hand, the massive retaliation suffers from two major shortcomings. First is the issue of political will, that if push comes to shove, would Indian decision-makers go the whole hog and carry out a massive retaliatory strike against Pakistan? Second is the issue of proportionality of force--that really you should only respond in proportionate measures. Therefore, the argument is that there is now a need to revise or bring back the flexibility which was initially part of, in terms of what Vajpayee said in May 1998 adequate response and the Punitive Response of 1999 draft nuclear doctrine.

Yogesh Joshi: The two fundamental problems with these suggestions, which we kind of outline in the book, the first is that any doctrinal revision really doesn't address the fundamental problem India faces with Pakistan, which is the issue of instability and stability paradox. That really doesn't address the issue of terrorism, the Pakistani support for it, and whether India can actually use the nuclear leverage to stop that particular front from Pakistan.

Yogesh Joshi: Also, that if you revise your nuclear doctrine, you become much less credible in a sense if you don't really have those capabilities to back up. Therefore, if massive retaliation is anyway less credible in Pakistani eyes, if you revise your doctrines, then it would be more so. In China particularly, China-India nuclear scenario is one which suffers from deterrence stability, but not crisis stability.

Yogesh Joshi: In a sense that India and China are two nuclear-armed neighbors who have never threatened each other with nuclear weapons, even when there is an active conventional front out there. So why would you risk problems of nuclear crisis management on the India-China frontier when there's already so much of crisis stability, even if no deterrence stability.

Yogesh Joshi: On the non-proliferation front, we have three major arguments. India for a long time was on the wrong end of the global nonproliferation regime. The turnaround from 1998 has been exceptional in some sense. So for the NPT, India has moved from principled opposition to pragmatic support.

Yogesh Joshi: This change in India's approach was driven by two factors, which was, the first one, it was a strategy for accommodation, but also, which historians have really not looked into, is that India had a deep interest in nonproliferation from the very beginning. In fact, after the 1974 tests PNE, India actually, at least privately, acquiesces to all nuclear control regimes, which the US and others wanted to do without actually signing on to anyone.

Yogesh Joshi: In fact, the first time India was asked to join the NSG was in 1976, but this was the diffidence of India as well as this whole idea that this would be a backgate to the NPT that India didn't really get onto the bandwagon. On the NSG, India's NSG, the whole process of NSG shows that even with the Indo-US nuclear deal India's accommodation in the nuclear deal is still not complete.

Yogesh Joshi: That nuclear politics dominates Indian foreign policy as much it used to dominate during the Cold War, as well as post-1998. But it also tells you

that there are limits to US influence. Especially after the 2008 IAEA vote to 2018, you see this declining US influence in these regimes. On arms control, there are two major issues, the CTBT and FMCT.

Yogesh Joshi: We argue that India will continue to hedge until and unless there's a larger movement towards these treaties. But fundamentally, which people have not suggested so far and kind of overlooked, that military considerations will play an important role. In fact, in 1999, it was the chief of staff's committee which put a point to Vajpayee government that you really cannot sign the CTBT when that movement was a little bit under the Indo-US nuclear dialogue between Jaswant Singh and Strobe Talbott was taking place.

Yogesh Joshi: On the state-specific nonproliferation challenges, we kind of argue that India is generally supportive but would not undermine its own interests. There would be issue linkages and those issue linkages would be that how much US can deliver on the NSG. Which you actually look back in the first vote in 2005 in IAEA when India voted against Iran. Those are the same issue linkages, which will continue India's engagement on state-specific nonproliferation challenges.

Yogesh Joshi: There are two larger recommendations we made. First is that you avoid these pitfalls of inadvertent and accidental escalation. There's a need for India, China, and Pakistan to talk to underline their nuclear thresholds, to kind of clarify what they really mean in terms of their capabilities, and to find those parts to inadvertent and accidental escalation, but also devise CBMs which can arrest these parts.

Yogesh Joshi: Second, which is more of an internal recommendation for India, is that India needs to kind of think about a public review of its nuclear doctrine, which hasn't come out since 2003, which was just another, in a sense, that there's been 15 years since India hasn't clarified its position. There has been lot of new technological force development, new strategic interactions, there are new challenges, new tricks, there are new processes in place and it would serve India's interest to come out with that document that would channel its nuclear energies.

Yogesh Joshi: I'll stop there. Thanks.

Sameer Lalwani: Thank you, Yogesh. Your last mention of CBMs and dialogue is music to the ears of all Stimson folks in this room, including our co-founder Michael Krepon, who I think was one of the biggest proponents of this very early on in South Asia.

Sameer Lalwani: General Nagal.

Balraj Nagal: Thank you, Sameer. Good morning, ladies and gentlemen. My being here I can actually thank Michael. A few months ago he asked me to give an interview for the South Asia studies in Delhi. Travis and I played hide and seek for a long time, we couldn't meet. Then Sameer was very kind, I told him that I'm coming to US to look up my son, so he said, "If you go here, then we'll be your hosts." I'm very grateful to him for hosting me here.

Balraj Nagal: But I shifted from the strategic community to the think-tank. One of my old instructors from the Indian Military Academy when I was a cadet was the person by the name of Gautam Sen. I think some of you may know him also. He advised me, he says, "When you shift, you must leave your uniform behind and you must look at the scholars, the analysts, the researchers in a different light." What he told me, stayed with me. He said between the realm of ideas and public policy is this great community of analysts, researchers, theorists who will bridge the gap for you. This, of course, stayed with me.

