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Transcript

U.S. Nuclear Weapons in the Twenty-First Century

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MR. GEORGE PERKOVICH: Good morning, my name is George Perkovich. I'm the vice president for studies here at the Carnegie Endowment. I know many of you. As Brad is sitting down, he just said there are lots of familiar faces and even more unfamiliar faces. I'm noting the same thing and I said, that's fantastic for those of us who feel like dinosaurs working in this field and on this topic. It's great to see new species kind of flourishing. We feel like we're kind of the victims of the extinction in some ways.

It's a real pleasure for me to welcome you and to invite you to listen to Brad Roberts, who is a friend of long standing. Prior to his work in the government as the Deputy Assistant Secretary of Defense in 2009, in which he spearheaded the Nuclear Posture Review and had done a lot of excellent work at the Center for Naval Analyses and IDA, both.

MR. BRAD ROBERTS: Institute for Defense Analyses and CSIS.

MR. PERKOVICH: And CSIS. He's been an editor at the Washington Quarterly. That's when we got to know each other. Then he did outstanding work for the government, went to Stanford where he wrote this book and is now the Director of the Center for Global Security Research at Lawrence Livermore National Laboratory.

Brad is going to give you the essence of this book, which I urge all of you to read. As I was telling him, it's exceptionally well written, first of all, so you actually admire the sentences, which doesn't always happen when reading books about nuclear policy. It also is quite provocative in the sober sense of the word. It makes you think really hard about these hard issues. So it's a serious book, but it's a pleasure to read because it's so well crafted.

So he's going to take you through the essence of it. I've got a few questions, because I'm not entirely persuaded, as I'm sure he isn't about the things that I write, so there's a good discussion to be had. Then we'll open for a conversation from all of you.

Brad?

MR. ROBERTS: Thanks, George, thanks so much for those kind remarks and the introduction. Thanks to all of you for coming for this discussion, and for so many new faces in this discussion. In essence, this discussion is written for the new faces in this discussion.

My point of departure is that there have long been and are today two camps on U.S. nuclear policy and strategy. For a long time there was a middle. Admittedly it was driven by a bunch of institutions that don't exist anymore.

Those institutions are, for example: the Arms Control and Disarmament Agency, which assisted the president and the executive branch in doing integrated thinking about deterrence and arms control; the Defense Nuclear Agency, which assisted the Department of Defense in gaining analytic insights from the academic world.; and the Congress used to have the Senate Arms Control Observers Group and the Office of Technology Assessment.. These organizations and processes helped to create a middle that has kind of fallen away over the last couple of decades. As a result, we have today two camps that barely talk to each other, share their different assumptions, very different world views, and find themselves regularly in pitched battles over each new policy question.

The first argument in the book is that really that hasn't mattered for a long time, but it matters increasingly now. For a long time, really since the end of the Cold War, the big national decisions that needed to be made about U.S. nuclear strategy were three: whether or not to support ratification of START II, whether or not to support ratification of SORT; and whether or not to support ratification of the New START Treaty. We haven't had to spend a penny to modernize U.S. nuclear forces or to modernize the U.S. nuclear infrastructure. We have lived on the coattails of investments made in the '50s, '60, '70s and '80s. So we've passed through a time when the dysfunctions on our political plate didn't really matter.

But as you know, we're coming up on a series of big decisions about whether and how to modernize U.S. nuclear forces and the associated complexes in the Department of Energy and otherwise. So I was a part of the effort of the Strategic Posture Commission in 2007 and '08 and '09 to address this gap, to address the absence of a middle. Those of you who might remember the Posture Commission know that it basically given -- it was a bipartisan entity created by the Congress and given two questions. Can you guys agree about anything, and if so, what?

The answer was almost no. The answer became, so long as the United States adheres to the tradition of a balanced approach that employs political, economic and diplomatic instruments to reduce nuclear dangers, while at the same time using military means to deter the dangers that exist, this is a balanced approach that would maintain some degree of political support sufficient to enable the needed Congressional assent to various big decisions. The Obama administration tried to govern on the basis of the advice of the Strategic Posture Commission and to build the degree of bipartisanship necessary, an approach that sometimes ran afoul of the vision of the Prague agenda.

I find the Prague agenda is something like a Rorschach test for people. Everybody has their own understanding of what the Prague vision was and is and what its import remains today. But in trying to govern from the middle, the Obama administration gained some experience that's germane to the two most fundamental questions that I think are at the core of the dispute between the two camps. One question is, do the conditions exist today that would allow us to finally reduce the role and number of nuclear weapons in U.S. security strategies? The second question is, as we try and adapt deterrence to 21st century requirements, what does this tell us about the continuing role of nuclear weapons?

The first argument in the book is about the state of our national debate and the evolution of our policy and posture from the Cold War to today. Those of you who just want a quick historical review, that first chapter covers all of that. The next chapters in the book go on and look at the question about do the conditions exist?

Steve Pifer, among others, has faulted the administration for not setting out a coherent long-term vision of how to get to zero. Well the Nuclear Posture Review set out a ten year vision of what we thought could reasonably be accomplished under certain optimistic assumptions to create the conditions that would allow us to take additional steps beyond those we were prepared to take in 2009. The next chapters of the book go through the experience of the Obama administration in trying to work with Russia to do New START and then an additional step beyond New START; and the experience of trying to engage China in a dialogue about strategic stability with the aim of bringing China's nuclear transparency practices more closely into alignment with the performance of the other four nuclear weapons states, as recognized under the NPT, with an objective of maybe at some point China being able to express its commitment to a cap, with a statement that would read something like, in current circumstances and for the foreseeable future we China can't imagine having any more than X number of nuclear weapons.

The book goes on to look at the experience of trying to deal with North Korea, for insights into the continuing role of nuclear weapons in extended deterrence. There are two chapters on extended deterrence, one in Europe and one in Asia. These recount the experiences of the Obama administration in fulfilling the president's commitment to, quote, "strengthen" extended deterrence, a carefully chosen verb, in the context of a changed security environment. And then there's also a chapter in the book about the assurance agenda, the assurance being the flip side of the extended deterrence discussion. We extend deterrence in part to deter, but also in part to assure, but there are multiple assurance audiences.

My conclusion from this survey is that in the experience of the Obama administration, which put a good deal of political capital on the project of trying to create these conditions, that they don't exist. Russia is not willing today to take that additional one third reduction that we think is within our mutual reach. China is not willing to offer any additional assurances to Washington or Moscow that as we go down it won't come up.

