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REDEFINING THE AMERICAN NATIONAL SECURITY TEAM:
NEW PLAYERS, DEFENSES, AND STRATEGIES

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Opening Discussion: Leadership in the Future Threat Environment

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Keynote Address: Providing "Best Military Advice" as a Joint Leader

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Gamechangers: Emerging Trends and Adaptive Policy

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P R O C E E D I N G S

COL. EVANS: Welcome to the Center for 21st Century Security and Intelligence Sixth Annual Military and Federal Fellow Research Symposium. I'm Colonel John Evans, one of the Brookings military fellows, and on behalf of all the Federal Executive Fellows here at Brookings, we appreciate your joining us today as we explore and redefine the American national security team: new players, defenses, and strategy.

Today's panelists represent military fellows across all services and will present research that explores leadership in the future environment: growing, protecting, and connecting those who serve; innovation in services, weapons and strategies; emerging trends, adaptive policies; and the relationships between military, civilians, and industry.

We're also fortunate to welcome as our keynote speaker the director of the Joint Staff, United States Air Force, Lt. General David Goldfein, who will join us later.

But before we begin our military fellows panels, let me introduce our first two guest speakers:

Dr. Bruce Jones is in his second day as the acting vice president and director of the Foreign Policy Program here at Brookings. He is also a senior fellow in the Project on International Order and Strategy. He has authored numerous books on foreign policy and international security and has extensive experience and expertise on intervention and crisis management. Among other contributions, he served as an advisor to the U.S. State Department and the World Bank. He served in the United Nations operation in Kosovo and was special assistant to the U.N. Secretary-General Kofi Annan on U.N. reform. He is a consulting professor at the Freeman-Spagoli Institute at Stamford University and chair of the Advisory Council on the Center of International Cooperation at New York University. Dr. Jones currently serves as the acting director of the Brookings Foreign Policy program.

To his left, Dr. Paula Thornhill is a senior political scientist at the RAND

Corporation. She retired from the United States Air Force in 2009 as a brigadier general. Her last assignment was as commandant of the Air Force Institute of Technology at Wright Patterson Air Force Base from 2006 to 2009. She's taught at the Air Force Academy, has been assigned to the Air Staff, the Joint Staff, the United States Strategic Command, and the Office of the Secretary of Defense. She served as dean of faculty in academic programs at the National War College and was a special assistant to the chairman of the Joint Chiefs of Staff. Dr. Thornhill is a graduate of the United States Air Force Academy and the National War College and received her PhD in history from Oxford University. She currently serves as director of the Strategy and Doctrine Program with RAND Project Air Force.

Please help me welcome them both.

(Applause)

Bruce?

DR. JONES: Thank you, John, for that, and thanks all of you for organizing this today. The Federal Executive Fellows Program at Brookings is one of the most important things we do, and I'm very pleased to be helping to open the sixth annual symposium. When they told me about this, they said could I come and make a few opening remarks, and I declined. I said, no, I want an hour; I want to be able to talk to you guys -- and with Paula -- to kind of have the conversation about the issues that we're going to be confronting as a country. So, I'm very pleased to be here.

I spend my time thinking about geopolitics, and my career study and passion have been a question of what causes wars to start and what enables them to end -- the business of war onset and war termination. And I tried to think about those two topics today through the lens of what is it likely to be the case that our military leadership and our civilian leadership in this country confront over the next period of time -- 10, 15, 20 years let's say. What does that challenge look like, and I think that Paula will probably talk more about what the implications are in terms of leadership in the skillsets and

capabilities we're going to need.

As I thought through the different facets of the different problems, the word "complexity" kept coming back to my mind. And I think the complexity is going to be a dominant theme if we understand the threat environment we face. And I mean there are two distinct types.

I would start by the fact that it seems to me that we are likely to be facing, simultaneously, the kind of traditional geopolitical strategic challenges associated with maybe not the peak of the Cold War but certainly those types of questions -- the great power rivalry, hard security dynamics, security laws, and the like -- on two different fronts at the same time as we tackle transnational threats at the same time as we deal with an unfolding crisis in the Middle East. And the simultaneity of that I think is going to be the first source of complexity. But then there is also complexity within each of those challenges, and let me just take a minute on each.

I think if we look at the European theory and the challenge of dealing with Putin's Russia, maybe some of us in this room will be still in our professional careers when we're dealing with the post-Putin Russia. There's a very good piece of research coming out from Mike O'Hanlon and Cliff Gotti soon on post-Putin Russia, and I can give you the advanced headline, which is that the best case scenario is what they refer to as a "Reaganov" Russia, kind of an assertive nationalistic but not crazy Russia. That's a best case scenario. There are a lot of worse case scenarios. But the complexity there seems to me to be multiple (inaudible) about our relations with Russia on multiple fronts, places where we're cooperating with them, like Iran and Afghanistan. It's in the relationship that they have with our core allies. I think it's easy to be dismissive, for example, of British concerns about how far we go on sanctions with Russia till you understand the scale of Russian preservation in the U.K. financial system and you understand the financial services sector of 25 percent of Britain's GDP. That's not a joke. There are a range of complexities in how we're going to think about Russia.

We turn to China in the Asian theater. There are going to be elements of that that are pretty classical security plays that we understand pretty well. But there are a lot of complexities there, too: In the economic relationship with China; in the depth of our economic ties in the nature of our alliances; in the tensions between our core allies; in the phenomena of what I call torn allies, allies who look to us for the security relationship that are increasingly embedded with China in economic terms -- and that includes core allies like Australia where we're beginning to see real pressure from the business sector for a change in the posture of Australia, not yet breaking in, I would say, the kind of core strategic thinking of the Australian security community but certainly beginning a very different kind of conversation about Australia's disposition.

Korea -- I think we'll see similar dynamics over time.

So, a range of complexities in how we understand the phenomenon of China -- how we think about its rise, how we think about the phenomenon of its slowing growth, what that means, what's the nature of the naval rivalry there. I will say that the naval rivalry often takes headline space. It seems to me one of the areas where it's actually more possible to think about a range of accommodations then how we manage a kind of stable equilibrium is much more manageable than the Russia situation but still a range of complexities.

We can look at transnational threats. We're going to be looking at a whole host of issues that we don't understand well around infectious disease, around vast national terrorism. We've begun to get a handle on it, but there's a long way to go in our understanding of those phenomena, let alone the business of managing multilateral institutions, which are an important part of the response, multinational coalitions, building partner capacity in the security space and the government space. If I look at that complex of issues -- multilateral institutions, coalitions, building partner capacity, et cetera -- and I look at our collective capacity we as a nation -- military and civilians -- have performed those challenges, I think I'm using the correct technical term when I say we

suck at doing that stuff. It's just not what we've done, and we're going to have to get a whole lot better at doing those things. And all of that is before we get to the Middle East -- or the Greater Middle East.

As I said, I spent my career studying the onset of wars, and in the modern period what you see is that wars tend to happen in clusters. They tend to arise from the breakdown or a shift in a regional order. We saw kind of a huge surge in the numbers of wars at the end of the Cold War as a lot of countries came out of the shadow of proxy wars and superpower relationships. And we saw wars rise substantially in the Sub-Saharan African context, in Latin America, and the fringes of Asia. We were able to tamp that down over time largely through international peacekeeping, stabilization tools, and a variety of systems.

I think we are now in the broader Middle East at the beginning of the beginning of a similar process of countries and groups in that region pulling themselves out of a series of arrangements that held, over the past two or three decades, a U.S.-led security system in the region, which is falling apart. And if I had to project, I would say that we are at the beginning of a 10- to 15-year period of a series of internal wars, some national wars, cross-border wars, regional security composition, and maybe even sub-regional wars, which will unfold in extremely bloody ways over the next 10 to 15 years and with enormous complexities within those arrangements.

We were talking earlier about the level of knowledge and awareness of our civilian and our national leadership. There are extraordinarily sophisticated people in this country handling some of these problems, but these are also extraordinarily complex problems, and we're going to have to develop a lot energy and resources to understanding of and figuring out where it is that we can make a difference, which is not everywhere, and where it is that American tools can be leveraged, which is not everywhere, and getting the right understanding of those phenomena and figuring out how to wield the power that we do still have, which is still very substantial I think is going

to be a very tough challenge indeed.

Take any one of those challenges and you see substantial complexity. Take all of them at the same time and I think we're dealing with a very complex threat environment and a very complex national security environment. But there are none of them that we can walk away from. We can't walk away from the Russia-Europe situation. We can't walk away from Asia. We can't pretend that transnational threats aren't going to affect us in a whole range of ways, and we can't pretend that we don't have substantial interests in the Middle East. So, we're going to have to develop the tools that we need to deal simultaneously with that range of complexity. I think that it is going to put an enormous burden -- I mean that in a positive sense -- on leadership -- on military leadership, on civilian leadership, and on interactions between them.

My own two cents on this is if we had a blank piece of paper and we took the threat environment we confront and we said on the blank piece of paper let's design a national security architecture to confront that, it would not look a whole lot like the national security architecture we have. My particular hobby horse is the State Department trying to get it to rip apart and start over. There are a number of pieces of that puzzle that I think need deep rethinking, and I think that challenge is in front of us.

One of the things that make me feel a little bit better about it is spending time with our Federal Executive Fellows and the likes of you, which make me feel like at least we have the leadership, which is going to be able to grapple with that.

COL. EVANS: Thanks, Bruce.

Paula?

DR. THORNHILL: Alright. So, hopefully my thoughts will be a nice bookend, if nothing else, to Bruce's comments. And I guess I'm really speaking to the folks who are especially in the military right now on active duty and have quite a bit of their career still ahead of them, and what I thought I would do is just share with you sort of the intellectual journey that I've been on, in particular since I retired, but as I look back

at something that actually started while I was still on active duty.

I came into the military in 1976. I went to the Air Force Academy, and the military that I entered -- I can describe it pretty simply: The people who served were called to service. We had just done away with the draft; the all-volunteer force had just come in. And this was a good thing. We had sort of gone back to our national roots.

The organizations that we joined were the military services. They were defined by physical geography, and the military services dominated. The organizational culture was militaristic in the classical sense that it was hierarchical. It put the group before the individual. There was a focus on physical fitness. There was an expectation of risk, of danger. And the reason for all of that was at the end of the day, if one were to steal a little bit from Huntington and a little bit from Weber, it was in order to master and manage some aspect of organized violence. Violence at that time was proximate. It was: If I can use violence against you, you can use it against me. That was one of the risks that I took on in uniform.

The only thing that really changed in that world view that I had -- and I didn't realize, quite frankly, that it had changed for about five years -- was something called "jointness." And that changed with Goldwater-Nichols 1986-87. I mean, we now talk it out the wazoo. To be honest, I really didn't know what jointness was until I got an assignment and somebody said, "Wow, you'll get joint credit for that." And I was like, is that a good thing? I don't know.

So, that was my paradigm. That was the paradigm that I functioned under for most of my military career. I would speculate that it's the paradigm that at least some of you function under today.

Since I've retired, I've been confronted by a whole host of questions that my paradigm doesn't answer, and I probably have 30 of these but I'm just going to give you a couple of them:

Why did the American public and so many in uniform have such a

visceral reaction against the drone medal?

Why are civilian contractors frequently in so much more danger than those in the military?

Full set of questions about the combatant commanders:

Number one is they're not in combat, right? 90 percent of the time what are they focused on? They're focused on security cooperation. Even in central command, the central command commander doesn't fight. He builds partnership. He goes out and he does the geopolitical parts of this, and then he gets a variety of task force. You know, we used to call them the OIF and MNF-I, had OIF and OEF and the command structures there.

Why don't combatant commands work? And the reason I ask this is I did a little thought experiment the other day, and I was, like, okay, let's take the Islamic state. If President Obama wanted to fire somebody over the failed strategy of the Islamic state, who would he fire? And I came up with several. I started with: He would fire General Allen. No, he might fire General Breedlove. No, he might fire General Austin. No, he might fire General Rodriguez. No, he might fire General Nagata. No, he might fire General Terry. And I ended where I started with who's in charge? And as somebody who was in the Pentagon during Abu Ghraib, one of the things that were really interesting was to figure out, actually, what that chain of command looked like. For those of you in uniform, this is a big deal to know who's in charge and who's responsible for doing what.

Other questions: Why do we need defense entrepreneurs? My guess is some of you are actually involved in the Defense Entrepreneurs Forum. It's something that was a bottom-up organization started by company grade officers and young field grade officers.

And then just the last one is: Why are we so afraid of cyber? You know, when we think about cyber war, we immediately go to my aunt dying somewhere, you know, because the switch has been thrown, the SCADA networks have gone down, and

people are dying, and I don't know why. So, this is a whole set of questions that the paradigm that I explained to you they didn't explain. So, this started a journey of reading. And for those of you who haven't read it, you've got to read it, and for those of you who have read it, you have to go back to it -- and it's Thomas Kuhn's *The Structure of Scientific Revolutions*. He gave us the paradigm shift. He gave us the paradigm.

The word that he gave us that I think in fact is more important -- and it's harder to pronounce but I think it describes where I'm at -- is "incommensurability." It is: When do you have a whole set of questions, that the paradigm that you have lived under, the things that have structured your life no longer work?