Balraj Nagal: I've looked at this book precisely with that prism. I have not tried to impose a practitioner's view on it or to find fault with whatever they've said.

Balraj Nagal: But before I start, I wish to clarify that the Indian nuclear doctrine, as enunciated in 2003, stands. It was not a doctrine for a few years, it was a doctrine for a very long time.

Balraj Nagal: Why I say this is, that you cannot read the 2003 press release in isolation. It must be read in conjunction with the draft, which was released in 1999. That is an enduring document. It talks of modern controllers talks of first structures, it talks of future ideas. If you want to evaluate the doctrine, please focus on the draft and then you come down to discussing the nuts and bolts of it.

Balraj Nagal: Well, they've gone into many issues, they've contextualized the landscape for India, whether its technical force development, or doctrinal debates, or shooting intentions, new generation of force projection, naval domain is spoken of, the absence of strategic dialogue, and of course last, the nonproliferation issues.

Balraj Nagal: While some of the dialogue they have made some suggestions about the baby steps that'd been taken and then where you go from, first to the next to last. But in the defense review, I think they have shied away. I think

they need to work a little more because if they want to bridge this gap then they must come out with some set of recommendations.

Balraj Nagal: That is my first recommendation to them.

Balraj Nagal: But before I go into more detailed issues, I must say that when I read this book, and I've read it twice, because I found it very interesting. I'll term it as a "very useful document". It's an absorbing document, very readable for people from the lowest echelons to the highest echelons. It engages you in a discourse which keeps you attracted. It's informative because the amount of data they have got is extremely good. Finally, I would say it's a very interesting book to read.

Balraj Nagal: It's extremely well-researched. At times you find it over-researched because there's quote in every sentence. So one after the other there is a machine gun fire saying this quote, this quote, this quote, which is very good. In fact, what has happened, some quotes that come, which may not be of that importance, so I think they can shift it later on.

Balraj Nagal: The simplicity of the book is extremely attractive. It's an evergreen book because they've laid it out there. They structured it, it can be updated at any point of time. That's the strength of this book, that every edition will bring out a new set of data, because they closed the data somewhere around '15, '16.

Balraj Nagal: After that, to my way of thinking, three very important documents have emerged. First, it has not emerged, it has continued, is the DOD report of the Congress about Chinese military capability power. '16, '17, '18 are very, very illuminating. Similarly, the economic and security commission report is also very, very insightful.

Balraj Nagal: I think in these three years, China has made great strides. Before yesterday's IAEA release is an equally interesting one. Maybe what the president does today on the missile front. If this data was to be incorporated, the next addition would be very, very valuable. It has a very friendly layout. It is very relevant to what debates are going on.

Balraj Nagal: I would recommend that they also bring in the geostrategic issues, which are ongoing, which generate these issues, because they require addressing as you are building arguments. I agree with most of the issues that they've set, but there are disagreements. That is more because of my inside knowledge rather than as an analyst. So I won't go into my inside knowledge.

Balraj Nagal: But I will contest a few issues so that we can have a debate. Stop me when you wish to. First is the concept of credible minimum deterrence. It is not what the West describes, analyzes, talks of. The draft document very clearly laid that out, it is driven by three issues. First, what is the evolving strategic environment? Second, what are the technical imperatives which are going to emerge? Last, the national security needs. So when the doctrine in the actual form was given to stakeholders, it spelt out far greater details than were in the draft or in the alternate. So don't measure it with your weighing scales. Take it as a separate entity, believe in what India says in the draft and then evaluate it. That's my next recommendation.

Balraj Nagal: Similarly, if you read one of these reports, I don't know which one, either DOD or the Economic Security Commission, they described Chinese views maximum, minimum, and somewhere in between, a moderated one. I think you should look at the Chinese views also in those terms rather than in the Western terms. Therefore, we, Indians look at it in those terms.

Balraj Nagal: Of course, we are yet to make sense of what FSD means. Jack is here and we discussed this a few months ago, They keep saying it is tactical operational, and strategic. So we still don't understand because this lexicon is going on between us and them. We want to understand what do you mean by tactical level deterrence with nuclear weapons. If it is the old NATO Warsaw concept, very clear; but if you want to generate a new thing, then they need to come on this.

Balraj Nagal: CMD gives us space. It gives us flexibility. It also gives us scope for change. It is not fixated, it is not fixed--it is dynamic. India will continue to work on this and what roadmap was laid down in 2003, '04, '05 still exists, it is being pursued.

Balraj Nagal: I'll come to some issues on India. We have no desire for war. We are looking at strategic deterrence. We are not looking at nuclear war fighting. So that's the basic concept that India follows. This perception may not be there on the other side, but it is our thought.

Balraj Nagal: Then they've said that technological imperatives are driving the Indian doctrine. No, sir. The DRDO may make some loose statements. If you've noticed, post-2014, after some of us criticized this penchant for talking beyond the realm, they have shut up and the Indian DRDOs were restructured also at the top level. So, it's made an impact and, therefore, we don't fight.

Balraj Nagal: But let me assure you that if DRDO is researching anything, it is based on clearance by the political council because no money can be released to anybody for R&D without the political council's directions. If they are going to state that they wish to develop a particular platform or a weapon system, then it is with clearance.

Balraj Nagal: At the moment we have no dual-use platforms. Whenever anything is inducted into the strategic forces command, its testing becomes the prerogative of the SFC and, therefore, it is announced. We are not akin to China when it comes to dual-use platforms. We sense they don't have a bomber in the airfleet, a problem lies in dual-use of aircraft, which is a fact which we accept.