Our allies are eager to have us strengthen extended deterrence by many means, in part because they see nuclear weapons as not fully reliable for deterring some of the challenges that they face in their regions. But by and large, they're not willing to see these non-nuclear capabilities and missile defense and conventional strike as substitutes for nuclear weapons. They're complements, and this is as equally true in Central and Northern Europe as in Northeast Asia.

How did we do with rollback with North Korea and Iran? Well, everybody is their own judge on Iran. But on North Korea, they're headed in the wrong direction, right?

So in my assessment, the experience of the Obama administration is that we've learned that the conditions do not exist, that we set out in 2009 and '10, to take additional steps at this time to reduce the role and number of nuclear weapons. That leaves us with the operative question, were they the right conditions and why not unilateral actions?

Who care? Why should we wait for those conditions? Why not do additional things? I think history is unkind to the argument that unilateral measures, additional ones of the kinds that we can imagine today, would actually serve the interest of the United States and would serve well the project of creating the conditions that would allow us to go further at some future time.

A third main argument in the book -- if the second argument is the conditions don't exist, this has been the experience of the Obama administration, that sort of tells you that it's still a little bit in the Wild West and it's not time to hang up our six-shooter, well what's the six-shooter good for? I mean, what is it that we expect nuclear weapons to do for us in the current security environment?

To formulate an argument here, let me step back a step. Our nuclear declaratory policy, if we employ nuclear weapons we reserve the right to employ nuclear weapons only in the extreme circumstance when the vital interests of the United States or an ally are in jeopardy. We say the fundamental role of nuclear weapons is to deter nuclear attack, but there are a narrow range of scenarios that we can envision in which non-nuclear means could jeopardize the vital interests of an ally or conceivably the United States.

Who in the world is capable of those kinds of actions? A very small set of actors might undertake actions that would come up against these red lines in our nuclear declaratory policy. My analysis focuses on Russia, China and North Korea. The gist of the argument there is that these three countries have thought about the common problem they face, which is us, with is the United States, which is America's conventional power projection. It's what they perceive to

be our strategies of encirclement and containment and compression and coercion, and ultimately regime change in our favor.

So they have, really beginning with China in the early and mid-1990s in the Taiwan Missile Crisis, it woke China up to the possibility that there might really be a war with America over Taiwan; followed by Russia, the Russian military leadership first in Kosovo and then later its political leadership. And then I think the latecomer to this process was North Korea, that according to media accounts in the middle 2000s used cyber means to infiltrate the South Korean Ministry of Defense and discovered the war plans for the Korean Peninsula might include the possibility of regime removal in Pyongyang. Their strategy of create, bargain and pause, create, bargain and pause, changed. There was no more bargain and pause.

So these three countries have been faced with what two of them describe, in the writing, as the problem of deterring and defeating a conventionally superior nuclear armed major power and its allies. They have come to a common set of ideas, not surprisingly, because they're facing a common problem. One of these ideas is that if war with America and its allies appears inevitable and soon, they'll act quickly, create a fait accompli on the ground that then America and its allies have to contemplate reversing at potentially a very high cost to them.

If this fails, the second main concept is to scare America's allies away from America. Kim Jong-un couldn't be more explicit, that if he ever employs a single nuclear weapon, it will be employed against Tokyo. He says this all the time. Tokyo, you're in my nuclear crosshairs. You're the first country I'll attack with nuclear weapons. Hundreds of thousands of people will die. Why would he say this? Well, the conventional defense of the Republic of Korea would be conducted with the South Korea military, American troops deployed on the peninsula, and troops sitting under the United Nations flag at eight bases in Japan. The dispatch of those troops from Japan requires the approval of the Japanese prime minister. This is a little remembered fact. It didn't seem important in the 1950s. Well, Kim Jong-un is working very hard to make sure it's important.

So the second main concept here is to try and scare America's allies away from the project of reversing the fait accompli. If this fails, and military action gets underway, then the main operational concept is what we Americans shorthand as A2AD. It is to impose cost upon the intervening forces and to protect the homelands of these countries so that the cost and risk to us of continued conflict go up.

Lastly, if even this fails and our project to reverse the fait accompli looks to be on the brink of success, then all three countries write about putting the American homeland at risk with nuclear and other means, inducing us to back down. These countries have to persuade themselves that their threats to attack us will look more credible to us than our threats to attack them will look to us. This seems like a leap of logic to many Americans, but the argument is pretty straightforward.

There's an asymmetry in geography that plays in their favor, and an asymmetry of stake. The asymmetry of geography is obvious. In the conventional defense of Taiwan, you can't conduct that effectively without striking the Chinese mainland. That opens up the credibility of Chinese attacks on the United States.

Asymmetry of stake couldn't have been more perfectly summarized than by General Yu Yinju (ph), a woman known to some of you in the room, a member of the PLA, a participant in our unofficial dialogues on nuclear issues. She said, let's review this point on Taiwan. What interest will be at stake for you Americans in a conflict on Taiwan? Well, your commitment to democracy in Taiwan, your historic commitment to the Republic of China, your standing with

your allies in East Asia, your global standing with your allies and your credibility. You'd have a lot at risk, a lot at stake.

Where would we, China, have a stake? Sovereignty and culmination of the recovery after the century of humiliation. Who's got more at stake, she said? Well, obviously we will. So our Chinese steps to escalate will look more credible to you Americans than your threats to escalate. You will have to contemplate the need to back down.

So in that I invoke a Cold War term, a theory of victory. There was a debate in the 1970s. Harry Brown famously said the Soviets, we build, they build. We stop, they build.

What explains this? Could the Soviets possibly believe that they could fight and win a major nuclear war in Europe? Did they have a theory of victory? And if they have one, should we?

Well it seems to me these three countries have theories of victory. They are nuclear theories of victory, not theories of nuclear victory. By that I mean I don't think any of these three countries want to fight a war against the United States, and certainly don't want that war to go nuclear, but they're prepared if that happens.

They have set in place a strategy for blackmail, brinksmanship and coercion which is aimed at victory in the Sun Tzu sense, causing us to back down from our commitment to the regional orders we've constructed and causing our allies to begin to distance themselves from us. And if there's actually a hot war, I think all three are prepared to employ nuclear weapons on a very limited basis to demonstrate their resolve on the bet that there's an asymmetry of stake.