So, over the past several years as I've gone on this intellectual journey, I've reached some conclusions that, frankly, make me uncomfortable. The first one is the people who served and who serve. Where I once thought they were called, I now conclude that they're incentivized. And they're incentivized in all sorts of ways, because some are in uniform, some are U.S. government civilians, some in fact are government contractors. So, some are incentivized by money, some are incentivized by deferred benefits. There are all sorts of ways. And we can see that particular discussion playing out in multiple venues.

The organizations that we serve in or that you serve in -- they're in flux. I would call the military services kind of like the aging, forgotten family member, right? They used to matter so much, and now what they do is: They recruit; they organize; they train; they equip. But they don't do anything fun. They don't actually go to war. So, what they have to do is: They have to think about the future; they have to do the things here in the Washington area. But they don't actually fight.

The combatant commanders are really more of a matrix organization that I've concluded, more and more, really doesn't work, and what we're seeing, in fact, are new de facto organizations coming up: special operations commands; cyber command; perhaps some of the agencies like MDA that, in fact, are becoming the new functioning

permanent organizations more functionally aligned in the Department of Defense.

The culture itself is no longer militaristic. In some places it is, of course; in other places it's entrepreneurial; in other places it's somewhere more corporate; in other places it's tribal; and in other places it's kind of a hodge-podge of all of these. So, actually getting a unit to think of itself as a unit is much more difficult.

And then what you are being asked to do is also more difficult, because our notion of organized violence is shifting. Where once it was proximate, it now is remote if you're talking about drone warfare or UAV warfare or whatever you want to call it. And, in fact, it can be imagined when you actually imagine what the consequences are of cyber warfare.

So, if all of this is correct, then a profound change is underway and has been underway, and Kuhn would tell us that one of the things with profound changes is they make you really uncomfortable, number one; and number two is they're really hard to see and you don't see them until you're well into them.

So, my challenges to the fellows are pretty simple. First of all is: Am I wrong, and if I'm wrong, what is the paradigm that you would give me to tell me that I'm wrong? If I'm right, then the question is: Does it make you uncomfortable? And if it does make you uncomfortable, then I challenge you with two questions, and I think that they will be implicitly, and I hope explicitly, the defining questions of your professional generation.

The first one is: What does it mean to serve in the military in the 21st century? Who's in? Who isn't? Sometimes when I'm over in the Pentagon I'm told everybody's in. Contractors are in. Government civilians are in. Other times I'm told it's only the warfighter, and then I get confused as to what that is. Who's in the military?

And then the second question is: For you, what does it mean to lead in that military?

Your tools, your resources to go after this question -- unfortunately, there

I would they're the usual suspects. The first tool you have is put down your iPad, put down your smart phone and read books, and read tough, challenging books and read tough, challenging books in areas and in disciplines that you don't know. If you're a scientist, go to history. If you're a historian, go to science. Some of the things that I would recommend to you: artificial intelligence; history of science; political philosophy; neuroscience; obviously, strategic studies and leadership; things like organizational culture. Before you leave your fellowships, you should have a reading list of 10 challenging books that you want to go after in the next year that are important to where you are professionally.

Your next resource: Your colleagues, especially colleagues who don't think like you. Same thing with experts inside the Beltway and outside the Beltway. Find the ones who don't think like you, who make you uncomfortable. Conferences like this -- a great place to force yourself to present your idea, to have people tell you you're stupid. And then write, because there's nothing like writing to make you realize how unclear your ideas really are.

And then, finally, your troops. Your troops are a huge resource, because if they're confused, what you have to do is you have to help them sort out that confusion, and if they're not confused, then one of the things you can do is to seize on that and understand wants.

Your strategies: The characteristics of your strategies, I would submit, are interdisciplinary. I use that rather than "joint," because I think "joint" is a throw-away term. "Interdisciplinary" requires integration. They have to be practical. You can't go on an intellectual journey that you're having a great time with that means nothing. And you need to Red Team them. You need to keep asking yourself: What did I get wrong? What are my assumptions? Do I need to relook?

And then, finally, the values that you need to bring to this: One of the things that I found myself doing repeatedly was going back to the founders. I really dug

into of all things -- I didn't do this on active duty -- I dug into the federalist/antifederalist debates and really struggled with: When the nation was created, why did it create a military and what was it looking for in that military? And what was the essence of the debate? Creating a military is really, really hard. All we have to do is to keep it going.

Your next value is: It's about your troops. It's not about you.

And your final value is the reward to this journey is intrinsic. Nobody is going to pat you on the back and say, "Great job. Wow, you're really smart." Usually what they're going to say is: Stop all that academic BS. You know, let's get on with what's important. But the reward is intrinsic, and it's hugely, hugely important.

So, with that, all I will say is that I know some of the folks in the audience, and I think you're in the military in a fascinating time. I think you are just the folks to take on the challenges that Bruce outlined, and I'm really glad that you're doing it. It'll be a pleasure to watch to see what you all do. So, thanks very much.

COL. EVANS: I'll take the prerogative of the chair to ask the first two questions, one to each of you. If you don't mind, I'll start with you, Bruce.

You described a very complex national security environment in your opening remarks, and I think the body of thought that's out there is that it's going to require adaptive thinkers in the future, both civilian and military, to conform to that environment and to win in that environment. Can you talk a little bit about what your thoughts are with regard to the opportunities that places like Brookings and other preeminent think tanks here in D.C. in particular are offering to our militaries by inviting fellows into their ranks and why you think that's important?

DR. JONES: I thought Paula's comments about reading books were particularly apt ones. We're one of the few places left that write books. We're kind of proud of that, and sometimes we feel antiquated and obscure as a result, so I felt very reassured by your comments.

I actually want to put it the other way around. Frankly, I think that those

of us who are more on the civilian -- what's the word I'm looking for here -- amateur side of the equation gain an awful lot from the interactions we have with Federal Executive Fellows and the people you bring to the table over the course of the time you spend with us. I think we shouldn't underestimate -- I'm speaking about my peers, people who are likely to be in the NSC, people who are likely to be secretaries of state, Republicans and Democrats, people who are doing political policy work, and those in the kind of Washington environment -- I think we shouldn't underestimate the gigantic depth of ignorance we that we have about the structure and nature of military affairs and of our current military.

And that's true despite the fact that we just are still fighting the longest war in American military history, right? There is a huge gulf of knowledge between the people who do the work of pulling together policy on the civilian side and the people who are dealing with military realities who confront a huge wealth of knowledge. So, anything however modest that begins to break that down in terms of allowing the civilian leadership to have a slightly better understanding of what is going on in the military world and vice versa is awfully good. And if you also read a couple of our books or write a couple of your own, that's all good, too.

COL. EVANS: Thanks, Bruce.

Paula for you, you talked about many authors, Huntington among them, and I recall kind of the debate about the soldier statesman, about the soldier being subordinated to our civilian leadership by design and why that's important in how we run our militaries and what sets it apart in many regards from others in the world. But then you talked about kind of a loss of the militaristic aspects of some of our culture. Is that something we should look to turn back, or should we embrace the fact that we're becoming more adaptive and more expansive in the way we approach leadership in the military?

DR. THORNHILL: My answer is: I don't know. So, I'm stuck in my

incommensurable moment, and I come back to a couple of things. Democracies create the militaries that they want. They might not create the militaries they need, but they create the militaries they want. So, if I were to take -- for example, let's take the cyber warrior. If I take the cyber warrior and I tell the cyber warrior that today I want you to be entrepreneurial. I want you to be start-up. I hear this in the Pentagon all the time. We need to hire the people with the ponytails. That probably is not a person that's suited to a militaristic culture. So, then I'm back to something more fundamental, which is, is that a function of the military? And this is how I get back to the question of who's in and who's out.

My personal preference is -- and this is where I find the paradigm is very important -- my personal preference is: Yes. My answer is: I don't know.

DR. JONES: We've got about 10 minutes or so for questions. We've got some folks stationed around the floor here with microphones. If you just raise your hand I'll recognize you. Please wait for the microphone -- come up, ma'am -- and tell us who you are and then, if you can, direct your question to one of the panelists. Thank you.

(Interruption)

MS. WERTHEIM: I'm struck by the handicap -- I'm just going to be very quick about this. I went to Apple the other day, because I needed something fixed, and there was a fellow helping me who must have been 45 years old -- had some white in his beard. And I said, How did you learn how to do all this technology? He said: Our mantra in learning is if you don't know, ask. My experience -- if we could make one change -- I have this fantasy of putting that sign up in every room at the Naval Academy to change the behavior, but if you still have the assumption that the people at the top know the answers and you don't feel free to ask, because you're exposing your "ignorance" as opposed to your wanting to learn, which we all want to be, my question is: How would we bring that change into the military?

DR. THORNHILL: Okay, so once again my favorite answer today is

going to be “it depends” or “I don’t know.” So, I actually have two favorite answers.

There’s been a lot written about the military as a learning organization, right, and especially if we go to a counterinsurgency and we look at, like, John Nagl and how you think about and operate in small units and things like that.

From the perspective of today’s military -- and this actually goes to John’s question -- we bring people into a hierarchy. We bring people into a hierarchy to give them a certain skill set to lead a certain group of folks. It takes a particularly strong and dynamic leader that’s able to both function in that hierarchy and then function across the matrix, if you will, to function horizontally and not to take it as something personal. It’s not to take it as a failure of leadership. And then you take and you layer on top of that -- take the Naval Academy. They’re trying to instill a certain set of values that are very traditional at the same time that they’re trying to bring along these 21st century bright teenagers who will come on to be very, you know, hopefully very capable officers.

I would say that they are stuck in an incommensurable moment. I would say that you can’t have it both ways. I mean, these are very -- like I said, these are very uncomfortable conclusions that I have reached over the past 5 to 10 years that the military that we admired -- the military I joined was World War II military. All my relatives were of that generation. I didn’t join the cyber military. And I think that what we tell ourselves, to your point, you know, the cultural tales we tell ourselves, the stories that make us who we are -- and for the Marines in the audience, there’s a wonderful book by Aaron O’Connell called *Underdogs* that really does a great job of telling that story -- I think the story we tell ourselves about who we are and who we really are, are very different. So, I don’t know -- I mean, I could teach that in the classrooms but, more importantly, it’s how these commanders in the field are going to respond to that.

It’s an unsatisfactory answer.

DR. JONES: One thing I’ll add to it, if I may --

DR. THORNHILL: Nice.

DR. JONES: My first boss said to me every single day -- every single day he said: Remember that your most important function is to tell me when I'm wrong. That was a hugely empowering thing to do to your staff, to tell them that it's okay to challenge the hierarchy. So, as a leadership principle, empowering your teams, empowering your staff to challenge you, don't assume that they'll do it unless you empower them to do it.

Well, I'm talking to you all here who are going to be leaders in this structure to take more the lesson that if you want to have a capacity to learn, you have to enable the people who you are interacting with to question your judgments. They won't do it unless you tell them repeatedly that it's okay to do that.

DR. THORNHILL: And then when they don't get promoted, they'll assume it's because you told them. (Laughter) I mean, this is the reality that they might not get promoted because they are an average performer, they're a sub-performer. But this is the challenge of the hierarchy, right?, that when you say, Hey, I want you to challenge me -- and you might really mean it -- but they are so concerned about themselves that they are going to be reading things into your tone of voice, into your statements that you have no idea that they're reading into. So, it's the empowering, but be prepared for the negative aspect of it as well.

COL. EVANS: Can we go to the back real quick.

DR. DOWNES: Is that working? Good morning. My name is Cathy Downes. I'm a professor at the National Defense University.

I just wanted to sort of make a bit of an observation. We focus a great deal on military education and military professionalism, and I was kind of a little bit not affronted by Bruce's comment about civilian ignorance. The reality is that we are increasingly engaged in operations that are involving both civilians and military. Yet we invest a tiny amount in the education of senior civilians in our organizations. We, in actual fact, recruit our civilians as technicians, and then we promote them up through

GS-12, -9, -15 on those technical skills -- simply to pay them more money. We rarely invest in their education, and then when they come up to SES rank, they don't have time to go and get education. So, we spend a huge amount training our military folks to, in effect, often take over many more roles than are in actual fact truly, according to (inaudible) military in nature. And then we expect our senior civilians to be top-level advisors to our political level without anything like a commensurate level of experience, even including things like the fellows. So, it's just an observation that I'd make that, you know, by this imbalance that we are doing all the time, we are not helping ourselves in terms of the top-level decision making, strategic-level decision making for the nation. Just that observation.

COL. EVANS: I know at least one of or panelists today, my colleague Bob Hein, will kind of underscore a little bit of that and use, I think, the U.S. State Department as an example of where we can probably afford to make more investments in how we train and how much we train our civilians. So, thank you very much for the observation.

We've got time for one more question. Sir, you've had your hand up and been very patient.

MR. BURR: I'm Jim Burr. I'm a journalist who's covered public policy for 50 years, most of it here.