Balraj Nagal: One more recommendation I have for the book is that the new examined doctrines and strategies and when you're recommending some line of action, you may like to bring all the implications of your recommendations. That will add value to your book. I've already said that you can tell us what you want in the doctrinal review.

Balraj Nagal: The Indian bureaucratic system, I'm not talking of the bureaucracy, I'm talking about the military, also I'm talking about political system also, is not generally inclined to review very often. We don't have a defense policy, we don't have a strategic policy, national security policy. So this was one of its type which came out and I don't foresee future review in the public domain, though internally the reviews do.

Balraj Nagal: Coming to Pakistan, I would recommend that you also examine the Pakistan strategy of brinkmanship in a little more detail to see how it reflects on India's requirements. You've spoken of the increase in fissile materials, the implications also can be looked at.

Balraj Nagal: FSD implications, I would definitely request you to examine in greater detail. Similarly, their conventional force modernization, which has happened post the major withdrawal of ISAF from Afghanistan. They've changed the structures of the mechanized forces in conventional terms also.

Balraj Nagal: Now, to China. There's a vast difference between what they profess and what they practice. I can quote you a number of examples from the 2015 document or 2017 document on Asia-Pacific part where they've said something "we oppose hegemony," they impose hegemony, "we want a peaceful transition," they do force coercion. They talk of an international order and they propose an alternative. There are a number of examples, I

will not go into details. But if somebody is keen, then I can send them to you.

Balraj Nagal: But post-2015 December, there'd been major structural changes and transformation in the PLA - okay, one minute - that I'm going to run through. Somebody needs to look at the directive Xi Jinping has given to the PLAAF 2015 December. He said, "The concept of active defense, how does it actually work in ground?" DND, the concept of local wars, the new missiles, the hypersonic missiles, the DF-26, and 16s. The SSF, cyber, space, electronic warfare, host of things have happened to destabilize, loss of treaties spoken of, A2/AD, if it is Western Pacific, it can turn to the Indian Ocean also. The PMS and the naval domain, they're using words like "overseas interest," "maintaining peace in the world," all these are part of their directives. This is Xi's directive to PLAAF.

Balraj Nagal: The non-acceptance of the ICJ ruling and the wording of NFU is most troublesome. "We have always pursued nuclear no-first-use policy," past tense. Next line, "the unconditional part is people who have no nuclear weapons or nuclear free zones." So, to me it's very, very confusing.

Balraj Nagal: Last sentence, Xi Jinping states that PLRF is core of strategic deterrence to China's power, cornerstone on which to build national security, irreplaceable role in containing war threats, to ensure favorable strategic posture for China, maintain global strategic balance and stability, precision strikes.

Balraj Nagal: I close.

Sameer Lalwani: Thank you, General Nagal. Caroline.

Caroline Milne: I'm sort of regretting volunteering to go after General Nagal, as you have sort of answered some of my questions or superseded them. Hi, everyone. I'm Caroline Milne. I'm from the Institute for Defense Analyses, as Sameer mentioned, and, as he hinted, I am an outsider when it comes to South Asia issues. Thank you very much for having me here. I'm humbled to be part of this panel and part of contributing to this work.

Caroline Milne: Being an outsider, especially after reading this book, I realized I'm happily an outsider, because the issues here seemed to me to be much more palpable and tangible than the world that I normally work in, which is sort of US-China, US-Russia, DOD military services operational issues. So I'm glad, as I said earlier, that you guys are tasked with solving this issue, and not me. With that being said, obviously, take my comments with a grain of salt.

Caroline Milne: In terms of what I think the book does well, echoing General Nagal's comments, I would say the book provides a comprehensive, well-researched, well-documented unpacking of the technical facts. You come away from the book with a very clear view of what the security backdrop is in the region. As has been said before, I believe this will be an essential reference for people studying South Asia going forward and in its updates.

Caroline Milne: Particularly in this context, I think they do a wonderful job of blending, as Sameer mentioned, the conventional and nuclear elements. I think a lot of times in this business people tend to stovepipe in either one or the other, but to try to blend them is a tougher task, and they do it masterfully.

Caroline Milne: Secondly, the other unique aspect of this book that I appreciated was, the way they illuminated this regional trilateral perspective. As they mentioned, most of the current discourse or literature seems to be more bilaterally focused, India-Pakistan, India-China, but really trying to get at how these militaries interact in a three-way dynamic is critical, and how sort of that coupling aggregates into a larger dynamic is something that goes underappreciated.

Caroline Milne: Also, from a research standpoint, it's just a more difficult challenge to track how one state tries to deter two. In the US, or in my world, I think this mostly comes up when you're talking about how moves the US may take to deter North Korea will impact China. But it doesn't come up enough in my opinion and so I was really happy to see this trilateral view.

Caroline Milne: Finally, from sort of a signaling perspective and your research of the signals that these countries are sending to one another, I'm frankly quite jealous of the evidence you've been able to amass to show both the signals that are sent or intended to be sent on one side and how they are then received, mis-received, misinterpreted on the other. So, that was something I appreciated about the book.

Caroline Milne: Now to sort of lay into the book, what would I have liked to see more, so I think I have three sort of broad points or broad areas of suggestions. The first gets at this sort of core issue, which is India's potential interest in the concept of or capabilities befitting of nuclear war fighting.

Caroline Milne: My sense of your core argument is that the emerging capabilities appear to be moving away from their historical emphasis on assured retaliation and more towards a war fighting capability. And the evidence, in addition to doctrinal debates, you cite certain force posture decisions. So MIRVing

interests, short-range ballistic missiles, warheads potentially useful for tactical nuclear weapons. Also, this sort of, the line I liked a lot was the feeling of fast moving progress in the air and they're advancing on all technical aspects of their capabilities.