Against that tableau, there are a set of answers about the role of U.S. nuclear weapons today in our security strategy. They are about negating that coercion. They are about stripping away the confidence that these countries can play a game of blackmail and brinksmanship and cause us to retreat. And they are as much about assurance of our allies and ourselves as they are about deterrence.

So the book set out these three main arguments about the nature of the nuclear policy and strategy debate in our current political context, and the fact that we have some looming decisions to what we face in a somewhat unprepared way, and we're reverting to our normal pitched battles on these issues. A second argument about what we've learned in the effort to create the conditions that would allow us to further reduce the role and number of nuclear weapons. We've learned those conditions don't exist so we either set aside the conditions and do unilateral things or we exercise a little strategic patience and see this as a longer term project. The third argument, that these theories of victory of our potential adversaries that might undertake actions that cross redlines in our nuclear declaratory policy, point to the continued important but limited roles of nuclear weapons in our security strategy.

I can report that the book has been enthusiastically reviewed by the two camps, who as you might imagine find it equally distasteful but for different reasons. You have to wonder if the readers have read the same book. I particularly like the reviews that I've gotten. The younger the reviewer, the more meaningful the review to me, because I find a lot of my junior colleagues find the debate they observe the older generation to be tedious and something like an echo chamber: people shouting back and forth at each other about the same old ideas they've held for a very long time. And I hope that the book gives them some grist for thinking about the future.

At a certain point in preparing the book I did a word search on Cold War, and I went through and tried to strip out other reference to the Cold War. It remains such a touchstone for

most people in the American nuclear policy debate, and it's so irrelevant to most of the nuclear questions that we face in the 21st century.

With that, let me thank you, George.

MR. PERKOVICH: Thank you, Brad, that was a great presentation. I want to -- I'm tempted to talk about the two camp thing, and in a little bit where you talked about it at the end, but my own sense is that the central arguments, the central questions you ask and the arguments you make stand and are important whether or not there are two camps, three camps, or whether or not you describe them in a way that people would agree about the description of the camp they're in. In particular, because you had Obama in the middle, which I don't think the pro-nuclear weapons camp would have put him in, but which I think was fair. So I'm going to leave that aside, and others may bring it up, because I want to go right to the key questions you ask.

I think in the book and in the presentation here you persuasively suggested that the conditions don't exist for further unilateral reductions, which certainly the government is not proposing. But then you add, what are nuclear weapons good for? What is the six-shooter good for? And here I want to dig down a little deeper.

You talk about in the book, and you also pick up from our dead late friend Therese Delpech, but also kind of piracy, which is the kinds of threats that we've seen in Ukraine, for example, from Russia. They're not dramatic invasions, they're not major military operations, they're subtle, they're hybrid, they probe, they wait, there's deniability. Similarly you could argue about the South China Sea dispute now. Even if, God forbid, there were an accident with military planes or ships colliding there, it would be relatively low level.

And so I guess my question is, to say a little bit more about how nuclear weapons -- do you think nuclear weapons, our nuclear weapons affect behavior at that kind of lower level of conflict? Or, is the argument that they would come into play much later in an escalatory process and therefore that shapes the early behavior or rather it doesn't shape the early behavior but we have to be prepared for the escalatory process?

MR. ROBERTS: Well, it's a good question. My sense of it is that Russia would very much like us to believe that there's -- well, let me put this differently. Let me take Russia to start. Russian military doctrine distinguishes three levels of war: strategic, regional and local. Chechnya, Ukraine, even Georgia, were local. Strategic is pretty obvious. Regional, defined by that problem of deterring and defeating a conventionally superior nuclear-armed major power and its allies. Sorry to use it like a bumper sticker, but it's --

MR. PERKOVICH: It's take a big car.

MR. ROBERTS: It's a big car.

MR. PERKOVICH: It's a very big problem.

MR. ROBERTS: And it's fair that they would set this out in such detail. We Americans think of an escalation ladder. Think of Herman Kahn. It's not clear that that's the Russian concept.

The Russian concept is there's a toolkit that you can use to escalate and to try to de-escalate a conflict with military and non-military means; military means include kinetic and non-kinetic means, and kinetic means that include nuclear and non-nuclear means. And this is a toolkit that you can dip into for all three levels of war.

So what could plausibly be the role of nuclear weapons in Russia's concept of local war? Well I think we saw it in abundance in Ukraine. The role of Russian nuclear weapons is to keep us out. Would there be any plausible pathway to nuclear employment for Russia at that level of war? No. And we, NATO, chose not to accept that the conflict over Ukraine was a nuclear conflict, because we didn't see any benefit in joining in this nuclear saber rattling over that kind of conflict.

My sense of this is that we have no benefit in and no reasonable expectation of casting a nuclear shadow back into what the Japanese call grey zone conflicts. We don't have stake sufficient to make credible the threat that we would employ nuclear weapons. If Russia and China -- China doesn't want to. If Russia wants to brandish nuclear threats at that level of conflict it's just wasting air.

But I think there is this regional level of conflict where the central problem these three countries face is motivating the stronger power not to bring all of its power to bear and not to set regime removal as the ultimate strategic goal. And thus they have to calibrate their ability to raise the stakes for us, but not so high that they become unbearable and we have to do something to defend our stake. In deterring their action, our nuclear weapons are only a part of the game.

MR. PERKOVICH: I'm glad you talked about regime removal, because you bring that up in several places in the book. But I don't think that you attempted to kind of then exhaust the analysis of that issue. I don't think anybody else has, either, and I think it's absolutely vital.

So you know and you acknowledge in the book, from their perspective that's what we're about. This is obviously what the Chinese leadership has felt that the U.S. has been about, and they reinforce each other. So the color revolutions, they were about regime change. This is also the pre-occupation of the North Korean leadership and has been of Ayatollah Khomeini and others in Iran. That's what we're about.

It's hard for the U.S. to deny it because every political leader in the U.S. -- I think many of us would want regime change in many of these countries. So the issue is, how do you convince them that though you find their political system abhorrent and their violations of human rights, etcetera, etcetera, the U.S. isn't actually a threat to bring about regime change? It's a very difficult thing to do, but from their perspective nuclear weapons are perhaps best at keeping a major conventional force from getting on your territory and invading your territory. That's what they're good for.