The February and March issues of *Atlantic* magazine have two just unforgettable cover stories, and one is quite well toward what we're talking about here, and I think it's really for Ms. Thornhill. James Fallows, who's a dear friend of 40 years and also one of the greatest journalists we have, wrote a cover story on -- "With the Greatest Army on Earth, How come We Keep Losing Wars" is the headline on the piece, and he was very, very critical of the training of our top officers. It wasn't a diatribe by any means. James is just not the kind of guy. But as interesting as Jim's article were the letters to the editor in March, 95 percent of which agreed with him, and a lot of them were

written by military people -- and very subtle observations about what should be done about what he reported. I don't know if you had a chance to see that piece, but what do you think?

DR. THORNHILL: Actually, I was all over the map on his piece. I've been following -- I think he's a terrific journalist also, and I've been following him back when he wrote, what was it, *National Defense*, back in 1980 or whatever. And one of the things that I would say to folks in the military is some of the keenest observers of the military, in fact, are outside it, because when you're in it you cannot see your environment nearly as clearly as you think.

As I recall the article, I thought it started -- there were two different pieces to it. The first part was a question that I've been wrestling with, which is: We basically -- when it comes to meeting the national objectives, we have failed in two wars. We failed in OIF. Well, you know, this is what ISIS is about. We're trying not to fail in OEF, and we don't know quite where that's going to come. And I thought Fallows, in that first part of that article, did a terrific job of winning that challenge out.

The second part I wasn't as satisfied with, because what he then did -- as I recall, he turned that into an acquisition debate, and he turned it into a debate of F-35s versus A-10 in particular, and embedded in all of that is what you think the future battlefield is going to look like and what you think is a waste of money versus what we know exists. And I think there's a panel actually today that talks about acquisition. When it comes to the F-35, one of the things I've learned about airplanes -- and I say this as an Air Force officer -- is you never know what you're getting. I look at the F-35, I look at the bill, and it just -- it takes my breath away. And I can't believe that what I'm getting is worth that as a taxpayer. But I also look at the A-10, and when I was a cadet at the Air Force Academy, I worked on an A-10. It is an old aircraft. And those things -- at some point, they do need to be retired; they do need to be replaced. I don't think the Air Force has been a good steward in terms of reassuring when it comes to close air

support, which is really what this is all about. We've been involved in ground wars for the last 10 years. This about reassuring folks who are in contact with the enemy that they will have the support that they need.

I think both the Air Force and the Navy are better at that than they talk about, but until they actually make that a more comprehensive argument, you're going to get the F-35 versus the A-10, and you're going to look stupid. And from that perspective Fallows did a terrific job.

DR. JONES: I have a couple of thoughts or comments to the last series of questions, and I'll stitch them together.

My initial comment about the depth of ignorance on the civilian side wasn't aimed at civilians in the military, it was aimed at the likes of me, okay, and the kind of people who end up staffing the NSC and who have come as close to touching a military officer as I'm doing now. (Laughter) I mean that literally. Yeah, something closer, but we won't go there. That's who I was referring to.

But there are different kinds of depths of ignorance. I won't name the name, but I was speaking recently to a very senior military officer who'd been in charge of one phase of the Iraqi War, and said to me very frankly that going into it he didn't know of the existence of the difference between Sunni and Shia. That's not okay, right? That's not going to be okay as we deal with 25 years in the Middle East, and I think concepts like regional alignment of forces begin to get to that, et cetera, but there are different kinds of knowledge out there. We're going to have to do a much better job of stitching those together.

Afghanistan and the kind of will we still fail in Iraq? For me, if I'm going to take away one sort of piece from this, it's your question that you posed about cyber: Is it a military function? Right? We were going into Afghanistan, and we figured out midway through the campaign that we had to build up the capability, the legitimacy, and the governing tools of the Afghan state. Is that a military function? I know this: The

military commanders and planners who put themselves to that function didn't know the first thing about it and began to talk about concepts like clear, build, and hold -- clear, hold, and build -- where the build was going to be delivered in 18 months. Anybody who's even cracked a textbook on the process of building state legitimacy, et cetera, know that if you added these scratched-out months and put in years, you'd be talking about an extremely ambitious timeline by historical standards -- extremely ambitious.

If you ask me, based on the evidence, what's it going to take in time to build a capable, credible, legitimate Afghan state, I would put figures like 50 or 60 years on that process, okay? But why was that a military function anyway? But my point is also if we turn to the civilian side of the equation, if we look at State Department and AID, do they have the tools to do that function? No, they don't. They are not set up for that function. They were set up for a very different purpose and have only very slowly begun to adapt to those kinds of functions.

So, whether we look at the military side or the civilian side -- or I think a bunch of places where it's not at all obvious that we should be talking about jointness or integration -- we should be saying this is a challenge and let's build up a capability to deal with that challenge, and military civilian isn't actually a meaningful divide in that discussion. Cyber, I think, is a very interesting example of that. Building state capacity in an insecure environment might be something that requires jointness of the type you said, genuine integration as opposed to just jointness. But I think we need that kind of really deep re-think of the fit between the civilian and military capabilities that we have and the national security environment that we confront.

COL. EVANS: Well, you've both given us a lot to think about.

Please help me thank our two speakers this morning.

(Applause)

We need about five minutes to reset the stage, and then the next panel will begin.

(Recess)

LTG. BARNO: All right. We're going to ask everybody to take their seats. We'll go ahead and get started with our first panel this morning.

I'm Lieutenant General retired Dave Barno, former Army officer, currently a distinguished practitioner in residence in American University's School of International Service up on the hill away from the hubbub of downtown Washington here, so it's great to be back downtown here at Brookings and particularly great to host this first panel this morning which is really the beginning of a day-long event that I applaud Brookings for hosting now over five years to showcase the terrific work done by our federal executive fellows, military fellows that are here spread across think tanks in Washington for a very formative year of their career.

It's a great opportunity this morning to hear from three of those fellows to look at the research they've been doing over the course of the last nine or 10 months or so and listening to their thinking and then have the opportunity to ask them some questions as we go forth.

Our panel is actually titled Leaders: How to grow, protect, and connect those who serve. It has a bit of a human-domain focus, perhaps, more than some of the panels a bit later on today, and our topics are very diverse as you're going to see as we go through each of the panels. It's ranging from how we think about leadership in environments where organizations are dispersed across the globe to whether we have adequate protections for our military service family members and those serving in uniform given disparities between state and local laws as they travel around through their careers all the way to issues of sexual harassment and assault and sexual assault prevention and whether we approach that right and if there are some significant challenges that may be being overlooking in those programs. Again, a wide diversity of different topics that we're going to have the opportunity to dip into in a bit of depth to this morning.

Each of our presenters will take about eight to 10 minutes to highlight

their work. I'll ask a question or two probably at the end of that, and then we'll go on to the next presenter. We're going to preserve about 25 minutes or so in the second half of our time here for your questions, which is the real value in this for you to probe the folks here up on the panel and to think about the broader context of the topics that they have chosen for their work.

Let me quickly introduce the panelists. You've got detailed bios in front of you, and I've been asked to not go more than one line. I'm going to be extraordinarily brief for the folks I have here with me.

Sitting to my immediate left is Lieutenant Colonel Chandler Seagraves. He's a federal executive fellow here at Brookings, by trade he is a Marine Corps naval aviator with time in EA-6Bs and F-18 Hornets.

In the middle, Colonel Scott Kieffer, a federal executive fellow here also at Brookings who, in his military life, is a special agent with the Air Force Office of Special Investigations.

Then to the far left, your far right, Major Reggie Yager, Air Force Strategic Fellow with the Department of Justice and in his Air Force life is a member of the Air Force Judge Advocate Corps, and he's currently in the Air Force Strategic Policy Fellowship program.

Again, diversity of panelists, certainly a diversity of topics. I'm going to start in the middle with Scott Kieffer to talk about his topic, thinking dispersed leadership, and his title is 'Proximity to the flagpole: Effective leadership in geographically dispersed organizations,' something that's certainly a timely subject given the nature of our military and actually the nature of private sector entrepreneurialship today as well. So, Scott.

COL. KIEFFER: Thank you, General Barno. Over the years, our concept of national security team has evolved, and more leaders in the military, in the government, in defense industrial base, in private industry are being expected to lead dispersed organizations.

In 2009, I was fortunate enough to take command of an Air Force squadron. About half of my personnel were co-located in the same facility with me. Another quarter of that squadron was in a facility about five miles away, and then another quarter of the personnel were scattered in four different operating locations over three states and up to about 250 miles away.

Having previously had bosses who were located over 1500 miles away from me, I had seen the good and the bad about how to lead in geographically dispersed organizations. I felt I was very aware of the challenges of leading those that were not co-located, so I went into my command with high expectations for myself of how to inspire, how to motivate, and how to make those who were not co-located with the bulk of our team feel like they were just as much a part of our team and contributed to the broader mission as those that were co-located.

But even with that awareness and those high expectations for myself, I found it much, much more challenging and difficult to give the same attention and the same focus to all those that were separated than it was for those that were co-located with the rest of us.

As I reflected upon those issues, I realize that never once had I ever read or been involved in discussions at any of my training over 20-plus years in the Air Force any leadership training on how to lead in dispersed organizations, nor talking about any of the challenges, the opportunities, or those best practices of leading in that environment.

Then as I started talking to peers or even those in the private sector who led similar organizations as well as leadership educators, I realized that my experience was not unique. No one I talked to had any specific training or guidance on leading in dispersed environments. Even my Navy brethren, who are arguably more geographically dispersed than any organization on the face of the earth, had not had any formal training related to remote leadership.

We invest a great amount of time in leadership development and education in the military, and rightfully so. It's probably the most important topic that we teach, and arguably that's probably the mission or the duty that is our biggest strength in the U.S. military is leadership. Yet we don't even talk about the differences between leading those who are co-located versus those who are dispersed.

The fact is leading in geographically dispersed environments is different and it is more challenging and perhaps it's more important and impactful than leading those who are co-located. That's why I think it's valuable and vital for our national security that we better prepare our leaders for these kinds of challenges in the future.

What are the things that we need to teach, we need to look at, we need to discuss, and we need to consider in leadership training for our future leaders not just in the military, but also in the private sector and in the rest of the government?

First of all, fundamentally the differences between those who are co-located and those who are geographically separated is our ability to communicate and our ability to interact routinely. I have three main topics about communicating in dispersed environments that need to be addressed in leadership training and education.

The first is the methods to be used, the second is the frequency and the purpose of the communication, and third is actually the potential negative consequences of too much communication from afar, and I'll talk about that in just a little bit.

The first main topic for discussion and consideration in training is related to communication methods, and I'll just briefly go into that. It's probably obvious that technology is no panacea in communication. It's not so much about technology itself, but it's more about the richness, the quality, and the content of the communication.

However, there are some tools that can help such as video teleconferencing, social media, instant messaging, document-sharing chat forums just to name a few, but it's real important that you choose the right method of communication for the message that you want to convey to your dispersed personnel. It's also important for

leadership to establish ground rules for how their teams communicate and clearly articulate those expectations to the team.

A second important issue that should be explored in remote leadership training is the frequency and the purpose of the communication. When teams are co-located, there are many opportunities for informal communication that takes place naturally. That could be from running into each other in the hallways or at the water cooler to having time before and after meetings just to chat to people. Those informal communications are often taken for granted when you're co-located, but they are absolutely essential to building personal relationships and establishing and maintaining trust, which are fundamental to effective leadership.

It takes a concerted effort for leaders to build those personal relationships, and they must seek out and actually create opportunities or touch points for informal communication when you're leading from afar. Some examples used by several successful organizations include holding informal water cooler time before video teleconference meetings just for members to talk informally. Another example is holding regular virtual happy hour sessions where employees share personal information.

It's also extremely important for leaders to show that they are available and responsive to their remote leaders. This could simply things such as making routine calls to subordinates just to check in with no agenda and not just when there's a crisis or a tasking or suspense. It could also include such things as holding virtual open-door hours or simply responding to emails in a timely manner even just to acknowledge receipt of the email or to say thanks to the sender.

There's a common phrase in the military that those who are co-located with the boss or the senior leader are said to be sitting close to the flagpole. Leaders must work very hard to fight the inevitable perceptions that those who are said to be sitting close to the flagpole do not get special treatment or favoritism compared to those who are dispersed.

I had one successful leader who made it very clear to the entire organization that any remote subordinate leader had priority for getting in touch with him over anybody that was co-located on his staff, and he actually followed through with it which did a lot to increase the morale and the feeling of belonging and commitment to the leader and to the organization.

Conversely, I had a leader that was a remote leader who essentially said he didn't want to hear from any of the remote subordinates unless there was a problem because he was too busy, and obviously that had a negative effect on people's commitment to the organization, to the person, and trust in that leader.

But the last thing to consider during leadership training is the potential downsides of increased communication technology. While it may seem like these advancements can only improve communication and help foster teamwork, leaders need to be cognizant of potential negative effects as well.

Probably the biggest is the increased opportunities for micromanagement even when teams are separated. Remote leaders must resist the temptation to control field units from afar, especially since they are unlikely to fully understand or grasp the local environment.