Caroline Milne: I think there's a little bit of what I see as inferring doctrine largely from force posture decisions going on here. I think that can be a little risky at times because the evidence can be so cross-cutting. So the question is, how far does the evidence really suggest an interest in a nuclear war fighting?

Caroline Milne: There I think I was hoping for a little bit more of an appreciation of counter-arguments, which the General touched on a little bit, so now I'm not so sure of how persuasive they are. But specifically, internal pressure, the scientific establishment, the technical determinist argument.

Caroline Milne: Sort of most importantly, I was curious, as I read the book, are these decisions more a product of prudent defense planning on behalf of India? In that they believe by developing these capabilities they will ultimately deter Pakistanis which will in the long-term be stabilizing. Is that a possibility?

Caroline Milne: In a way, I see the Indian position is somewhat similar to the US position in the most recent NPR vis-a-vis Russia. That India feels, it has indications, that Pakistan views or believes that nuclear employment will give them an advantage and they are concerned that their existing capabilities do not provide an adequate counter to that confidence. So, investing in their perceived gap in options might be a way to solve this problem, as people have pointed out it might not be, it might be insider's sort of tip for tat dynamic, which would put you on an escalation ladder.

Caroline Milne: It's not clear that that will solve the eventual problem, but at least I think it essentially gives Indian military planners a bit more credit and that they might just be trying to do their job.

Caroline Milne: In line with this sort of comment, I was curious that in identifying a doctrinal cause for these force posture developments, are we imposing a bit of a false choice? Although, to be fair, you use a lot of verbiage like "they're moving towards," not necessarily they're going for nuclear war fighting. Are we imposing a false choice between assured retaliation and war fighting? Because I see those two things as ends of a spectrum and because there's a lot of room for maneuverability between.

Caroline Milne: Sort of derivative questions of this, which gets to I think a little bit of what Sameer was saying, is there such a thing as a perfect retaliatory posture from which any move away from indicates interest in nuclear war fighting? I don't think so. This also gets back to the recommendations of this stability theorists in the late '50s, early '60s, what they recommended for the US and Soviet Union was very elegant and beautiful, but very hard to put into practice.

Caroline Milne: As the General mentioned, secure second strike, assured retaliation, it's not a static entity. It's something that has to be maintained and updated over time.

Caroline Milne: Another derivative question of this is, and perhaps this is my sort of Western view or my Western lexicon and conceptual lens taking over, I couldn't quite understand why minimum deterrence and credibility need to be in tension with one another. It's my first set of comment.

Caroline Milne: Second set of comments. These are all shorter so I hope they were good on time. My second set of comments focuses on the causal pathway to escalation, which I think you could draw out perhaps a little bit more clearly. One of your essential findings seems to be that, in the land, in emerging naval domains, the nuclear threshold is increasingly blurred and one of the many factors this is based on is the increasing investment in dual-use capabilities, which I'm not so sure about now that I went after the General, but anyway here I go.

Caroline Milne: I think you have definitely proven the whole dual-use capability issue in terms of what they are deploying. However, how this exactly brings us to nuclear use in a situation, I wasn't as clear on. I guess the question is really, I wanted to hear more about the exact scenario you were envisioning for nuclear use. I know that these things are in almost an entire way impossible to anticipate, but I think I would have appreciated a bit more sort of drawing out how we get from dual-use capabilities to nuclear use. Because I think you might find, as you impose more context on the problem, there are variables that come into play that may dampen incentives for escalation rather than increase.

Caroline Milne: Getting to my last set of comments and this concerns sort of the world that I find myself increasingly in actual strategy and in actual policymaking. Your two big recommendations are strategic dialogue and India strategic defense review. I think, in general and in short, I wanted to hear more on what exactly you want to see happen with those two things.

Caroline Milne: For both of these, throughout the book you set some high expectations for what we can get out of both of these things. I was curious if we might be over or expecting too much from them. Another way of looking at this, I was curious and maybe this is my just ignorance on regional dynamics, but I was hoping to hear more about what the history of dialogue has been and why it might be more successful today than in the past, and perhaps that's obvious to experts in this region.

Caroline Milne: Also, or another way, would be to sort of what are the first types of things the state should be talking about? What's sort of maybe you start with low-hanging fruit and move on to more difficult topics? But sort of taking a crawl-walk-run approach to dialogue, what are the different steps? Then, in terms of the official public defense review, I would echo the General's comments here, and that we talked a little bit about this before we got up here, the defense review as you go through the book, you set some high expectations for it as well, but I was curious about how you would actually pull off a defense review.

Caroline Milne: As you mentioned, the first ever I believe would have been by the NSC in 1998, but it was preempted by the test. Today, in 2018, who's the best entity to lead this process? Would it be the embassy? And how would the services approach this issue? What would the interagency or interservice process look like? How would the lack of strategic planning that you mentioned impact the exercise?

Caroline Milne: So, sort of general process-oriented questions, which I think you're in a really good position to get at more, which would be something I think that policymakers might, it might resonate much more with policymakers who are more interested in sort of solutions and what's the best solution for their problem today.

Caroline Milne: With that, I'll close. I hope some of that was useful. Thank you.

Sameer Lalwani: Thank you, Caroline. I think both General Nagal and Dr. Milne have offered a wealth of feedback that might be useful for the next three books you guys will work on. But take that into consideration for right now, not just respond to it. We'll open up to some Q&A. But I want to pick up first on something that, Yogesh, you mentioned because I think it actually opens up a set of questions that everyone can engage on here.