Their sense is that's what we would be doing in pursuing regime change. So the question is, how do we doctrinally -- I don't think the Posture Review did this. I can't think of a president that has tried to do this, to distinguish between what we would feel are defensive operations and actions, and what they would perceive as a regime change campaign? How do we take that on in the context of elaborating this role of nuclear weapons in our theory of victory, for example?

MR. ROBERTS: It's an excellent question, to which I do not have a good answer.

MR. PERKOVICH: No one does.

MR. ROBERTS: What you'll find in the book is I'm trying to make sense of the experience of the administration in providing strategic reassurance to Beijing and Moscow. It's sort of an American way of thinking, and not just American, that in providing for strategic stability among

major powers we balance resolve and restraint: restraint being central to our vision of what strategic stability requires.

We have promised various forms of restraint to Russia and China -- to Russia ever since 1991, and to China episodically -- in the missile defense area and the conventional prompt global strike area, in the disposition of our conventional and other forces in Europe. So many messages of reassurance sent, what messages received? Almost none.

Both Beijing and Moscow find it undesirable and unnecessary to engage in confidence building measures over missile defense in their regions. Why? Well, maybe part of the answer is the measures we have in mind are insufficient to provide them confidence. Maybe we misdiagnosed their diagnosis of missile defense in their region. Maybe the complaints they have are more useful to them than settling their concerns. And maybe it is that these regimes perceive themselves to be sufficiently vulnerable that they simply can't take the strategic risk of saying okay, you Americans will be restrained.

We're not exactly consistent in being restrained, and I don't know how we bridge this restraint gap. A part of my problem with the American nuclear policy debate is we continue to generate idea after idea after idea about the things we might do together with Moscow, when it's ready, that would be based on mutual reciprocal restraint. And then Russia is not ready to join that agenda but we're expected to exercise the restraint on the American part nonetheless.

Is that unilateral exercise of restraint consistent with our objective of getting Moscow back to this process at some point, providing the assurance to Moscow, or does it come through as a message of appeasement? I think this is our dilemma in sending messages of assurance to Beijing and Moscow. We send messages of assurance and restraint and often what's heard is appeasement and weakness, which seems to me to be unlikely to produce a decision to come back and join in a reductions process.

MR. PERKOVICH: I may want to push on this because I think it goes to the heart of the problem and it requires the injection of thinking and expertise and so on, that complements nuclear expertise. It goes into psychology and history and lots of other things. It's not really kind of a hardware and such a theoretical challenge.

But when you talk -- and you've done this, obviously -- but when you talk to people in Moscow, at least, and in the Russian military sessions, and you talk to people in the PLA and others in Beijing, they don't hear that what the U.S. is offering is kind of appeasement and weakness. The response to the Prague speech in Moscow was yeah, of course, Obama is offering a world without nuclear weapons because the U.S. wins in a world without nuclear weapons. This is a clever plot.

In Beijing, yeah they're talking about restraint, but what are they doing in terms of software that helps bypass the firewall? What are they doing on political issues and statements? And so I don't get a sense in either of those countries that they feel that the U.S. is weak and non-threatening. There's still a sense of threat. That's what baffles us.

It leads, I think, people to say what about if we try this, which I agree is kind of a fool's errand. But it isn't because, at least I would argue, it's not because they see the U.S. as not being threatening. They don't really see the appeasement, but it seems to me it's just that we're not having any -- and you said this -- there's no intersection in the perception or the conversation between the countries and the officials. It seems to me that's the bigger problem than the one that they think somehow we're just going to take anything they do.

MR. ROBERTS: I would say in my experience I think the expert communities and the officials in Moscow and Beijing are, to be impolitic, schizophrenic on this topic. On the one hand they perceive overbearing American strength and over-weaning American ambition. On the other hand, they see that we consider the country, the expectation of decline, the political division, the economic problems, and certainly in East Asia the whiff of retreat as China rises.

So I think they've got both instincts at work. The problem is both our weakness and our strength. That they haven't relegated that makes perfect sense because that is the America that they face. We are ultimately very strong and very easily divided and weak.

One tangent to your comment talked about bringing together the needed expertise on this subject. My experience in an administration working this agenda was first of all that most of the nuclear strategy community, such as it is and it's tiny, thinks about the problem of the central nuclear balance, the central nuclear relationship with Russia, and barely at all about extended deterrence. But if you take the formulation of the security environment that I set out, if there's a plausible pathway to U.S. nuclear employment it's in the context of a regional war where a local aggressor is trying to separate U.S. allies from us, and engaging in an escalate to de-escalate strategy.

If that's your view of the security environment, those allies are right in the core -- they're back on the front line. I can attest to the fact that allies in Northern Europe and Central Europe and Southern Europe and Northeast Asia perceive themselves to be on the extended deterrence front line in a way that some of them never experienced in the Cold War. This is an interesting challenge for government because the people who do regional stuff in the government don't do nuclear and strategic stability stuff, and vice versa.

We had to knit together a largely very young cast of people to do this cross-thinking. I think the next challenge will be how that broader understanding of the extended deterrence landscape in Europe and Northeast Asia, is integrated in thinking about the different dynamics of strategic stability. We inherited a set of ideas about strategic stability based on a bipolar world with military competition highly centralized in the nuclear domain.

We live in a multi-polar world where military competition is increasingly multi-dimensional in character. This is a giant set of analytic challenges that our community has only begun to address. We live in a world that's bipolar in a different sense of the term.

MR. PERKOVICH: Let me open it up, because I'm sure you have lots of questions. I've got a bunch more but I want to get out of the way. Please raise your hand and introduce yourself, and then one of our colleagues will bring a microphone. We'll work our way from the back to the front.

Greg Thielmann?

MR. GREG THIELMANN: Greg Thielmann, Arms Control Association. Brad, I noticed you didn't raise missile defense at all in your opening remarks, and yet you talked about the conditions that don't really exist in the world in order to make progress forward in the next step of the Prague agenda. From the Russian and Chinese point of view, the U.S. has acted on establishing its missile defense policy. It acted on a great exaggeration of a third country ballistic missile threat. With hindsight we can certainly say that the ICBMs that were supposed to exist in 2003 have not happened. But it's also in reaction to the U.S. withdrawal from the ABM Treaty and our absolute refusal to negotiate any kind of ballistic missile limits. So my question is, how does their perceptions of U.S. strategic ballistic missile defense policies play in this matter?