As an example, everybody remembers the raid on Osama Bin Laden's compound in 2011 and the iconic pictures of President Obama sitting in the Situation Room watching it fold completely live, and that was all made possible due to communication technology and live video feeds.

Now imagine if President Obama or the generals back in D.C. actually wanted to impact and intercede in that operation and tried to influence what was going on tactically on the ground. Imagine the repercussions that could happen or the implications that would have on not only the operation, but potentially the lives of those individuals that were operating.

On a smaller scale, the proliferation of communication technology has

also increased the expectation for immediate responses and feedback even when not warranted or truly needed, and it often leads to less thought and consideration going into messages themselves.

Leaders also need to consider the impact of asking detailed information from subordinate teams as a crisis is unfolding and often forces a team to drop what they're doing operationally just so they can feed the information back to the boss. While that may be important at certain times, I think it's important for leaders to at least step back and be cognizant of the fact that it can have an impact and think about it before they actually just pick up the phone and start asking those questions.

Although most leaders have great intentions, lack of awareness and training of effective leadership principles in dispersed organizations can negatively impact the personnel and operations they lead. While we invest a great amount of time on leadership training and development within the military, little, if any, skills are actually taught about the unique challenges and opportunities of leading in dispersed organizations, which is why I think it's vital that we better prepare our future leaders for leading in this unique environment. Thank you.

LTG. BARNO: Scott, thanks. That's a great presentation, and this is an area that's not going to get better, if you will. It's not going to go back to the way it was. It's going to continue to grow in terms of both technology's reach to touch even the most remote lieutenant out there in an outpost in Afghanistan. As I wrote recently, he's got access to internet, is expected to send in reports in every day, is up on chat rooms; he has to do a wide variety of things that his predecessors even 10 years ago would have found unthinkable.

That's a challenge, I think, inside the military in a sense both in Army doctrine, but in joint doctrine we talk about mission command, and mission command is nothing if it's not decentralized, trusting the ability of often junior leaders forward on the battlefield to make decisions without having their seniors with their hand on their shoulder

or interjecting guidance and intent.

We have lots of opportunities to see commanders with live full-motion videos in their headquarters, three and four-star generals watching what a special forces A-team might be doing on an objective in real-time. Again that temptation to get involved sometimes can't be overcome by those commanders, and there are plenty of stories about it as well.

As you look at this, how do you see the mandates of mission command and trust and decentralizing authority out to your subordinate leaders crosswalk with what technology can do now and being an effective leader? Where's the right balance there?

COL. KIEFFER: I think you hit on it, sir; it is balance. As leaders, you obviously want to influence those people that are remote. You want to make sure that they are more effective leaders, but that doesn't mean directing everything they do. Part of that is mentorship and discipline and discipline of the senior leaders to make sure that you are not micromanaging, you are not getting involved in those operations. It's very difficult because there are a lot of senior leaders that want to get involved in the specific details of the operation.

But as you have that discipline, you step back. You let them lead, but then take the opportunity to mentor those individuals. You see something that maybe you didn't like or even as you talk to them you see something that they can do better, then you take that offline. You don't do it while a mission or operation is going on. I think that's important that we have to educate our senior leaders better at how to do that because I think it is a natural instinct for all of us to try to get involved whenever we see something whether or not something isn't right or the more important aspect of that discipline is you're just not comfortable with something. It wouldn't be the way you would do it. I think it's important to talk about that offline.

LTG. BARNO: It's a great topic. It's one we're going to be spending a lot more time on in the next few years as we realize that leadership is changing in this

environment. I applaud you for taking that on, and I look forward to seeing lots of details on how to do that better and maybe seeing that actually migrate into some of the leadership programs around the military because it is going to be the way we're going to lead in the future.

Let me shift gears now and go to our second presenter this morning, Lieutenant Colonel Chandler Seagraves, also here at Brookings, who's going to take a very different topic and examine that, which is are we doing enough in the United States to ensure that our military members and their family members are protected form the challenges, the difficulties, the sometimes arcane sets of requirements as they move from state to state to state to state, in my case 21 times in 30 years, and seeing how that impacts the education of your children, your ability of a spouse to get work, even your ability to get things like driver's licenses and to vote. This is the topic of Chandler's paper which is titled 'The challenges of military life: Are military members and families truly protected?'

LT. COL. SEAGRAVES: Good morning, everyone, and thanks for coming. Happy St. Paddy's Day. On the first panel there, Bruce and John had a discussion about stepping outside of your comfort zone and trying to focus on something that you're not used to. So, they did a good job when I pulled up here as a Marine, make me lean my rifle against the side of the building before I came in. I decided to, just as the general said, focus the effort or my effort to take a little bit of time to look at the challenges that our family members as well as our military members face as they move around, as the general said, 21 times in 30 years. I'll have to put that in as one of my statistics, but it is a challenge.

Most of us in the military, we're problem solvers. We don't even think of them really as challenges. When the wife tells you an issue's going on, you immediately start trying to figure out a way to solve it. Then in this time period here at Brookings, I've had time to sit down and actually spend some time thinking about why

should I just solve it for my family instead of trying to solve it for all the other families coming from behind or coming behind in service.

That's where I focused all of my research, and it is a very unique lifestyle. The question is: Are we truly protected? Are military members, but more specifically their family members -- I want to caveat that with it is an all-voluntary force, and some people made that very, very clear to me that you don't have to do this, and that's right. They don't. But I think it's something that we as a society owe our military personnel and their families to make sure that they're protected appropriately so that they can focus on the mission of the country.

Before I dig in to the specific topics that I want to talk about, I want to throw a few facts at you to put some scope and scale to this issue. The active military force, and that's where I focused on in this study. I understand there's a reserve force, having never been a part of it, they have their own set of unique challenges. But I wanted to focus specifically on active duty.

The active military force represents one half of one percent of our population. Half of our military members are married. For each military member, there's 1.4 family members. In total, there's 3.25 military and family members. 87 percent of that population is stationed in the United States at any given time, and members are stationed in all 50 states, but 50 percent reside in five states alone within our nation, 70 percent within 10 states.

As those demographics are soaking in a little bit, I'll start shifting over here to the challenges that I chose specifically. There's a myriad of challenges; I could write forever, and as a Marine that's not suggested, so I chose three specific topics to focus on. The first one is voting at both the federal and state levels. The education systems, the diversity from state to state, and then, to throw in a little bit of the Constitution there, some focus on the second amendment rights as well. But the thing that I want you to focus on the most in these topics is how it's affected by the policies and

the regulations set regarding how military members' residency is defined.

Before we jump into the topics, and I keep dragging it out here, but let's talk about that residency a little bit. A normal citizen sets residency by the place that they choose to reside. If you're living in Virginia, then you have to become a resident of the state of Virginia; you all know this. As a military citizen you have to select a place to reside, and I see a lot of heads nodding out there; all the military guys. You pick that location. Many, many years ago the process was thought of because usually that is usually where you would return upon completion of your military service.

In today's world, we all pick different states for different reasons, and you can only pick a residence or a state to be a resident if you have been stationed there. Most people would immediately say, all of this you're going to talk about is pretty simple, just change your residency to every state you go. By law, we're not allowed to. The caveat there is you have to have a genuine desire to return to that state upon completion of your service. You also wouldn't want to do it from a fiscal standpoint as well.

With a chosen state of residency now, when you receive a set of military orders you move to another state and you're technically not a resident of that state. That's the difference between civilian and military.

The first topic that we discussed, voting. If you are a military member, all of your voting is tied to the state of which you are a resident. Your state elections and federal elections, all your voting will be done through some programs that the DOD has set up to where you're able to vote in that state of which you are a resident.

The issue with that is most of us, just as the general described, 21 moves in 30 years, probably none of those to his hometown, you're more interested in the politics within the community that you live and raise your children in. An example would be the state of Virginia. You would probably be more interested in voting in Virginia if you spend three to five years of your career there.

At this time, you're not allowed to vote in that state. You're voting in the

state that you chose to make your state of residence early on, maybe as a second lieutenant or an ensign when you didn't even know that you were going to be married and have families later and you had no idea how the school systems operated except for when you went through them on your own.

That takes me into the second topic, which is the education. Without having the ability to affect the educational system via voting in the state that you live, military members and their spouses have very, very little say in how that education system has developed and as far as how their communities are governed. This becomes an issue down the road. You don't realize it again until that fabulous wife that you have at home that's been solving all these problems for you all the way throughout your career starts bringing some of these issues home and having a discussion with you on them.

The general touched on it a little bit, but on average military members move every three years. Military dependents, for those nonmilitary, that's what we refer in military jargon of our family members, both spouses and children. But more specifically, children can expect to at least go to school in two different states and as many as four before they graduate or if you're like me, you might have had to go to a couple extra before you make it through school. That was a joke. (Laughter)

Some of these things that these children face in elementary and middle school levels, they may teach one course in fifth grade and another course in the 6th grade, and then the child moves between the fifth and sixth grades and they missed that class which set a foundation for their future educational abilities.

Another one is a high schooler. One school or one state grades on a 4.0 scale, and another one grades on a 5.0 scale. That's what I like to use as the excuse for my academia. Military members, also something new, our children, if they choose to go to college, can receive in-state tuition in one state, but if they go through three years of their high school in Texas and move to the state of North Carolina, they probably want to go back to Texas and go to school; they no longer can have that in-state tuition. I know

most citizens can't either, but they had to move in the middle of that and they were more competitive on that grading scale in that state.

The third item is the second amendment. By law, all citizens can only purchase weapons in the state in which you're a resident, and where we run into issues in this in the military is if you have a set of orders to the District of Columbia but you live in the state of Virginia, you're not allowed to purchase a weapon in the state of Virginia. You can in your residency state, and my situation would be Florida, but that doesn't do you much good when you're in this area.

Those are the three main topics that I've picked and focused. There's a lot of legal and legislative mumbo jumbo that surrounds all of those things, and I'll be glad to discuss that in the question session, but a couple things that I think we could do to is this is the DOD needs to form a long-term initiative to identify all these challenges the families experience during military life and then some of the policies governing residency need to be reviewed and come up with some type of situation where military members are seen as residents fully within each state to get around some of those voting rights.

The biggest piece that I want to leave you with is that we think purely about the military members and their ability to go forward and take care of the nation's business, but that family nucleus is what really gives them the ability to go forward and do that. Helping solve some of these problems creates more time and takes away some of the hassles of that voluntary service that they chose as they go through their military career. Thank you.

LTG. BARNO: It's a great topic. It's one that anyone who's been in the military has lived personally and has plenty of horror stories to go with it, myself included. It's great to highlight that. I'm going to restrain myself from asking questions in the interest of time, but as we chatted briefly before we came in here today, this is also an issue that not only affects military families but a very mobile society now with some statistics showing that the average Gen Xer, my sons and daughter included, will have a

dozen jobs in their first 18 years or so in the workforce, which is rather different than probably what most of us sitting up here, and a lot of those are going to entail moves.

I think that this is a broader societal challenge. A lot of our systems are not built for this kind of society, but it's particularly acute for military members who get those things called orders about every two years, and they don't get to say no. That's pretty important.

Going to our final panelist, and we're going to open it up for your questions. Again, a third topic very distinct from the others today looking at some of the challenges with the current system of how we're dealing with the immense problem of sexual assault and prevention of rape inside of the military. We're going to have Reggie Yager present his report which is entitled 'Sexual assault prevention/response: What should we be talking about.'

MAJ. YAGER: Thank you, sir. A noted professor, Alan Dershowitz, out of Harvard College once said that some people regard rape so heinous an offense that they would not even regard innocence as a defense. My paper and research is focused on the current environment in sexual assault prevention/response and looking at the fact that we do not have a balanced approach.

In the notable and well-regarded interest in trying to prevent sexual assaults, we are completely neglecting our duties to protect the wrongly accused. The current policy looks something like this. There are too many reports of sexual assaults and many more unreported sexual assaults. We know there are sexual assaults because false allegations are rare. Too many victims do not get justice, and offenders are not being held accountable. So, we need to change the system that is perceived to be too much in favor of the accused, that way victims will have more confidence reporting and offenders will be held accountable and we could reduce sexual assaults.

There are two fundamental flaws to that policy. First is the notion that false allegations are rare. The first one is false allegations are rare; second, that

whatever the number is, they're too insignificant to be concerned about.

My paper is broken into three areas. The first is to highlight the fact that they are not insignificant, and I detail a number of cases of wrongful convictions; I'll highlight that in a second. Cases that have received international attention of false accusations, and how these folks are legitimate victims much like victims of sexual assault, and their plight is being ignored in the interest of trying to prosecute.

I highlight the fact that all the changes that we have made in the last few years are to increase prosecutions, and we've neglected the fact that our military justice system is built on a balance. We do not have all the same protections that civilians have. There's a tradeoff in that. There's sort of an irony there as well that we are willing to sacrifice our life to ensure freedoms throughout the world and to protect our own, and yet we ourselves do not even have the same rights as citizens.

In balancing that, Congress initially created, well, you don't have some things, but we're going to give you other things to balance it off and ensure justice is done. Now over the last several years, what we've done is changed those without balancing it back. We are stripping away protections that were there to help ensure justice is done or no longer is concerned about justice in the effort to remove sexual assaults.