Sameer Lalwani: You've made a point that there is no doctrinal revision that really addresses the stability/instability paradox, either it has not been contemplated or it has not happened. I guess when I heard that I was

starting to wonder, is it because we're just in the wrong domain? Are these strategic tools of strategic weapons or advanced conventional weaponry really the right tools to address the particular political objectives of that, the instability side of the instability/stability paradox?

Sameer Lalwani: There's a really interesting article about eight months ago by Michael Kaufman who writes a lot on UR-Russia dynamics. I think this is relevant, not just for us or the India-Pakistan context, but for a lot of other dyads where he talks about Russian strategy, in which the United States is described as fairly aggressive and offensive, is really a strategy of raiding and brigandry, which I think the title is fantastic. But it sort of goes into detailing this and it is a strategy and yet it seems to have low consequence for sort of the higher level concern.

Sameer Lalwani: I guess when I'm hearing that and you're saying that there's not been a doctrinal sort of response to this, is it just because these aren't particularly good tools for what are like low-level probes, disruption raids, or even sort of the efforts to project influence? Or are those challenges just not of a high enough consequence to warrant the kind of doctrinal revision?

Sameer Lalwani: Maybe that's sort of a broad question, it's not just for the India-Pakistan, but also for maybe the US-Russia context or in other dyads as well. But maybe you could have some thoughts on that.

Yogesh Joshi: Thanks Sameer. Yeah. Look at this, the whole issue basically comes down to one thing, whether the Indian decision-makers, which is the political class, it's very different, highly discussed for that matter. Whether the Indian political decision-makers could think about a terrorist strike that would lead to conventional escalation and then to nuclear escalation, would it be worth to have your populace at risk?

Yogesh Joshi: That is the dynamics which the political decision-makers have to make. I don't think that kind of a decision would be taken in a democratic polity like India. The inherent risk averseness is extremely important to think about some of these things.

Yogesh Joshi: But they are also not good tools. If you actually look at the last 20 years, and India has been battling about this for last 20 years, the world has been battling about this since we thought about the stability/instability paradox in 1960. Whether we have come to a right conclusion? I don't think so.

Yogesh Joshi: Also, they are not so much of high consequence as well. How much whether you would invest your strategy security on a terrorist strike, I

don't think that would happen. They are there all of those, but fundamentally, it's about risk averseness.

Sameer Lalwani: Anyone else who want to comment on that? General Nagal?

Balraj Nagal: Well, the first thing on the paradox is that the Indian doctrine does not look at the paradox at all. It's very clearly stated it is for WMD. I mean, if you look at WMD, it is nuclear, biological, and chemical. We've never looked at the nuclear doctrine solving the paradox. I take your mind back to the Afghan War, when the Soviet Union invaded and the mujahideen came in from the other side, Russia faced a civil riot.

Balraj Nagal: The Soviet Union faced a similar dilemma, how much to expand, how much not to expand into Pakistan. We did not. If there is certain amount of instability at the sub-convention level which the India can manage, there's no need to raise the level of movement. We don't want to link it at all. I would say a policy trap, if you decide to get into this policy trap you may land up taking wrong decisions.

Balraj Nagal: But if you are risk averse or not, that is based on the policy of the time. Like if you look at China's 24 characters, you can apply it to India today. There is no need for India to get into a conflict mode of war management. The causes for India to go to war have to be so substantial that it is prepared to risk its future.

Balraj Nagal: If a smaller country wants to do it, then it is their problem. I mean, I don't want to use this term, but since this point has come up. We've got a scholar called Bharat Karnad, and when he talks of Pakistan, he talks of linearity and he talks of destruction. He says it's not a good thing to do, but the fact is that we are not looking at nuclear solutions through conventional means. So, we keep out of this as far as India is concerned.

Balraj Nagal: We have many other means to look at. I was talking to the faculty yesterday, biggest tool with us is on the economic front. It's on the waterfront. I mean, there are so many other issues, which we can look at. I mean, I personally don't agree to this paradox.

Caroline Milne: Is the question are nuclear weapons the right tools to be addressing the paradox with?

Sameer Lalwani: Or advanced conventional weaponry.

Caroline Milne: Okay. I guess my response to that is that, at least from my sort of place where I sit now, maybe not. But our response is driven by our perception

of what we believe the adversary believes about this instability/stability paradox. I think that if you see a belief on the other side that that paradox exists or that strategic capabilities do open the door for conflict at lower levels, then we need to take steps to create options that will disavow the adversary of that perception. I do think it's a lot about what you see the other side, investigate on what signal you can send about their ability to maneuver.

Frank O'Donnell: Yeah. I can just jump in, bundle together a couple of things. Just building on these points, if we don't mention it in the book, we've mentioned previously that, and as General Nagal has said India has no desire to attack Pakistan and the only reasonable feasible pathway that they see is in response to major Pakistani terrorist attack. So following from that, India should not be thinking about what new nuclear capabilities do we need, what perhaps new Proms conventional strike options do we need.

Frank O'Donnell: Where the actual problem is, is in the initial intelligence and in the initial policing to stop that attack happening. Indian police services today are very understaffed across the country. We know the way the Mumbai attack started, in which a local fisherman noticed these two fascinating boats with heavily armed people jumping on board running to the city. He reported it to the police and the policeman said it's probably nothing.