MR. ROBERTS: Well, you foreshadow the answer to your question. Let me come at it indirectly. We as a country made a basic strategic choice in 1991-'02, up to 1998. As we were moving away from the Cold War we saw the emergence of a new problem. It first presented itself as Saddam with WMD and missiles, but there were other manifestations of it, or potential manifestations.

Every president since the end of the Cold War has said we reject mutual vulnerability with, call them what you like: rogue states, regional challenges. We reject mutual vulnerability as the basis of the strategic relationship with these countries, and we will adapt our national strategic posture to ensure that that is so, because they are the problem. Russia and China are not.

If in adapting our posture to this new reality we generate actions by Russia and China to adapt their postures to ensure that they remain viable in the face of development in the U.S. nuclear posture, well that's the price we pay. And so long as what they're doing is modernizing and adapting to maintain the status quo ante, then the attitude of three presidential administrations has been, so be it. That's a price worth paying.

Now this obliges us to pay attention, first of all, to whether the adaptations and modernizations by Russia and China are in service of the status quo ante, or are generating new capabilities, new threats and new problems. Alleged super-cavitating intercontinental range nuclear tipped torpedoes seem kind of inconsistent with maintaining the status quo ante.

We will face -- if North Korea's break out posture is 20 ICBMs, we will face one kind of problem. If it's 50 or if it's 100, if Iran becomes a state with intercontinental range deployed ballistic missiles that are nuclear capable but not nuclear-armed but might be nuclear-armed in the future, these things are going to put pressure on our current policy of maintaining homeland defense protection against limited strikes. China, by the way, clearly perceives the risk to China, to its approach to strategic stability, that would follow from an American further buildup of our anti-DPRK strategic posture. So this is part of what accounts for China's increased interest in trying to roll back the North Korean program.

We as a nation are going to face a choice. I call this the Goldilocks approach to missile defense. We've said that we can have a missile defense that's big enough to negate the rogues and not so robust as to challenge strategic stability with Russia and China. That's going to be increasingly difficult.

We have voices in our debate who say c'mon, the problem isn't the rogue states. North Korea is never going to be a threat to the American homeland. It would never pull the nuclear trigger. We are wasting strategic stability with Russia and China to solve that problem? That's ridiculous.

And on the other hand, you have people who say, Russia and China are the problem. About China, at least, we as a nation haven't really made up our mind whether our missile defense is about China or not. Three administrations have said it's not, at least when it comes to the defense of the homeland. We've never said to China that we've set mutual vulnerability as the basis of the strategic relationship in the way we have to Russia.

So we have a big choice coming. To me, it looks like a very hard choice because from my perspective a nuclear-armed North Korea and/or Iran and/or other countries would be destabilizing to the global nuclear order in ways that would be deeply consequential. And it's not obvious to me that we can give up that project and feel that we have done well by our national interest and that of our allies.

MR. PERKOVICH: Let's take the two back there. We'll take those two and then respond to two, for efficiency sake.

MR. CHRIS KRUCKENBERG: Chris Kruckenber from the Stimson Center. The argument you made about Russia and China not cooperating with our nuclear disarmament effort makes total sense, but I was wondering if you thought maybe efforts to reduce nuclear terrorism may be a good way for us to cooperate with Russia and China? While maybe not getting all of what we want for nuclear nonproliferation, it might be a way to get some of what we want because they may be more willing to cooperate with us on that. Thank you.

MR. PETER HUESSY: I'm Peter Huessy. Very simply, what do you think of de-alerting and what do you think of the argument that we have too many warheads because we want to cover too many military targets? Covering city targets is deterrence but covering military targets is war fighting?

MR. ROBERTS: That's an easy answer. That will take an hour and a half. On nuclear counterterrorism, I think we have sustained cooperation with Moscow. We have some cooperation with Beijing, some good cooperation with Beijing. There's a barrier to further cooperation with Beijing in the form of China's reluctance to engage in more lab-to-lab cooperation. Their view is that the experience of the 1990s was an embittering one and they want an apology. And until they get an apology for the Cox Commission report, there's not going to be lab-to-lab. So I think there is a meaningful cap on what we can do with the Chinese.

But does this form of cooperation pay dividends in other areas of the bilateral nuclear relationships with those countries? No, it does not. Is it still meaningful and valuable to our collective security? Absolutely. I think China gets a lot of credit for moving a long way on this in recent years.

De-alerting, I wish I could recite word for word the answer that Alexi Arbatov gave when we were together on a podium in Monterrey about a month ago. A member of the federation asked about de-alerting and he said, roughly, on the surface it seems like a very appealing idea, but in practice, he said, first of all this would much more disadvantage Russia than the United States because it has much more of its force in the ICBM portion of its force than the United States does. Secondly, it's one thing to say it's a verifiable deal and it's another thing to make it verifiable. And third, there's the August 1914 problem, which is to say if you've de-alerted and you find yourself in a crisis and you're re-alerting, it's a competitive game and somebody might perceive an incentive to go first before the other guy is done. He rolled out those three answers in about three minutes and I said, I'm not sure I have anything to add.

MR. PERKOVICH: You did it in less than three minutes. That was great.

MR. ROBERTS: Well, he did it more elegantly, as is his way. Moreover, I don't share the view that we're on a hair trigger alert posture. If you need a mental analogy of the hair trigger, this is a gun that's locked in a drawer that's locked in a desk that's locked in a room that's locked in building that's locked under an astrodome that only one person has the key to.

All of the problems and historical record with command and control problem, all of the writing about this is from decades and decades ago. If you posit that there was no learning along the way, well then you should still be worried. But you can credit some learning along the way. So I think this is another example of a question that is fundamentally, do we do it unilaterally or not? Russia is not prepared to go there. Is it in our interest to so compose our nuclear force that it's not alert in the ICBM piece? I've made the case that it's not in our interest.

On the third point, the central question here, I think, for us interested in nuclear strategy is, when we went on to conduct in the administration the review of deterrence requirements in the so-called 90 day study, which was 490 days, we did it thoroughly. You may recall, if you are fluent in this topic, the fact that the task of the study was to review deterrence requirements in light of the five policy objectives set out in the Nuclear Posture Review report, and then the president added a sixth. He said, I want to be sure that if deterrence fails I have the ability to restore deterrence and otherwise support my national objectives. How do I do that?