I highlight the fact and identify a number of cases -- just the fact that there are serial accusers that are noted. There are fatal accusations where folks have alleged a sexual assault that resulted in the murder of the individual that was falsely accused, and there are countless stories. I only hit upon some of them, but to show that these are not insignificant victims who are falsely accused. They are legitimate victims, and they need to be looked at in our system, and we're simply not talking about them.

I then talk about the reports on false allegations and document how -- I look at and provide a chart of all the results and conclusions of all the known studies on false allegations, and I go into depth analysis of the four that are most commonly cited to

identify the fact that they are intellectually dishonest in their representation of statistics. But more importantly, it shouldn't matter because the numbers that we do know shows that false allegations are not, in fact, rare and are significant for us to be concerned about, and I'll cover a few of those briefly to give you some numbers to work with.

Then the last huge section I talk about is simply recommendations. What I'm proposing is bringing back to the equation the wrongfully accused. Not just looking at the prosecutor side of the argument, but letting the other side stand up and then balancing your analysis. What would we be doing differently? I make a number of recommendations along those lines.

By way of some examples just to highlight, just last month when you talk about whether or not false accusations are significant, in February of 2015, Lisa Samuels, a mother of four, was sentenced to 20 years in prison in the United Kingdom for lodging a false accusation for the purpose of earning favor with her mother.

She alleged that an individual she was friends with was drinking at a pub. She met him at a homeless shelter, claimed he spiked her drink, took her to the cliffs, and raped her. He was identified by the police. He was put in jail for a while when they investigated the case. Fortunately for him, her lie was not very good. They found close-captioned television of the place she supposedly was. She was not there. The friend she claimed she was with did not exist.

When it went back to her and approached her about this information, she admitted she made it up to try to get a mother to feel sorry for her. She thought her mother would take her back and rebuild their broken relationship.

The true victimization here was what happened to the person she accused. While placed in confinement, he had graffiti painted all over his house. When he was released pending the investigation, he was attacked by a vigilante group with a large piece of wood such that he couldn't speak for several days because of the beating he endured. His wife was pregnant. Lost her baby at 10 weeks because she tripped

trying to escape from a mob that was going after them. He was prevented from seeing his children. He was so scared, he moved away from the area with his family. He's been unable to find work and was taking antidepressants at last count just to try to resolve the issues from this.

As it turned out, it was not her first false claim and that was considered when the judge sentenced her to 20 months. She'd actually made two other false claims previously.

As part of this, I go into some of the main false accusations you may be aware of: The Hofstra cases, the University of Virginia allegations, the Duke lacrosse, and I discuss a lot of those and how those things are allowed to grow so large as they did to international fervor.

Part of what is encompassed in all this is that there is a mob mentality pushing a lot of this agenda forward, whereas one of the -- and Megan McArdle, a journalist, wrote that when a community becomes hysterical about a problem, sometimes the debate is suppressed, which is what we're seeing now. Questions about the current policy are viewed more as heresy rather than logical debates. People who call into question whether we're doing the right things are instead questioned as being rape apologists and defending sexual assault.

I'm not here to defend sexual assault. I'm here to defend the fact that people are falsely accused, and we're not doing enough to ensure that they're protected. In fact, when I was doing my research on the research, how victim behavior research as well as the false allegation research is flawed, I was surprised at what I learned.

I contacted a couple of the psychologists I regularly both cross-examined and used in my own during trial and asked them, hey, am I crazy on this? Every one of them said, no, you're not crazy. One of them said, I've been saying this for 25 years. I'm like, well, why isn't it not written out there? She says, it's career suicide to take a position in opposition at this point.

That should be scary that we have folks out there who realize we're in a flawed position and our policies are based on fundamental flaws, but they're afraid to speak out because in this environment you're criticized, you're not going to get work. You're going to be considered not logically debating, but instead defending sexual assault.

Some numbers here quickly, in terms of falsely accused, the Innocence Project to date, there are 1565 people that have been wrongfully convicted and exonerated largely due to DNA. Most of those are homicide and sexual assault cases. 700 of those are specifically sexual assault cases. Several involve children. The adult cases are 469. I discuss just six of them. You're welcome to look at the other 463 to see the horrendous stories.

Most of them are in the 15-year range confinement periods. Some of the recent ones have been 31 years or more that people served. One of them, after having been released from confinement, noted during my confinement, fax machines were invented and became obsolete. Think about that in terms of how long that is for somebody to have been wrongfully convicted.

As part of this, I noticed there was a study done in Virginia that tried to assess what percentage or what is the rate of wrongful convictions in the federal system, and they found a rate of 15 percent. That dwarfs the percentages that are supposedly false allegations which are a cause for concern. It's one of the reasons why there must be more to that story. 15 percent of folks that were examined over a period of time through DNA evidence were found to have been wrongfully convicted.

I discussed the five examples of universities, and then like I said, I discussed some of the fact that there were fatal ex-, I mean, by fatal accusations. A mother in a tryst with a paramour caught in a truck by her husband, instead of identifying that it was a consensual affair, she accused him of rape. He shot him dead on the spot. She then admitted to the fact that it was a consensual affair when emails and everything

surfaced that that was the case. The jury did not move to indict him; they indicted her, and she was recently sentenced to five years in jail for her false allegation that resulted in his death. This is one of many such cases.

One of the things to note from the DNA study, that 15 percent are wrongfully convicted, is to note the fact that one of the flaws in the military system that's not been discussed is that those 15 percent were people who were convicted by unanimous juries. In the military, we don't have unanimous juries.

The Supreme Court has said that for the civilian sector you don't have to have unanimity, but the minimum is six and it must be unanimous. You can have 10 to two, you can have nine to three, but that's the minimum. The military does not apply that. You can be convicted of sex offenses on the basis of two votes at a special court-martial. Where at a general court-martial, now those sexual assaults must be a general court-martial on the basis of four votes, nonunanimity.

The likelihood of having wrongful convictions certainly increases with those odds, and that's not something we're something talking about. We're making changes to increase prosecutions without consideration for the collateral consequences.

I'll skip down to, before I get too far here because I'm going to run out of time, not rare. Just some numbers to throw at you about the fact that regardless of what the false accusation numbers are -- and it is unknown but it's certainly not as low as the studies are suggesting. What we do know is that even if it was the 10 percent that is reported in a lot of these cases, the 8 to 10 percent, what that means is that false accusations are more frequent than suicides in the military in any given year or accidental deaths based on the numbers in the last few years.

We've had stand down days because of concerns of suicides in the military. False accusations occur at a greater rate based on the reported numbers. There were 4608 reports last year; 10 percent would mean 461 false allegations, and there 300 or 255 suicides in fiscal year 2013. At that rate, there's 1.3 to 5.1 false

accusations made every day in the military, and there were 359 court-martial convictions last year. That means there are more false accusations of sexual assault than there were convictions of sexual assault in the last year, but nobody talks about that. We're not even considering the other side of the equation of what that means.

If you look at the higher impact, we could be seeing as much as 1800 false accusations each year depending on what numbers you use and whether you're using preponderance of the evidence standard or otherwise.

Then before I close, just a few things. One of the things I did to look at the training environment is I went up, polled all the judges in the Air Force. I certainly had my views having worked in trial where some of the training is wrong, and I said, well, that's my perspective. Let me ask the judges.

Of the 18 judges in the military, 15 of them -- the three that did not do this have only been on two trials or less; they're all brand new. All of the other judges, 15 of the 18 judges, all of the ones who've had more than two trial experiences, on their own instruct members to disregard all training and policies and statements from people involved in sexual assault. If an individual cannot do that, they do not sit on the panel. They've noted consequently, because of the training and the in-depth review that they're now having to do with members, that the folks who are sitting on panels are the ones who were best able to ignore all the training and consequently may be more defense-friendly; just one collateral consequence that the training is having.

In the end, what effectively I'm asserting is that seeking justice for female victims should make us more sensitive, not less, to justice for an unfairly accused. That means not assuming that a conviction is the only fair outcome. It means rejecting the laws and policies rooted in the assumption that wrongful accusations are so vanishingly rare they need not be a cause for concern. We need to open up the aperture and ensure justice is done on both sides of the equation, not simply make changes for one side without balancing that out. Our members deserve better than that if we're willing to lay

our life down on the line to ensure freedom and justice for everybody.

LTG. BARNO: All right. Very controversial topic. A little bit of a different take on the challenge the military is wrestling with right now and are having very mixed success with.

We've got about 15 minutes left now for your questions. What I'd like to do is if you want to ask questions please raise your hand. A microphone will be brought around to you so we can all hear it in the back of the room. If you'd identify your name and your affiliation and finish your statement with a question mark, and if you wanted to direct any of those at specific members of the panel up here, we can be able to negotiate where we're going to place your question and get you some good answers. Open to the floor.

DR. SEAVER: Thank you. I enjoyed all of your presentations. They were very interesting, but my question is for Major Yager. Very interesting presentation -- oh, I'm sorry. I'm Brenda Seaver. I'm at the Woodrow Wilson Center.

There were two other things I was wondering if you had an opportunity to look at in your research that would be really interesting and could even make your argument more compelling: The first one would be if you were able to sift through some of these cases and identify common factors that led the women to make the false accusations, so you highlighted some anecdotal examples, but maybe a more systematic look. If you can nail down three or four, that would be really interesting to find out for purposes of intervention and prevention and being able to target who might be more likely to be vulnerable to false allegations.

The second thing is longitudinal data. Have you had an opportunity or is there even any longitudinal data, and I'm a civilian so I don't know, that you could look at to look for what you were referring to as a mob effect or a contagion effect, and you could chart spikes in sexual allegations that might be driven by newsworthy events, like Virginia, due to all this stuff. Just as a social scientist, I think it'd be interesting to look at

that longitudinal data and try to extract common motivations for making these allegations. Thank you.

MAJ. YAGER: Certainly some interesting ideas; some of those stuff I've looked at. My paper's already about 90 pages long and that's cutting out a bunch of things because obviously there's a lot to do in evaluating the research and articulating the issue with surveys and so forth and an in-depth analysis. I've had to go fairly in-depth to identify I'm not just crazy on some of these points and where it comes from.

The first point, the causes, there are some documented. There has not been enough in this area because, quite frankly, there's not anybody paying for research to be done on this allegation because the assumption is it doesn't happen. We don't want to think about that. We need to start by believing the victims, and so that's not consistent with our agenda to fund that. There's no research that's being funded; there's no efforts to be pursued in those lines.

But some of the folks who have had fairly high numbers of false accusations in studies they've done have found four reasons for why folks would lie about sexual assault; some of them are documented in my paper. The biggest one is to cover an alibi. The notion there is that it's typically a consensual encounter for which there's something about that encounter that causes feelings of guilt or shame in the accuser.

They're concerned about it being discovered and causing negative effects or would be perceived negatively by family members such as a pregnancy outside of marriage, a sexually transmitted disease, something along those lines for which the intent is not to harm the person they're accusing as much as it is to create a deniability and an alternate reality for which they are not responsible for the behavior they're concerned about whether it's legitimate or not. That's the primary reason, and they give a number of examples of that.

The second most-frequent category is revenge, rage, and retribution where individuals -- one of the examples is somebody who made a false allegation is

convicted for having reported a rape because the individual she had a one-night stand with, the next time she saw him, did not remember her name. That was the basis for having made that false allegation. There are a number of revenges against ex-boyfriends and things who were proven not to be where they were and weren't even around when things happened, and they've been convicted of false allegations along those lines.

The third is to gain sympathy or attention. That's likely to happen more so. We're incentivizing folks right now to make sexual assault allegations because is a lot of protections for folks who admit a sexual assault. They now have the ability to threaten commanders with retaliation if anybody does anything negative to them. They're going to be coddled. They get a pass in most cases from any misconduct they engage in themselves. They get a victim's counsel. They can transfer to a base or their assignment. They get a lawyer to assist them. The new laws require them not to be -- the policy is always not to question them, so they're not really challenged in any of their pretrial statements. They've now changed the law that they don't even have to appear in pretrial hearings, so they're not going to be questioned in pretrial hearings. Even if they choose not to proceed, they can claim military sexual trauma and get VA benefits. I've actually seeing a case where the individual's motivation in mental health records was I'm going to be kicked out, and I don't want to go back home to where I am with no money, so I need this conviction so that I can get money and have something to live on. Then they're even talking about restitution. We're doing a lot to incentivize folks, and gain sympathy is one of those reclinations.

The last one, and probably the least likely, is extortion, which happens occasionally for the purpose of getting money.

The second part of your question is -- I'm forgetting it now.

LTG. BARNO: Longitudinal.

MAJ. YAGER: Longitudinal.

DR. SEAVER: Longitudinal data.

MAJ YAGER: There hasn't been for the same reason. There's not an interest in studying the nature of false accusations. I can tell you from anecdotal experience that if they did a study we'll find that after standon days, and we're focusing on it, there's always a spike in allegations. But in terms of the scale, the reports typically come in when parties are going on: April, spring, that's when you're going to see the spike. People are out more, drinking more. It's when spikes go, at least in the military.