Frank O'Donnell: So we're jumping to too many steps ahead to start thinking about these kinds of operations and what shouldn't you do in nuclear terms when the effort I think should be toward what they should be toward that end of it, which is both more cost-effective and which will ultimately solve the problem at a much lower level.

Frank O'Donnell: This kind of brings me back to, it alludes also to the comments about what we would recommend for the Indian public defense review. I mean, perhaps he judges it to be still not going far enough. But we made the point that the principle should be there should be a clear disaggregation, specifically isolated nuclear threats to which a nuclear response is there for. And everything else must be conventional, ranging from policing up until conventional operations rather than what we see in a lot of the conversations about ambiguity.

Frank O'Donnell: You might say that we could have gone further and started planning out very specific scenarios and so on, but we thought that by outlining that as a very broad principle that would be a great place to start.

Sameer Lalwani: All right. I have been a very poor time manager today and we have made at max 20 minutes for what I imagine will be a number of questions. I will

try to take as many as possible and somebody will have to bundle them and just open up to the panel to respond to pieces as need be. Please phrase your question in the form of a question. We'll start with this right here. Can you wait for the microphone, sorry, and introduce yourself?

Audience: I'm Heather Wuest. I'm a researcher for the Partnership for Global Security. I've been hearing a lot of suggestions that maybe nuclear weapons or even tactical nuclear weapons are an option as a response to terrorism. My understanding of a terrorist act is that it's a sub-state actor who is attempting to initiate change in a political way by hurting civilians, and so trying to influence political leverage using civilians.

Audience: But, as a response, for example, there was a Pakistani terrorist attack on India. If India was to use a nuclear response, it seems like nuclear weapons are a more political tool, like maybe if Pakistan's government attack the Indian government, then that would make sense. But how would it make sense to attack, to basically try to punish Pakistan in that way when it was in response to a sub-state group, which the government does not have control over their action?

Sameer Lalwani: General Nagal, do you want to try that?

Balraj Nagal: I don't think that's an option. I mean, not because it is not doable, but that is not a very rational action. There are other responses. I think France is the only country which in 2006 said once that "we will hold the sponsoring state responsible." I think he was referring to Iran at that point of time.

Balraj Nagal: On nuclear doctrine, very categorical, it only talks of nuclear retaliation after being struck on India or forces anywhere, or big chemical or biological attacks. There is no talk, there is no alluding to, there is no reference to terror being addressed by nuclear weapons. It is totally against the tenets of deterrence effect.

Audience: Hi. My name is Arunjana. I'm a PhD student in Georgetown studying Theology and Nuclear Disarmament. I actually met Dr. Joshi a few years ago, I don't know if you remember me, in a similar event like this. It's delightful to see you again. My question is regarding what you said, which was very insightful, regarding India's role in nonproliferation and the fact that historians have not studied it sufficiently. If I'm not wrong, India was also very active in ENDC. the Eighteen Nation Disarmament Commission. That's a part of history that has not been studied very well.

Audience: Related to my research interests, I would be very interested in knowing if you found any religious discourses, since I study religion and theology. Any religious discourses in any of these three countries that you've studied which are used to either substantiate or refute its disarmament policy or its deterrence policy? Thanks.

Sameer Lalwani: Yogesh, do you want to try to answer that?

Yogesh Joshi: Yeah, thanks. Thanks and good to see you. Yeah. I would say that, as an actor in the non-proliferation debate, there has been a lot of focus on India, but not in terms of why and what India did at various stages with its history, especially with primary documentation. My whole problem with the way nuclear history has been written through the foreign archives. So what the Indians are telling the Americans is not what they are thinking internally. Those are two very, very different things. Therefore, there's a lot of scope to look at India's nuclear history, again in a fresh perspective, especially with the opening of the Indian archives.

Yogesh Joshi: I haven't seen in my own research any archival evidence where any religious text is involved from the Indian side. I haven't seen that. But the calculation has always been very profound, especially when it comes to the use of nuclear weapons. I've just quote, one of the things which we quote one document which was basically written by Raja Ramanna, PN Haksar, and Vikram Sarabhai in 1970.

Yogesh Joshi: There was this whole debate in Indian Parliament after China sends its satellite into orbit in April 1970, that you should have tactical nukes for conventional operations on the abandoned frontier. The document says "as soon as one side goes tactical, it gonna go strategic." That particular phrase can sum up Indian nuclear thinking for a long time, in fact, even today if you go by the doctrine.

Yogesh Joshi: That is where that thinking is coming from. It's very practical but it's also the way Indian strategic thought looked at the Cold War. That hasn't been really encapsulated and touched upon in the strategic discourse so far. Where is the evolution? Why do you have a doctrine in 1999 in the way it did? Where are the causes and where are the motivations of that coming from? That is coming from this historical evolution, which gets institutionalized in the MEA, in the military for that matter.

Yogesh Joshi: The whole doctrine is basically the sum of the speeches which Vajpayee gives from May 1998 till December 1998. I think there is a historical context to what India's nuclear thinking has been and it has been under

research. It is for very practical considerations about nuclear weapons, not as such the religious texts. I don't know so much about Pakistan and China. I don't think in China there would be a lot of religious texts. But Pakistan maybe.

Frank O'Donnell: Yeah. I would just build on what Yogesh was saying in that I myself find it hard to see a direct connection to a specifically religious text for whatever religion. But there is a strong streak of morality that has run through India's way of speaking about nuclear weapons.