If your sole objective is to deter the one way to do that is to just have a minimum deterrence strategy. It bets on your ability to annihilate an enemy's society and bets on the credibility of that threat to do the deterrence job. In the scenarios I just set out for you, thinking about regional conflict, limited nuclear use to display nuclear resolve by a U.S. adversary, is our threat to wipe their society off the face of the Earth going to be credible and effective in preventing them from taking those limited steps? My view is, not so much.

If we're going to compose a deterrence strategy, it's not about violating international law and just putting an enemy's society at risk, but it tries to put at risk the things that we think their leaders would value in time of conflict, so that we can motivate them, if they've crossed this threshold, to stop from going further. Then I think you need to have military forces that you're capable of using and credibly threatening in a limited and relatively discriminate effect on a range of targets: political, military and potentially economic. For that, that's something more than minimum deterrence.

Every president, in my view, not just in the post-Cold War period, in the nuclear era, has come in thinking, why can't we have minimum deterrence as our strategy? And every president has gone through that discussion internally and concluded that I don't want to place the bet on a minimum deterrence strategy that might just not be credible in the scenarios that we can plausibly think about as being potentially credible. So if that sounds like nuclear war fighting, Jan Lodal will attack me for a nuclear war fighting strategy in his Arms Control Today review, I don't think that's nuclear war fighting. I'm not proposing that America be prepared to engage in extended nuclear attacks in support of large ground combat operations. That's not what our nuclear weapons do anymore.

MR. PERKOVICH: A couple more on this side, these two here, and then we'll try to get to you.

MR. EDWARD LEVINE: Edward Levine, Center for Arms Control and Nonproliferation. Two quick questions. First of all, what are the implications of what you've laid out for force structure, and therefore for the future of something like the CTBT? Secondly, what do we do when India and Pakistan, carefully watching all of our new strategic thinking, decide to copy us?

MR. : My question is, you talk a lot about the concept of vulnerability and that a lot of the reason China or Russia might not be coming to the table is because at the end of the day they do feel strategic vulnerability against us, and thus are much less willing to pursue multi-lateral disarmament. Do you think that there's a way to approach disarmament until there is sort of reduced vulnerability between Russia and China?

MR. ROBERTS: Well, three questions. The force structure implications, the size and basic functions and attributes of the U.S. nuclear force, are fundamentally a function of the size and attributes of the Russian nuclear force. We don't need a force that's got a lot more weapons to deal with a bunch of other countries. I do think there are certain capabilities -- well, I might not go down that road at all.

We have said now for 20 years, and a lot longer actually, that the requirement of strategic stability vis-à-vis Russia is that we maintain nuclear forces second to none. We have wanted to signal to Russia that we, the United States, do not seek to step into a position of superiority; and to signal to our allies that we are not going to slip into a position of inferiority. And so the force structure attributes are a function of our desire to preserve a position of mutual vulnerability in relationship with Russia, but also an ability to satisfy ourselves and to know that the Russians are satisfying themselves, that we are each capable of surviving a first strike and retaliating if it were ever to come to that at the strategic level of war.

But that's the old conversation about force structure. If you take my argument about extended deterrence being the main theme today and central deterrence being still important but not the main theme, what's the force structure implication of that?

For that problem we Americans want to say the nuclear triad is the solution to all of our nuclear deterrence requirements. And our allies, who feel themselves on the vulnerable point here, say not so fast, Slick. Your threat to employ your nuclear weapons from your homeland isn't going to be very persuasive to Kim Jong-un or possibly to Vladimir Putin if they're contemplating very limited strikes against us, their neighbor. And so the part of your force structure that we most care about is the part where you bring some of your nuclear weapons into our region so they can see them, and so that they can understand that we are going to run with you the risk of nuclear war, that we're sharing and we're not going to be split off from you by their threats. We're not going to be coerced out of this game.

This would, then, suggest that the NATO nuclear sharing arrangements and our ability to forward deploy nuclear weapons into Northeast Asia in time of crisis is the most important part of our nuclear force structure, and it's the part that gets precious little attention. Mostly the Air Force would like to not have to do that mission. Most of the people don't want to have to maintain the B-61. Mostly we're happy debating triad issues whenever we talk about force structure, and it's sort of missing the main point today, in my view.

What does that imply for the CTBT? I make the argument in the book that I don't see -- you can make an argument that there could be some deterrence value of new types of nuclear weapons with new military capabilities. It's plausible that Kim Jong-un might calculate that because the only weapons we can employ in a prompt way are very high yield with a lot of damage hazard, but maybe we wouldn't and maybe if we had a low-yield weapon maybe we would.

But I don't see any evidence that Kim Jong-un sits at his desk and thinks, they've got a weapon of this yield but not that yield, so here's my line, I can get away with that. I don't see that benefit, and I think actually the political reality is if a new administration comes in and says we want new nuclear weapons for new military purposes, the life extension program for the existing arsenal is dead. It not -- it's a false choice between new and current. It's between new and none, and I don't want to pay that price because I think there's value in this deterrent.

MR. PERKOVICH: What do you say to India and Pakistan?

MR. ROBERTS: Roughly speaking, bear in mind our Cold War experience where we ended up with 70,000 nuclear weapons on both sides and the situation was deeply unstable. Avoid the arms race. That, I'm sorry, is a short answer to a good question, Ed.

How do we engage Moscow and Beijing while they work to reduce their vulnerability?

MR. : Yes, and also how can -- (off mic).

MR. ROBERTS: I see nuclear disarmament by China and Russia as a very, very long term away possibility. That has only something to do with American military strength. It has to do with regime stability, regime security and a lot of other factors.

How can we engage them? I think Beijing isn't going to come into the arms control process for a long time to come. There will have to be much deeper reductions by Moscow and the United States, Moscow and Washington. It might engage in some transparency practices. It might come into some multi-lateral inspection activities plausibly in the future. But to express a cap and to make reductions in its deployed forces, it's hard to see that happening anytime soon.

The core question here is Russia. In the context of the vulnerability it perceives, might it come back to a New START follow-on? Here we can just -- I don't know. The debate is, on the one hand we have some in the U.S. arms control community who would say that Russia has an enduring interest in legal restraints on America's nuclear potential, and that enduring interest has to do with its fear of our upload potential in breakout mode. By and large, we've taken on nuclear reductions by taking weapons off of delivery systems, which gives us the opportunity of putting them back on delivery systems. Whereas Russia, has taken them by retiring delivery systems, thus they can't put it back easily.