LTG. BARNO: The question here in the aisle. Right here with the green shirt. No, no, no, no, no, no. Keep your hand up, please, sir. That would be helpful. Thank you.

MR. GLUCK: Thank you, my name is Peter Gluck. My question is also for Major Yager.

I'm interested in why your research design chose to draw so heavily upon data from the population at large rather than limited to instances of sexual assault in the military? I can imagine that one answer would be that the data is more readily available from the public at large, it's a matter of public record, and conversely that it's inaccessible to you in the military setting. I'd be interested in knowing that.

MAJ. YAGER: That actually goes right to one of my recommendations is the fact that I think the military's approach is naïve in the sense that we -- I've actually been asked if wrongful convictions or false accusations happen in the military. Certainly we have a much lesser burden with only a two-thirds majority to convict and six jury members as opposed to five, as opposed to 12.

We do not have a system like the civilians do with their innocence projects. One of my recommendations are over the last 15 years there's been a growth of innocence projects and recognition we have a problem with people being wrongfully convicted, and we need to explore better to understand what's causing those so we can be better prepared and serve justice.

We do not have innocence projects in the military. Every state now has

one, and most states -- one of the things I'm encouraging as well is something called conviction integrity units. Police are actually involved in helping identify wrongful convictions of cases and partnering with innocence projects to identify certain cases.

All the same reasons for the wrongful convictions in the civilian world exist in the military. The debunking of some of this shaken baby syndrome stuff, for example, has led to exoneration of folks who were convicted on junk science at that time period. Those same things happen in the military. The same issues with dental records and forensic dental records and some fingerprints that have caused the justice department to reevaluate years of data because of flaws in the science exist in the military. But there is a void completely in reviewing any of those cases, and there's no mechanism for those folks to go seek innocence projects. I presume the assumption is we'll let them go to the civilian world to do that. It's just not happening.

The only cases that I've been able to look at are ones that were found under appeals to have been flawed, which doesn't get to the issue. There's a difference between the legal assessment of a case and appeal and what the Innocence Project is doing because all those cases, 1565, were after the appeals exhausted they found other evidence to show those were wrongful convictions.

The answer simply is the military does not have any mechanism to review cases the way the civilian has, and I think that's a flaw in our system. We should be doing that, and that's why I'm relying upon some of the civilian. There's a much greater depth, and they're doing what we're not doing.

LTG. BARNO: Up here.

MS. OPRIHORY: Hi, my name is Jennifer-Leigh Oprihory, and I'm a digital fellow with the Medill National Security Journalism Initiative.

My question goes back to a remark that Major Yager made about the incentivization surrounding military sexual assaults. I was just curious, do you, in the course of your research, believe that there has to be a revamping of the incentivization,

and if so what would your recommendations be?

MAJ. YAGER: I think the conversation needs to have a balance. For example, one of the review panels right now is looking at whether or not there should be retribution, a compensation for victims of sexual assault. What that does is now add to the incentive that you can get paid for a sexual assault claim as well.

In the civilian sector that doesn't exist to the same extent. There's a civil side to that. If you win a conviction, then you've got the conviction. Getting a civil judgment is pretty easy at that point because the civil standard is much lower.

The question becomes why do we need to inject, for example, compensation into a criminal question? In terms of incentivizing, I understand the reasons to try to encourage reports. I think that's fine. But what I'm saying we're missing is we're missing the other balance on that. Okay, we're going to get more reports. What are we doing to ensure we're weeding more out?

Part of my argument is that we're mixing treatment incentives with justice. From the treatment realm, we need to err on the caution of treating every accusation as if it's true. On the justice side, doing that controverts the presumption of innocence that goes back to Deuteronomy through the Sparta and Roman law. This is a law-entrenched thing that we're mixing these.

I think it's proper to incentivize reports; I think we also need to be more encouraging people to pull back the reports. I saw too many folks who were at trial who did not want to be at trial in the first place because once the allegation was put out there by somebody else, the cat's out of the bag.

We need to do better balancing, and the balancing can only occur if you recognize there's another side to the story.

LTG. BARNO: Question in the back.

MR. ANGEVINE: Sir, I'm Colonel John Angevine, U.S. Army Retired. My question goes to Colonel Kieffer.

As we look ahead in terms of the type of military operations that all the services are going to be asked to do and examine disaggregated operations and looking at how our forces are arrayed and the independent operations they may be asked to do at the most junior level, has your research shown how the way we communicate through these remote means would actually help reinforce standards, ranging anywhere from recruiting operations that a lot of the services do here in the United States to like when we face in Iraq or Afghanistan where we had multiple small units arrayed across the theater of operation having make decisions either strategic even strategic consequences like we observed with the Pakistani on the border, when they closed the border down to NATO because of small unit operations?

COL. KIEFFER: Thanks, John. There's a couple of things that go along with that, but first and foremost I don't believe you can replace face-to-face contact, face-to-face communication, mentoring, growing, and instilling leadership qualities in our personnel. That goes to training, that goes to just when you're back in peacetime operations, and just instilling those morals and values and all those leadership traits that you're looking for in personnel.

We just have to do a better job at educating our personnel, I think, before they go out into a mission or into combat where they're always going to be expected to be on their own, make those decisions that could have a strategic impact. I think we've got to do a better job at that.

LTG BARNO: Right here, Bryan.

LT. COL..BRUGGEMAN: Good morning. Lieutenant Colonel Brian Bruggeman. I'm the Marine Corps fellow at the Center for New American Security. My question is to the fellow Marine up on stage. You're getting lonely up there. (Laughter)

LT. COL. SEAGRAVES: I thought I had done so well no one had a question, but --

LT. COL BRUGGEMAN: With respect to the educational component of

your research, I am curious as to how you treated the ongoing policy debate of the Common Core. It seems like it would address some of the issues that you brought up in your presentation, specifically with the number of moves and how military families seem to be clustered into just a few states overall. I'd just like your comments on that. Thank you.

LT. COL SEAGRAVES: Yeah, Brian. Thanks. I think because of the political volatility of the whole common core piece, from what I have been able to research on it is because it's a state-specified educational system, that probably you're not going to have the horsepower, if you will, to be able to force each of the states into specifically standardizing their education system.

For us in the military, that's a perfect thought because everything's standardized for us and that's how we operate. Not that I fully agree with the Common Core aspect having kids in the process now, but I think that they're going to have to figure out some type of mechanism to standardize that if we're going to include all of the military personnel into the program. That was one of my recommendations was that the DOE start looking at something that could be accepted across all states.

What I foresee happening though is that there will not be a standardization, and therefore we're going to have to maintain in the school systems what we're doing now, which is sitting in the offices basically having discussions with the principals trying to figure out what a conversion factor is for an honors art class versus a you name it. That's where the challenge lies, but I don't think the military, being such a small fraction of the population, is going to have any influence on that debate.

LTG. BARNO: Time for one more question. Let's see. Oh, right here in the back with your hand up there. You turning around, yeah. Go ahead. Jump up and we'll get you a mic.

MAJ.. BARNES: Thanks. Major Scott Barnes. I'm a strategic policy fellow here. Sir, Colonel Kieffer, I wanted to talk a little more about the

micromanagement piece of what you're talking about.

I would say that no officer leader would say that, hey, one of my best traits is that I'm a micromanager; we just tend to fall into that as the operations take place. Aside from mere education or just discipline, have you been able to find any organizational incentives to try and pull us out of the weeds that technology seems to enable?

COL. KIEFFER: Thanks for the question. No, I haven't found any good examples of that, but the fact that a unit is dispersed actually does usually allow some distance, obviously, and prevent some of that micromanagement just by the fact that you're separated. You're really just seeing the advancements of technology, particularly where I've seen it in the researches in combat operations where you have a camera on somebody or you have a UAV overhead and you're able to see things real-time what's going on. For the most part when you're dealing with dispersed organizations, you probably have a lot less micromanagement just by the fact that you are geographically separated.

I don't think it's a huge problem except when you start talking about those combat operations, and then I think you really need to be much more cautious and probably look at things in a whole different manner than we would just in a normal peacetime operation when we have geographic dispersion.

LTG. BARNO: Thanks, gentlemen. I think our time is up. We've got a great set of questions on three very diverse topics, so please join me in a round of applause for our panelists. (Applause)

(Recess)

MR. O'HANLON: Greetings again, everyone, and we continue onward. Happy St. Patrick's Day from me. Given my last name, I'd like to issue a special greeting (Laughter), and we have now a great panel on innovation. And so without

further ado, because we only have 60 minutes and we want to involve you in the discussion and we want to hear from each of them, I will, in just a moment, turn things over to my good friend, John Evans.

But John is to my immediate left. He is the colonel here at Brookings; the Army fellow here at Brookings this year. And then, we will go successively with Lieutenant Colonel Jeff Schreiner, Colonel Clint Hinote and Commander Jack McKechnie representing all the different services, a number of different think tanks, and so we're delighted -- everyone except the Marines, that is (Laughter) -- delighted to have you all here. And John, over to you.

COL. EVANS: Thanks, Mike. I appreciate it.

I want to talk to you a little bit this morning about what my research topic is, which really deals with the active Army end state, something that's really in the news lately and something of great debate, not just within the Army, but within DOD.

As a principle component of the U.S. military land power, the Army fills a unique role. The doctrine tells us that combat in the land domain is the most complex, because it intimately involves humanity; its cultures, ethnicities, religion and politics. Although modern warfare has ways to cross all domains, land power is usually the arbiter of victory.

Throughout my research, I've concluded that in the current environment, an active Army end strength that resides somewhere between 480 and 490,000 soldiers is required to meet our strategic commitments, support our joint force requirements and sustain our generating force base. It's the Army's responsibility to prevent, shape and win in the land domain, and in order to do so, it must sustain flexibility, agility and lethality.

Technological overmatch of our adversaries is not just a priority, it is a necessity. Equally important is the requirement to generate through manning the combat power necessary to meet our national security objectives. Nearly 14 years of

sustained combat in Afghanistan and Iraq has placed a strain on the soldiers that man our Army and the weapons systems they employ.

Political and popular frustration with the longest period of sustained combat in American history has led to a necessary reexamination of our deployment of ground forces, and a misguided perception that future warfare will somehow be largely devoice of ground combat, if we choose to make it so.

In addition, sequestration triggered by the Budget Control Act of 2011 has created an environment where substantial reductions must be made across all military services. In order to safeguard readiness and protect future modernization efforts, the Army faces significant reductions in current end strength.

The Chief of Staff of the Army, General Raymond Odierno, testified in 2013, "Under the funding levels of the president's budget proposal which defers the effects of sequestration for several years, the Army will reach what I believe is the absolute minimum size to fully execute the 2012 defense strategic guidance; 450,000 in the active Army. At this size, however, we are at high risk for reacting to any strategic surprise that requires a large force to respond. In addition, the Army will only be able to maintain an adequate level of future readiness by accepting a high degree of risk across every modernization program."

Since making that comment, there have been several world events that could easily constitute the strategic surprise of which General Odierno spoke, the rise of Daesh or ISIL in Syria and Northern Iraq, the invasion of Ukraine by pro-Russian separatists and Russian forces, and the outbreak of Ebola in West Africa demonstrate the volatility of the world in which we live and the velocity of instability to which we are subject.

In October of 2014, and largely in light of these recent strategic surprises, General Odierno admitted his statements from 2013, professing that he was greatly concerns with an active of end strength below 490,000 soldiers. Today, the

active Army stands at approximately 500,000, on glide slope to reach 490,000 by the end of this fiscal year.

Budget Control Act triggered sequestration, will rapidly drive forced strength even lower for the Army with some estimates reaching as low as 380,000, and while the size and capacity of our military must be resource informed, it is incumbent upon military leaders to assess capability against our potential adversaries in the context of the 10 mission sets set forth in our defense strategic guidance.

While this potential reduction of over 120,000 active duty soldiers is alarming, equally alarming is the speed with which these reductions must occur. While the National Guard and reserve components of the total Army are essential to any strategy we undertake, they cannot close the gap in capability that will be posed in the future by an active Army that moves towards 450,000 and below. The Guard and reserve components are themselves, facing reductions in end strength.

Examination of current Army force structure with an eye towards increasing efficiency demonstrates that some institutions, particularly those echelons above brigade are already functioning with suboptimal manning and require additional Army force infusion during times of conflict. Today nearly 370,000 soldiers are committed to operations around the world where missions preclude immediate employment elsewhere.

In addition to its operational commitment, the Army has a vast responsibility across the joint force to set the theatre of operations in time of conflict, projecting significant enabling capability to support communications, cyber warfare defense and sustainment functions, to name but a few. The Army also serves as the executive agent for 42 of the Defense Department's 71 joint activities.

The Army provides over 50 percent of the Department of Defense's special operations manning and over 80 percent of the deployed special operations support for geographic combatant commanders. Proponents of a smaller Army look to

the promise of the president and secretary of defense to stay ahead of security challenges and resist the temptation to commit land forces to combat that might become enduring and expensive.