Frank O'Donnell: You'll see Indian officials describing the NPT as immoral because it legitimizes for all time five states as holding these horribly destructive weapons. You will see, for example, even before 1998, nuclear thinkers of the time such as, K. Sundarji, K. Subrahmanyam, talking about minimum deterrence and saying that, not only is it more cost-effective in terms of we only need a few weapons to deter, but that the alternate approach as represented by the US and USSR, who incidentally they've developed this great phrase they call "nuclear theologians" in terms of their view of this very abstract Herman Kahn level of thinking about things.

Frank O'Donnell: They will say that the US and USSR approach of having tens of thousands of nuclear missiles enough to destroy the world many times over is not just cost ineffective but it's immoral, and the Indian approach will be moral in having the minimum necessary to deterrence.

Frank O'Donnell: Those are just a couple of examples. I think the deeper question is when send Sundarji and Subramanyam were having these debates, we've only read what they've written or spoken about, is the morality focus part of those initial debates or just something that they bring in later on as an additional powerful just rationale justification for what they're doing? Is the morality thing really rhetorical or is it something that really conditions nuclear force thinking at the operational level?

Frank O'Donnell: Perhaps it's something that General Nagal could comment on as well?

Balraj Nagal: In the Indian context, whatever my discourse and interaction, the foreign service has been it is more the Gandhian thought which pervaded in their thought processes. Not in the context of non-violence, but in the context of morality and acceptance of what is right and what is wrong. There was no religious discourse in any case. If there was one, there would have been a cry in the parliament the next morning.

Balraj Nagal: Whereas in the '80s, I may date it wrongly or I may get the name wrong, I think there was a book written by one writer Malik in Pakistan, who spoke

of the chronic concept of war, where terror is to be used as a tool, but it is the conventional context and not in the nuclear context. That got a lot of publicity in General Zia's time because at that time they were fighting in Afghanistan and they were developing the concept of trying to impose war on infidels. Therefore, maybe, I'm not saying I have any proof to say so, that thought could have gone to the nuclear domain to say that use terror as a tool. But it was initially written for the conventional context.

Balraj Nagal: On the Chinese side, I don't know.

Caroline Milne: I think this question relates to what I see and I think you've already described your next book in both of your comments. I think this gets a sort of the third sentence in your introduction where you talk about how nuclear policy has long been viewed at home domestically as an essential expression of Indian identity. I was really captivated by that statement and you touch on it throughout the book, you know, the responsibility argument, question of morality, perhaps there's a religious element to it,.

Caroline Milne: But I think your study or your research program is terrifically postured to get at what is the Indian nuclear identity? What are the sources of that and what are the consequences of that particularly? I found it interesting and the sort of tension between their nuclear weapons policy and their nonproliferation policies, how those manifest in those dimensions as well.

Sameer Lalwani: Well, one second, so we're gonna take three more questions because we're running out of time, and then we will have the panelists all have an opportunity to address whatever questions we can reveal. We'll start with Michael.

Audience: Yogesh, Frank, congratulations on the book. My question to all of you is whether you think India will proceed with MIRVing, putting more than one warheads on some of its missiles. Not whether it should or shouldn't, but whether you think it's likely to happen.

Sameer Lalwani: The gentleman in the blue first.

Audience: Hello. I'm Chaz Jones. I'm an MA candidate in American University studying US foreign policy and national security. The fact is I haven't read the book, it seems like a really great read, I'll have to check it out. But I just have a quick question. With your research, the book writing process, did you come across anything about how imperative nuclear security will be, particularly this region, for instance, regarding Pakistan and how that's going to impact the grave threat of proliferation there, that particular region that the book covers.

Audience: Because I think there's honestly kind of a crossover between nuclear security and also the grave threat of a non-state actor, like potentially nuclear terrorism. Just because Pakistan for years has kind of struggled with proper command control, proper nuclear security procedures, and the Bush and the Obama administration both gave billions of dollars to try and improve that, but yet they still struggle with it. I guess that's my question, like anything about nuclear security you came over and how that will be, I guess, addressed in years to come?

Sameer Lalwani: Thank you. It's a great question and one that's really relevant because I remember in very early on your book you talked about the potential growth in weapons-grade plutonium should this fast speed reactor actually come online. I think the numbers looked to me like it could increase the amount of weapons-grade plutonium by 25% each year or something like that, which is stunning.

Sameer Lalwani: Okay. We'll save the complication for later.

Sameer Lalwani: Third question over there. Sir. It's you.

Audience: Hi. I'm Justin. I'm also a candidate at American University. My question, since one your recommendations was a strategic dialogue, and I believe it was kind of brought up earlier, is it possible to have strategic dialogue without exactly calling it that? You mentioned that each of these forces they have kind of a robust history of crisis with one another and interactions.

Audience: Given this whole economic and anti-terrorism new cooperation that's taken on in the international realm, especially with the Shanghai Cooperation Organization, do you think it's possible to kind of just with their force familiarity just instead of blurring the lines of incidental or accidental escalation, but rather creating a more, I guess you would say kind of robust crisis management system, just by these actors interacting through these international organizations?