And so this has led some to conclude that of course Russia is going to play a good game of wait and see with a poker face that is going to say we don't want any more arms control and you keep sweetening the pie, you guys. Let's see what we get. But they don't have to decide until 2021, or if they want to extend New START, which we can do once for five years by mutual agreement, this question may be open for another decade.

The alternate hypothesis is that, frankly, they solve their upload program. We're moving into a modernization cycle where we're not going to have all those places to put old nuclear weapons or new nuclear weapons. We're not going to have a lot of upload potential with the force we build in the next decade. We're going to have the minimum affordable upload potential, and they're designing a force with a lot, so that traditional incentive may not be there. I don't know the answer.

MR. PERKOVICH: I would encourage you to read especially the Russia chapter, because I think Brad did an excellent job, and as always a very judicious job, of presenting in Putin's words his perception of the threat at different times, with extensive quotations.

MR. ROBERTS: Thank you.

MR. PERKOVICH: It's kind of unusual and a lot of writings should be that judicious in their presentation. I have to impart, I'm not sure when we're supposed to end, so somebody tell me.

MS. : Twenty minutes.

MR. PERKOVICH: Alright, great. This young lady here, and this gentleman here, and then we'll move back and forth.

MS. DIANE PERLMAN: I'm Diane Perlman, George Mason School for Conflict Analysis and Resolution. You mentioned about North Korea's feeling of encirclement and the basis of coercion. You also suggested that as we send messages and that the other doesn't get -- sees a different message than the one we think that we're sending, and vice versa.

Coming from different bodies of knowledge and literature about escalation of cycles of violence, an organizing principle is tension reduction and parties are more dangerous when

they're afraid. That's some of the work of Jervis, Lebow, Ralph K. White. When you go according to deterrence theory, you flip into dynamics of spiral theory. If the other side looks and it's like you're preparing to attack then they need to build up. I think also with North Korea there's a lot of receiving the opposite message signaling. So I'd just like your comment about the potential for doing more tension reduction.

There's a strategy called GRIT. Some people know Graduated, Reciprocated Initiatives and Tension reduction, so you mention giving up deterrence or getting it back you can take small steps in de-escalation and you have nothing to lose. You can always go back up and you wait to see if the other side reciprocates. There was also a conference last week on engaging North Korea and there's little things buzzing around that.

MR. EDWARD EF: Edward Ef, State Department. Excellent book, Brad.

MR. ROBERTS: Thank you.

MR. EF: In addition to the two camps that you've analyzed, I would suggest there is now a third camp that we need to pay attention to. It's not very strongly represented here, but it is quite strong in more than 100 countries. That is the so-called humanitarian campaign, which is moving full speed ahead to negotiate a ban treaty. I'm wondering what your thoughts on that are?

I would guess the administration has two options. One, start twisting arms and try to stop the process. Or, stand aside and basically ignore it. What are your thoughts?

MR. ROBERTS: On GRIT, I think it takes two to tango. I'm less conversant with the history of our policy -- of our tango with North Korea than I am with China and Russia. With China and Russia the experience I take is that --

MS. PERLMAN: (Off mic).

MR. ROBERTS: Their leaders made their main strategic assessments of us, and like all humans look for confirmatory evidence, and have a hard time taking in new evidence that doesn't conform with the expectation they've set. I think in the case of Russia and China we sent credible messages of restraint and credible offers of common action to identify and protect common interests, and got nothing to show for it. That's why there's so much in the book about this reassurance campaign thinking and what are the lessons? I mean, if you haven't read Gates' autobiography, his two chapters about his two experiences, first in the Bush and then the Obama years, of trying to provide assurance to Russia on missile defense, it's not -- the leaders of these countries have to be prepared to engage in the process you're talking about. We tend to come regularly offerings in hand, and this seems to have not been particularly helpful.

On the humanitarian campaign, the third option is cooperative, which is to say it won't surprise you that I think there is a moral case for nuclear deterrence. I don't think we've so far made it. It won't surprise you that I think that we have a very good story to tell about why the conditions don't exist right now to go further in this direction. And I think the humanitarian campaign advocates have to assess the potential real impact on the nuclear proliferation problem of the pathway they're on, which is in my view, the erosion and possible collapse of the NPT regime in a circumstance in which none of the nuclear-weapons states is going to be boxed in by an Ottawa-like process to disarm. I think there will be a defection. I mean, we already see a weakening, since the end of the Cold War, of American commitment to arms control processes and multi-lateral treaty regimes, and I think that would only accelerate in a circumstance in which the humanitarian campaign goes on to generate an agenda that will compel people to

choose sides. I think people will choose, both sides, and thus our ability to get anything done under a nonproliferation regime will be eroded.

MR. PERKOVICH: I think we should say, we won't be the last to sign up to such a treaty, let us know when you get back from Moscow and Beijing and Tel Aviv and Islamabad, and talk with them about signing up, and we'll be there. Apply for your visas early.

MR. ROBERTS: A good argument.

MR. PERKOVICH: There are three hands up. If you ask quickly, Brad can answer quickly. These two here and then one in the very back.

MR. ERIC JACOBSON: Eric Jacobson, Columbia University. Focusing on Russia for a second, what are your comments on Russia utilizing more of a nuclear strategy and their threats, like against NATO members? Where does this leave the NATO-Russia Founding Act, the NATO-Russia Joint Council, as well as the INF Treaty?

MR. CHAUDRY: Thank you very much, George, and thank you very much Brad for the expanded picture and your insight. I am Dr. Nisar Chaudry with the Pakistani American League. You have been seeking cooperation from China and Russia. Is it possible that while all of these three countries are competing with each other and at the same time they are seeking cooperation—and you mentioned about sending credible messages, but this is your side and definition of a credible message—do they also think that the message is credible or take it differently?

About North Korea the Chinese always say that it's like a spoiled child and we'll take care of it. But do you think China, through China's help, North Korea could develop this nuclear arsenal to the point you mentioned with Pakistan and India? Some hold that it is a Bermuda triangle. India says we are doing it in reaction to the Chinese. Pakistan says we are doing it as a reaction to India. Is there any possibility that these nuclear countries can sit down together and reduce their arsenals just to a minimum credible deterrence?

MR. PERKOVICH: Thank you, sir. In the back, the last one.