Other advocates for revolutionary change in the Army recommend modifications to forced structure that leave gaps in capability, or too easily dismiss the sustainment cost of deploying ground combat force. Perhaps no argument is as persuasive as those who advocate for the rapid regeneration of Army forces to meet a large regional conflict or conflicts. But history has shown us that the all volunteer force, an essential pillar in the professionalization of our Army, cannot be so easily regenerated.

Even after the strike on Pearl Harbor, it took 11 months for the United States employing the manpower advantage of a draft to commit ground forces to combat. In the current security environment, we are unlikely to have the luxury of such time for preparation. The active Army requires manning at the 480 to 490,000 soldier level to meet all of its operational and force generation requirements.

An expectation that trained, ready and well equipped forces can be created after an emergency occurs is misguided. Arresting the reduction of an active Army end strength at the end of fiscal year ’15 is the best strategy to ensure that our nation maintains its competitive advantage, can prevent conflict before it arises, shape the security environment for successful employment of our elements of national power, and win decisively in a complex world.

As our defense strategic guidance points out, unless we are prepared to send confident, well trained and properly equipped men and women into battle, the nation will risk its most important military advantage. Thanks, and I welcome your questions.

MR. O'HANLON: Thank you, John, very much. Colonel Schreiner, over to you.

LT. COL. SCHREINER: All right. As a stealth bomber pilot guy in the panel today, I was kind of hoping I'd be able to get in here and, as my 11 year old son told me this morning, drop some logic bombs (Laughter) and then be out before the hard questions hit.

You know, I'm going to start this off today giving you a little bit of the motivation of what I came to, to write this paper, and I'll start with a question. It's a question I've asked many times of new pilots, when I was commander of the 13th bomb squadron. Do you have a positive attitude towards nuclear weapons duty? It's kind of a tough question to answer.

The standard question that I would ask as part of that personal reliability program spirit and intent brief was designed to make sure that the pilots understood what they were getting into. Generally, I got a snarky grin. That's what pilots are famous for, and then you would get a very official "yes, sir," at the end of that.

I would always follow that up with, I think, the more important question that wasn't in the script is, what does that mean to you. What does it mean to have a positive attitude about nuclear weapons duty? Do you understand what you're really getting into? And that was where the really interesting discussions would start to happen, when we'd sit down and talk.

Understanding deterrence, and the topic of my paper is "21st Century Deterrence: Defining the Debate for the Way Forward," is a very complex subject. And what I found over the years, both as a young bomber pilot growing up in the B2 community, and then eventually, being a commander, is that you know, we expect our missileers, our bomber pilots, our sub-forces, a host of support personnel that are directly involved in the nuclear mission and the deterrence mission across the globe, they don't always have a very, even rudimentary understanding of what deterrence means, and the importance of that deterrence mission.

So, my intent with the paper was in a fairly short number of papers, to

provide young officers, young future policymakers with almost a short reference of what deterrence theory -- where it stands today, and then what some of the commonly associated topics with deterrence, that are often confused with deterrence, are.

So, that's where I tried to go with the paper and why I wrote the paper the way I did. It's not a theory pusher. It's designed to raise the floor of general knowledge more across the force, both on the civilian side and on the military side.

Some of the findings that I came to and that I tried get across in the paper are that you know, the deterrence theory didn't arrive in this preconceived package. It's as old as conflict itself. It's as simple as, I don't want that person over there with the club to come attack me. What can I do to stop them from doing that?

So at the moment conflict ensued, we started to think about how to deter other people. So, it is timeless in that nature.

Obviously, as technology has progressed and the nature of warfare has progressed over the years, the level of violence has progressed to the point with nuclear weapons, we have a very different equation in terms of what it means to deter adversaries now. I point out in the paper that you know, you start with the nature of humankind, and that drives in basic philosophy impeding theories within political science about really, how the world is put together and how you can possibly deter actors based on that. That gets you into international relations, and then, a very small subset of that is down to what deterrence theory is.

When I go through that, I try to define deterrence, and I offer several different definitions in the paper. I get it down to the basic you know, Department of Defense strategic guidance definition, which is credible deterrence results from both the capabilities denying an aggressor the prospect of achieving their objectives, and from complementary capability imposed on acceptable costs on the aggressor. I think that's a fairly common definition that people have heard with respect to deterrence.

The real difficulty of that is how do you really apply it. And as I quote in

the paper, that whether you define it narrowly, broadly, with different competing theories, all of this occurs both in the political and in the military realm along a continuum of success and failure. It's something you have to constantly evaluate in order to really, truly understand and apply deterrence theory.

I go through in the paper, and I certainly don't have time to do it today, the basic three waves, as some of you are probably familiar with, of deterrence theory. The post World War II, just struggling with the understanding of nuclear weapons and what that means to deterrence, to the evolution in the second wave of a rational deterrence theory, strongly rooted in realism. Obviously, there's competing theories going on during that time, as well, to the third wave, where we try to start explaining some of the gaps and shortfalls of rational deterrence theory.

That led to me, where is kind of the front leading edge of deterrence theory today. In the literature review, it's difficult to assess. In 2006, you see the first emergence of the term tailored deterrence, which by no means, and we're not going to get into it today with the time we have -- it's not a new concept.

The idea that we need to look at individual actors, we need to look at how things interact. And it's not as simple as just a cost benefit analysis equation between two great states. What's interesting in the paper, and you know, to define the tailored deterrence, I still think Elaine Bunn's description is the best. It's a continuing shift from one size fits all notion of deterrence towards more adaptable approaches suitable for advanced military competitors, regional weapons of mass destruction states, as well as non-state terrorists, while assuring allies and dissuading potential competitors.

There is a lot going on in that statement, but I think it's all critical and important to really understanding what the deterrence mission is, and how, for my young bomber pilots to understand really where they fit in that overall picture.

The concept of tailored deterrence is alive and well through about 2010, and then magically, it starts to disappear. If you look at all strategy level documents

post 2010, starting with the defense strategic guidance, the 2014 QDR and most recently, the 2015 national security strategy, you find almost all references of tailored deterrence as a concept and as an application for deterring adversaries to just disappear.

If you look at the 2015 national security strategy, the word deterrence is only in it one time, and it's basically in reference of the sentence of if deterrence fails, we'll do this. It doesn't define what deterrence is. The word tailored is only in there once, and it's specific to economic sanctions and how we would tailor economic sanctions.

So you know, there are many reasons that could be the case. You know? In the course of my research, some of it -- is it just semantics and how we define things? Is it a particular policy change that's going? Has something replaced tailored deterrence? I would argue that there isn't anything in these documents that appears to really replace it as a strategy. There are notions of national power and the need to be a powerful country in the national security strategy, but nothing really replaces how we're going to pursue to deter our adversaries in the world.

In the course of my research, the good news is, I think tailored deterrence is a concept. Even if the word isn't there, it's alive and well. The Air Force certainly thinks so. In late 2014, they put out a comprehensive study that talks specifically about how to approach adversary deterrence in the future looking at tailored approaches, getting inside and looking at detailed models of nations and non-state actors and trying to really figure out where the locus of power is within these organizations, in order to effect a deterrence strategy against them.

Through interviews, I've found several senior level officials who will say that even though the term is not there, this is how we still approach our deterrence approach in the world; that we do understand that we need to look and can't have a one size fits all. Alright?

In addition, the paper goes over basic foundations of deterrence. I look at associated theories like limited nuclear war, minimal deterrence, I think are important to discuss. And then, commonly confused concepts of dissuasion, compellence, assurance, reassurance and extended deterrence, and how all those fit in, and are oftentimes, kind of mashed up together with the deterrence theory.

And then very briefly, to conclude, my recommendations -- I basically point out the need in the paper for a unity of effort among federal agencies. And we talked a little bit earlier about a reorganization or the State Department. From my research, there is a clear problem, especially when we start talking about some of these other additional complementary elements of deterrence that go along with it.

The communication gaps between agencies is definitely there. Where one agency takes an action, it can have an adverse action on another element that a different agency is trying to accomplish. So, very important that we find a way to pool those efforts together in order to have deterrence operate properly in the future.

We also need to acknowledge that the U.S. is going to be constrained in the future; economically, militarily, diplomatically, and we're seeing that in the headlines today. We can still be a leader in the world, but sometimes, we're not going to be the lead on particular issues, and we need to be willing to support and step back and let allies take the lead on things.

Finally, and then also, that additional research needs to be accomplished in preemptive warfare, nation building operations and limited nuclear war to really understand now we're going to be able to deal with problems in the future. Are those things part of what we want to accomplish when it comes to deterrence or not? With that, I'll wrap it up, in the interest of time.

MR. O'HANLON: Thank you, colonel. And Colonel Hinote, over to you.

COL. HINOTE: Thank you, Michael, and thank you to Brookings and to Brendan and all the folks who put this together today. It's an outstanding event and

very important for us during our year here, or wherever we are.

I actually happen to be in New York City with the Council on Foreign Relations this year, which is a very interesting place for a military officer to be. Maybe we could get into that sometime in the Q&A or maybe over lunch, because it has been a fascinating education in reacquainting myself with our civilian society that we serve.

But one of the rite of passage that you have as a new New Yorker is to figure out how to get to LaGuardia Airport (Laughter), because they've -- and from the reaction in the room, I see that several of you have either tried to figure out and failed, or actually have figured it out. The short answer is, you've got to get somebody to drive you there, because there is no other good way to get to LaGuardia Field.

And I have a feeling this was probably true for some time, and one of the interesting places where I began some research was looking back at the fall of 1944. So, World War II is still going on, the Manhattan Project is still in the dark, and a general by the name of Hap Arnold, who is leading the Army Air Forces at this time, decides to take a drive from his D.C. office here at the War Department up to LaGuardia Field.

It probably took a little while, given the road situation back then, but he decided to do that for a specific reason. He wanted to meet someone. And the person that he wanted to meet was a scientist named Dr. Theodore von Kármán. So, he had his staff drive him up. They get to LaGuardia. They're literally sitting on the side of the runway, and he gets Dr. von Kármán into his staff car, and he does something that's very unusual for General Arnold. He kicks his staff out of the car, so it's just the two men sitting there.

So, what were they talking about? Well, General Arnold wanted to talk to Dr. von Kármán about a project that he had in mind. Later on, they -- they got into talking about all sorts of technological issues, and General Arnold is certainly thinking about the end of the war and beyond. And then later on, von Kármán would write that he was very impressed with how deep and broad the general's knowledge on

technology was, but General Arnold was there for a specific reason. He wanted to ask Dr. ron Kármán to lead a project for him.

He had some money. He had some manpower. He had some space, but he needed good minds to help him think through the technologies that a future aviation service and a future aerospace community would need in order to progress after the war into what no one really understood yet, but that post war era, and maintaining some sense of technological advantage.

And so, Dr. von Kármán accepted, and that was the beginning, right there in the car of what we call today the Scientific Advisory Board. It still exists. In fact, we just had a meeting not that long ago over in the building that kind of reinstituted what it was doing for the next year or so.

Dr. von Kármán went out into what we call the aerospace community. What do I mean by that? Well, it just so happens that as we look back and we trace the history of aerospace, of flying, it has been this community of interested people. Some of them are in the military and serving in all the different services. That would include like the Navy and the Marines and the Army, and it would also include the universities where there was research being done. It would include the research labs, the industries where the aerospace solutions were being fused and integrated into the systems, and it would also include people that were just daredevils or enthusiasts, and all of those came together to create this aerospace community.

You may not realize this, but Wilbur and Orville Wright did not start with a blank sheet of paper. They had a lot of aerospace research. In fact, there's a wonderful letter written by Wilbur to the Smithsonian asking for everything they had on aerospace research. And in fact, they used it to develop some coefficients that helped them understand how lift worked, and that became what eventually was powered flight.

So, going back to Dr. von Kármán, he reaches out to this aerospace community, and he grabs as many folks as he can get in, and they produce a document

that was very wide in scope and very deep; 12 volumes called “Toward New Horizons.” And in that set of documents, they predict for the next 50 years what aerospace looks like.

So, for example, air refueling, unmanned aircraft, communications, especially long haul communications, radar, bombing with radar through the weather, large bombs. They couldn’t come out and talk about nuclear weapons as much. It was still highly classified at the time, and so, but they did talk about very destructive weapons and how to integrate those.

And so, interestingly, as the Cold War sets in and as Kennan writes his long telegram, and as Eisenhower comes into office, and there’s lots of uncertainty about what geopolitics will look like, all of these technologies are beginning to bloom. So, jet engines and air refueling, and how do you make nuclear weapons small enough to get into an aircraft. That’s a very difficult problem, as North Korea would tell you today.

So, all of those technologies were blooming. They weren’t in full fruition, but when President Eisenhower takes over, and he comes in and he says, boy, this is not going to work, because the Soviet Union has the power of being the first mover. So, the Soviet Union can be the provoker. They can choose the time and the place of provocation, and we have to react all around the world.

We have got to have a new look at this strategy and figure out what it is that we ought to do to stop them, because we're just going to spend ourselves into oblivion trying to react to everything that they're going to be able to throw at us. And so, the new look happens. NSC 162 is written, and what the strategists cling to is our technological advantage, especially in being able to deliver very powerful weapons anywhere in the world.