Sameer Lalwani: Great. Wouldn't that be wild this if triangular competition gets sorted out within the Shanghai Cooperation Organization? Okay. So we have three questions on MIRVing nuclear security and strategic dialogue. Shall we just start down the line? So, Frank-

Frank O'Donnell: Yeah. Do you want me answer three-

- Sameer Lalwani: Take whatever pieces you want, but try to keep it to a minute each and we'll close off.
- Frank O'Donnell: Okay. MIRVing, I think yes. DRDO has expressed interest in this position. There's a lot of Indian debate about what they think China sees as being credible and that MIRVing warheads is essential toward that. So, short answer is yes, that's my opinion.
- Frank O'Donnell: On nuclear security, we talked about this, we spent a lot of time talking about the Pakistan Nasr tactical nuclear weapons and the dangers of those being forward deployed and what's called the "use it or lose it" scenario. If they come within range of advancing enemy forces, they could be captured by enemy forces, they could be used to field commander, I think that they may have to use them.
- Frank O'Donnell: With regard to nuclear material security, this is something we could have talked about a bit more, both are developing their fissile material stockpiles. But one article that I would point you to for more, and this is one that was written I think about a year ago now by Christopher Clary and Ankit Panda. I forgot the title of it but it's focused upon Pakistan's nuclear weapons developments and the security, I think particularly on the SSBN component, the nuclear security things that would come out of that.
- Frank O'Donnell: Finally, on the potential strategic dialogue, I think it's absolutely possible and perhaps in the way it's phrased in the book we maybe make it looked like it's going to be a lot more public and a lot more fanfare starting than it can be. It could simply involve quiet back-channel conversations among the national security establishment in all three states that we don't actually come to learn of publicly. It can start in the form of simple conversations.
- Frank O'Donnell: That's the way it can start and then we can have as trust or just mutual understanding and hopefully build toward a more formalized process and toward deliverables. But it's very easy and all states are very used to having these very quiet conversations that ever come to public light.
- Yogesh Joshi: Thanks, Michael. I think the answer is yes. It's not just the interest of the DRDO. If you look at MRVs and MIRVs, MIRVs would basically increase ... One of the fundamental problems with the Indian force structures right now is the whole fission/fusion debate. How much bang for the buck do you really have? There is a lot of issue in terms of reliability. MIRVs kind of solve that problem. That if you have a 20-kiloton device vis-a-vis 300 kiloton device from China, then MIRVs kind of resolved that.

- Yogesh Joshi: I think from Agni-IV onwards you have a three bus warrior. But MIRVs on the other hand would help you for survivability issues as well. So I think, yes, there is a huge interest in there. I think they did from Agni-IV onwards, I guess MIRVs would be the thing. With the six submarine, which would be the intercontinental ballistic missile range submarine, there would be MIRVs in that area, on the sea domain.
- Yogesh Joshi: Yeah. The imperatives of nuclear security, I think it's a very valid question. If you see during the nuclear security summits, India was a major partner, India also committed certain funds to the IAEA, you have a global center for nonproliferation now in somewhere near Delhi. So, yeah, but it also depends upon global diplomacy in a sense. India would bandwagon if there is a particular agenda to bandwagon. Then, if it goes out of the limelight in the US, it would happen the same everywhere and you see that with the nuclear security summits again. Under the Obama administration, that was the main plan, and Trump no. So the states also respond to that, I guess.
- Yogesh Joshi: I would just second the comments of Frank on the strategic dialogue thing. There had been back-channels right from 1960. The first time India opened up to China after the 1962 war was this back-channel between one of the trusted advisors of Indira Gandhi and the Chinese in 1969. So, yeah, the back-channels and especially things which are not in the limelight go way forward in carrying these dialogues to a point where they can really hit off. Even the Musharraf and Manmohan Singh dialogue in early 2000s was another example of those.
- Sameer Lalwani: General Nagal and Dr. Milne, if you want to address any questions or final or closing comments.
- Balraj Nagal: That's been India's concern and of late Pakistan has also been very active on that front. As a matter of fact, they've raised a special force under the SPD to look after the security of their systems. They also participated in old Soviet Union, then it disintegrated, there were lots and lots, the Americans also went, even our scientists went ahead. So we picked up some important information and systems and knowledge of what was done and we've incorporated that in the '90s in what we would do. And of course, our procedures and systems are very, very strict, if I can use those words.
- Balraj Nagal: On the dialogue, nothing is impossible. As a matter fact, between India and Pakistan, two, three small steps have already been taken and they were taken two decades ago. We share a nuclear installation data on the 1st of

January every year, every year they are not to be attacked. When we need to do our ballistic missile launches we inform each other. So it's not that there is absence of dialogue, but yes, the progress has not been substantial.

Balraj Nagal: Especially the Chinese, I think they need to accept India as a power with adequate nuclear capability. When they dialogue, if you read the 2017 white paper on the Asia-Pacific, they're talking of a Southeast Asia which is nuclear-free, but they only said five nuclear powers will decide this, so India is kept out of the loop. Pakistan, of course, is not spoken of at all. China needs to change its attitude before a serious dialogue can take place.

Balraj Nagal: On the conventional mode, they do it very regularly. But on the nuclear mode, they have not been so forthcoming. But I hope it happens.

Caroline Milne: My response will be very short. In response to Michael, I agree, I think the answer is yes, primarily because it seems that all levels of indicators are pointing in that direction, strategic domestic political and technological. Then, on the dialogue point, not so much. I'm not getting at the potential for dialogue but you mentioned the potential ability of dialogue to address the issue of blurred lines. I would just raise that it's possible that dialogue might not clear up those lines and purposefully so, and that may or may not be a good or bad thing for stability depending on how both sides perceive the stability/instability paradox to bring us full circle.

Sameer Lalwani: Thank you all for joining us. I apologize to wrap up pretty quickly. The book is available for purchase outside. Please grab a copy and continue the conversation. Thank you to the speakers for joining us today and for all of you here and online for participating. I'll just ask that we have to clear the room for another event that's coming after. We're moving onto another domain of nuclear security. Please take your conversations outside and we can continue from there. Thanks again.