MR. PAGE STOUTLAND: Page Stoutland from the Nuclear Threat Initiative. I think you rightly -- but whenever one talks about how nuclear policies might have to change going forward, or our nuclear forces, one thinks about what has changed in the world. You highlight a number of things that have of course changed in the regional security environment, the world security environment, and so on. One thing you haven't spoken about and I'd be interested in your views on, is how some of the technological changes will affect our nuclear policy, force posture and so on going forward, in particular the cyber threat, whether it be the offensive cyber threat posed to us, whether it be the potential for using cyber as a form of missile defense, or whether you think about cyber in terms of the potential to cause accidents in terms of compromising nuclear and control and so on. I think one of the questions a lot of us are asking ourselves is, given that this threat didn't exist 30 years ago, how should this be affecting the way we think about nuclear weapons going forward and how does maybe even in the near-term it affect our nuclear policies, force posture and structure?

MR. ROBERTS: Good questions, thank you, everybody. On Russia, the NATO-Russia Founding Act, the commitment of NATO not to expand forces of certain kinds into the new territories, its decision to remain compliant with the INF Treaty despite Russian non-compliance, this goes to one of the core issues we spoke about earlier, which is in the absence of Moscow's willingness to engage in reciprocal restraint measures, is NATO's core interest in preserving the posture of restraint from which it operates, even in the absence of Russian

participation; or is NATO's interest in not exercising that restraint because it's not reciprocal? There's a brand new report by the Global Zero Commission which sets out an agenda for NATO in advance of the summit which talks about preserving the commitments undertaken in the NATO-Russia Founding Act, laying the possible foundations for the withdrawal of the remaining U.S. nuclear weapons in Europe, various forms of NATO restraint, and it's all premised on Moscow's willingness to do the same. That's not the reality we face.

We have to decide whether or not we're going to maintain the restraint unilaterally or adapt our deterrence posture somehow. NATO has so far avoided those questions. NATO conducted a review of its -- NATO issues strategic concepts explaining its view of its place in the world roughly every decade or so. It issued a strategic concept in 2011. That concept included the statement that NATO is an alliance without enemies.

It has followed up and conducted a review of its deterrence and defense posture. NATO has historically said it would maintain a, quote "appropriate mix of nuclear and non-nuclear capabilities at the lowest level consistent with the requirements of the then-existing security environment." Again, another bumper sticker.

The deterrence and defense posture review was conducted to assess what the appropriate mix should be with the addition of missile defense to the deterrence toolkit of NATO and in the light of uncertainty about Russia. That all finished a few months before Crimea. Then came the NATO summit in the summer of 2014 and NATO said, let's not reopen the strategic concept. Let's not reopen the deterrence and defense posture review. Let's work within the terms of these studies for a couple of years and then take stock in Warsaw next week.

By working within the terms of the deterrence and defense posture review, NATO has had no discussion of the role of anything other than conventional force balances in the Baltics and sustaining and modernizing the nuclear assuring arrangements. Nothing about ballistic missile defense, nothing about conventional prompt strike, nothing about resilience in cyber space, nothing about outer space, nothing about many of those tools in the Russian deterrence and escalation toolkit. That question is going to open now.

Where it's going to go, I don't know. A key driver will be Moscow's decision about whether or not to break out of the INF Treaty, and the related decision about whether or not to break out, overtly or covertly. They may break out without our knowing.

Can the five get together to agree on minimum deterrence postures? There's only one nuclear weapons state says it has more nuclear weapons than it wants. It's the United States.

Every nuclear weapons state says it has the minimum necessary to do what it needs to do in the context of its view of the existing security environment. Nobody says it has a maximum deterrent. Everybody says we've got the minimum necessary deterrent. The Chinese formulation is lean and effective.

MR.: Trump would say we have the biggest, most amazing --

MR. ROBERTS: Well, he hasn't got his hand on this tiller yet. I think we've learned that the five are not ready to fundamentally change, in the light of uncertainties in the security environments they sit in, their nuclear policies and strategies. It's a fact.

Technology change and cyber, first of all, Page, I don't remember if you were here when I did the red theory of victory stuff. Did you hear that part of the conversation? Just in very shorthand, it does seem to me that the three potential adversaries of ours have set out a set of

concepts for deterring and defeating a conventionally superior nuclear-armed major power and its allies.

They think we think in terms of an escalation ladder. They think in terms of a deterrence toolkit, which can be applied to different types of conflict. I think it's very clear that for these adversaries cyber, counter-space, maritime, sub-surface maritime, all of these dimensions of conflict play a role.

All of these countries, including our own, are struggling with the question of, what does integrated strategic deterrence mean? Each of these new domains brings with it both vulnerabilities and areas of strength. From my perspective, the central question on cyber is, we can all catalogue a variety of ways in which the cyber dimension to conflict provides escalation risk, both wanted and unwanted, and inadvertent.

I still come back to the very interesting proposition by Gompert and Phil Saunders in their book on China's pursuit of this six or seven years ago now. So we have this model in the nuclear domain of mutual vulnerability and mutual assured destruction. For better or for worse, it has served us well in some ways in managing, at least in the Cold War, an inherently very unstable situation.

Is that the model that might fit competition in cyber space and outer space, they asked? Their argument was if you're really good about cyber offense and space offense, if you know that you're always going to be better than the defense, which is a big lesson for you because your defense is never going to be better than their offense, so maybe, they argue, this is an area where mutual vulnerability is actually -- I mean, Ken Waltz is right about this. It goes to their argument.

With mutual vulnerability, the introduction of a new form of mutual vulnerability actually encourages restraint rather than encourages risk taking. You have to calculate that if you understand how vulnerable their systems are, your systems are equally vulnerable so don't start those kinds of competition. So this leads to an interesting discussion about could we potentially have a no first strategic strike agreement or is that a rule of the road that these countries could embrace? You would say not only no first nuclear strike but no first strategic employment of cyber and space attack and the like.

That would sharpen our thinking, I think, about these questions. I'm not sure that's a practical solution, but what rules of the road are going to govern our behaviors in this area is obviously a huge question. Are there short-term vulnerabilities for our nuclear command and control system? I don't believe so. But for the broader command and control system, yes it would clearly be a subject of attack because it's an area of key strength for us and increasingly so for Russia and China.

MR. PERKOVICH: On that forward-looking note, especially about the no first strategic strike on any asset, proposition, let us bring this to a close. I want to thank all of you for coming. I want to encourage you to buy the book or check it out from your library.

MR. ROBERTS: Thanks, George. Thanks so much for those kind remarks.

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