And like I said, all of these technologies that had been promoted by Dr. von Kármán in his scientific advisory board and the aerospace community at large were

being integrated together. And so, what I learned from that is this aerospace community that has been so powerful, leading us through incredible change as we fly and as we launch things and put them up into space and everything, this aerospace community was a key part. It was, in fact, the integrator of what was the first “offset strategy.”

So, we’ve heard a lot about offset strategies, and if you follow what’s been going on in Department of Defense and some of the speeches made by former Secretary of Defense Hagel and the current deputy secretary, Secretary Bob Work, they’ve talked a lot about offset strategies. And some of you may have some very definite thoughts about offset, and I certainly do, myself.

But generally, the offset strategy is meant to offset some advantage that our competitor has, and shift the equation so that we have a long-term competitive advantage in whatever that field is. In the case of first offset, it was, we were going to shift the competition to our ability to take a nuclear weapon and put it anywhere. And of course, the instrument that was going to do that in the U.S. government was strategic air command. And all of those technologies that I was talking about were coming together in strategic air command.

Well, to fast forward several decades, the Soviet Union catches up with nuclear weapons and it has a three to one military advantage on the ground in Europe. Well, that’s not acceptable. And so, we're trying to figure out, how do we offset that huge numerical advantage that the Soviets have in the Warsaw Pact. Well, very smart folks, like back then, Secretary Perry, decide that we're not going to try to match the Soviet Union missile per missile or tank per tank.

In fact, what we're going to do is, we're going to try to use our technological advantage in other areas this time to offset that huge numerical advantage. So, what did they have to do? Well, the basic military problem was, we’ve got to find all of our targets that we need to find, and then we’ve got to hit them. And we can't be missing a whole lot. We need to hit what we aim at.

And so, between all of the new technologies that came together, the point was, is that when we fire something at something that is Soviet, it needs to hit it. And that's where you had what was called the guided munitions and battle network. That was also second offset.

So, second offset brought together all of these technologies that made aircraft, for example, more survivable. It put a lot of the detecting equipment into the air. Good example of that is the AWACS, the airborne radar, as well as the JSTARS, which is another airborne radar, but it actually looks down to map troop and ground movements.

All of that had to be integrated somehow. It was integrated, actually, through something called data packaging. We think of data packaging today as the Internet. And in fact, back then, it was DARPA that was pioneering this idea of packeting of data so that it could be reassembled at any point, and it could actually be made to be information that was important. That was another way of integrating it.

And finally, we took all of these survivable platforms, we took the information about where the targets were, and we were able to put smart weapons on those platforms. So, this would be the smart bombs that you hear about, the guided munitions. And eventually, we were pretty much able to have more awareness of the battle space than we'd ever had before, and we could hit a higher percentage of what we aimed at than we ever had before. And that was the offset that you saw worked so well in things like Desert Storm.

Well now, we're on the precipice of a third offset, if you believe that. So, what -- it's important to kind of answer the question, what is it, if we do do an offset strategy, what is it that we are offsetting? So, most people believe that as we've come over time, our potential adversaries have caught up in their ability to find targets and to hit what they are aiming at.

And this would be, for example, and you may talk about this later with

your China stuff, but the anti-access area denial problem. And in fact, many people believe that if you want to just take a minimalist look at what offset should be about, what a third offset should be about, that it's about this anti-access aerial denial problem.

Others disagree. They think, oh no, it should be more about maintaining the American technological advantage over the range of military operations, and for lots of reasons that we've discussed already and will discuss more, that range of military options keeps getting larger and larger. And we do want a technological advantage in that range, but that seems like an awfully big time.

So, what we -- a more middle of the road option for offset is, okay, so if they can hit everything that they're aiming at, why don't we make it more difficult? So, we're going to take away some of those integrating things that make it easy for them to find us, and then at the same time, we're probably going to give them more targets than they can hit. And that's where you start getting into the idea of swarming.

And what makes swarming possible as we think about it going forward, is that we have the ability to make lots, not just a few, not just in the hundreds, but lots of unmanned platforms; land, air and sea and in space, and we can use those together to offset the ability of our potential adversaries to hit what they're aiming at. We're just going to give them more than they can possibly shoot down.

Well, I think that given the history of the first two offsets, there's a very high likelihood that the aerospace community writ large will be the one that integrates third offset; at least, does it first. And there are a couple of reasons why I say that. One: It's just easier to not hit things in the air than it is on the land.

Think about how hard it is to swarm on the land in Washington, D.C., or even out in the middle of the desert. You've just got to run around stuff and over rocks and things, and you don't have that problem in the air. You can just kind of worry about what's out there flying. You might say that the same would be true for ships, as well, and I think that's probably why you're seeing a lot of good swarming research being

done in the sea.

But also, as we go forward, we need to think about what does that aerospace community offer. Right now, what we're seeing is a huge amount of enthusiasm for what we would call drones. Now, my service doesn't want me to say the word drones, but I'll go ahead and use it, because I think everybody understands what we're talking about. And there's lots of enthusiasm in a community out there for putting together these drones that can offer value in our lives. And we've heard of things like Amazon using them to deliver. Also, Facebook using drones to deliver the Internet to places like Tanzania. Those are applications that we could use in the military tomorrow. I mean, seriously.

So, if you think about all of the different things that are out there, as I see where we're going with third offset, it's very likely that this aerospace community is going to be the integrator. And if that is true, we need to try to recruit the right people. I'm not sure we're there yet, and we're going to be talking a lot more about that. But I'll save that for further discussion. Thank you.

MR. O'HANLON: Thank you very much, colonel. Very good storytelling. Best story I ever heard from the Council on Foreign Relations, in fact (Laughter).

COL. HINOTE: (Laughter) Well, so it's funny you say that. Richard Haass has actually taken -- so if you know Richard, he's the president. He's actually taken us aside and tried to get us better at storytelling, because I guess he thought it might be a problem.

MR. O'HANLON: Detected something possibly (Laughter).

COL. HINOTE: Yeah.

MR. O'HANLON: Commander, over to you.

CMDR. MCKECHNIE: Okay. I realize I am one of the few things waiting between you and lunch (Laughter), and more importantly, I see a lot of green out there, so it's almost noon on Saint Patrick's Day. So with no small trepidation, I am maybe

between you and your Saint Patrick's Day plans, so I'll be brief. I wish to thank the event sponsors for the opportunity to speak with you today. And I wish to thank all of you for your attendance in support of the Brookings Institution.

On the discussion of my work, I have three disclaimers. Just as for all of the other presentations from my federal fellows today, the views here expressed are my own and not representative of the views, in my case, of the U.S. Navy, nor of Johns Hopkins University Applied Physics Lab.

Second, I am a U.S. Naval officer and not an economist. I have not been trained to analyze economic data constructed models and make predictions. Therefore, I rely on the perspectives and work of those much more qualified than I. My interest in this area grew from my personal experience as an operational planner and action officer working on security cooperation while assigned to the U.S. Seventh Fleet Staff, the operational fleet command for the Indo-Asia-Pacific region.

While we were focused on the military role, I formed questions about the economic effect of a potential war or major conflict among major powers in Asia. The predominate public focus of examination of this topic has been with the conventional military aspects, and increasingly, the roles of cyberspace and nuclear weapons are being considered. There has been comparatively little exploration of the economic effects, but analysis and public discussion of this may help deter escalation and help inform strategy, should deterrence fail.

My third and final and disclaimer is that I haven't answered this question with a high level of confidence or precision. A review of past wars and conflicts is a starting point for developing predictions for the future ones, but significantly varying conditions provide no assurance of replication.

Crisis simulations, war games and exercises may provide clues, but limitations of information of participants and differing scope and focus of these events provide no high confidence of expected global economic effects. Economic models of

trade and war may bring up useful considerations, but inherent biases and assumptions remain unproven in light of an unprecedented level of globalization in the world today.

Nonetheless, I have uncovered some interesting considerations I wish to share with you. The effects of a future war or major conflict are best considered in context. Therefore, four scenarios involving escalation past the lethal use of military force helped conceptualized worldwide effects. These scenarios each involve circumstances which the People's Republic of China, or PRC, escalates first while expecting regional adversaries to back down.

The first scenario involves an attack on a U.S. Navy warship which continues to operate in waters in the vicinity of mainland China after a PRC ultimatum requiring military ships to have their permission to do so. The second involves PRC coercion of the Republic of China on Taiwan, an escalation resulting in considerable loss of life. The third scenario is of hostilities between the PRC and Japan in the vicinity of the Senkaku-Diaoyu Islands. And the fourth scenario is a PRC attack and occupation of an island in the South China Sea currently by the Republic of the Philippines. None of these scenarios involve a large scale pre-emptive attack on the U.S. forward deployed forces in Asia, nor are critical cyber or financial attacks so severe leading to an immediate U.S. declaration of war.

The economic impact of these scenarios on world currencies trade, investment and consumption is difficult to quantify. The panic created by the loss of life among major powers could be comparable to the 1997 Asian financial crisis with a 7.2 percent drop in the U.S. stock market, and a 10.4 percent plunge in the Hong Kong stock index in a single day.

The impact of economic sanctions among belligerents would undermine confidence in Asian countries, resulting in the sell-off of foreign investment and inflationary pressures on Asian currencies. The sudden stop in transactions between the U.S. and China in the U.S. debt market would result in inflationary pressures on the U.S.

dollar. A sudden stop of all foreign lending was estimated to cause a jump in U.S. real interest rate from 2.9 percent in 2014 to 5.5 percent. But this is likely to be mitigated somewhat by sustained transactions with Japan and Europe.

Whether the dollar is viewed as a safe haven during a period of global turmoil would depend on the ability of the Federal Reserve, central banks of U.S. allies and third parties, such as the International Monetary Fund to maintain confidence and stabilize currency markets. Compound crises occurring in other areas of the world, actions by independent solvent wealth funds and/or substantial impact in world trade and commerce may result in the loss of confidence in the dollar; hyper-inflation.

The gravity model from the National Bureau of Economic Research indicates that trade disruption for both belligerents and neutrals would be large and persistent with corresponding impacts to national income and global economic welfare. The impacts to neutral countries, such as South Korea or Singapore may be, in fact, a larger percentage of GDP loss on a permanent flow basis.

The decision of belligerents to implement a full embargo, such as Great Britain and Germany in the World Wars, or to cease direct trade with the enemy, such as U.S. and China in the Korean War, would drive this impact. Nonetheless, with the significant integration of supply chains and globalized commerce, a freeze in trading in any of the Japan-U.S.-Taiwan and China would paralyze numerous international corporations and lead to substantial loss in output, employment and income.

Loss of access to U.S., Japan, Taiwan and possibly European markets for China would result in immediate excessive overcapacity in production and drastic reduction in demand for energy and material. Although this -- to the extent this could be offset by increased domestic consumption and military spending is unknown.

Implications for U.S. strategy include a vital interest to limit inflationary pressures by promoting world stability. Enhanced posturing of U.S. and allied forces in areas separate from the immediate conflict, such as the Middle East, is underscored to

maintain confidence for global commerce, and to avoid additional worldwide panic.

In addition, the collateral effects of the U.S. allies and neutral states of a full embargo against China may be more detrimental to U.S. interest than the potential additional adverse effect on China. Minimizing the disruption of world trade may be a key factor in avoiding worldwide economic collapse.

The implications of an economic turmoil of a war or conflict among major powers in Asia are dire, but nonetheless, such a possibility exists. This can be reduced by reemphasizing the economic consequences of lethal aggression to be severe, long lasting and difficult to manage. Vulnerabilities in the economic domain can offset strengths in other domains. Therefore, articulation of the impact of sanctions and trade restrictions imposed by the U.S. and allies can be the best whole of government strategy to deter a lethal use of force in Asia.

That concludes my prepared remarks. I'm happy to take your questions. My work on the subject is ongoing, so any insight and leads would be most welcome.

MR. O'HANLON: Thank you. And I'm just going to pose a question to each of our panelists before going to all of you. Let me stay with you, commander, for a moment.

Could I break the question down into more of a technology specific focus? So, you talked about macroeconomics a fair amount; trade, investment, cash flows. Are there specific areas of technology where you have examined the implications of trade disruption between the United States and China, specifically? We know from about two to three years ago, Japan and China had the dispute over the rare earth metals, and China cut off the export of those to Japan, for a time.

I believe at that time, China was almost the exclusive world producer in a couple of these domains. I think things have gotten a little bit more diversified since, but let me put that as a question to you. Is there any -- I realize this is an unfairly big question. Frankly, I've been wanting to do some work on this topic, and I thought, it's too

hard for me, and you've only got 10 months to do it in between assignments.

But is there any area of technology that you're finding to be particularly important, even in a preliminary way, as you look as these trade and technology flows?

CMDR. MCKECHNIE: Okay, for the rare earths, I did find that China still produces 95 percent of the rare earths, and they're actually even up to 99 percent for the components needed in high technological requirements. So, they do have -- Japan tried to diversify, and they have, a little bit with Australia, but they still have not -- no one has been able to diversify completely. They just have the market on that. So ultimately, it's going to be -- there's going to be shortages, if there's a conflict in that respect.

One of the main things in my research, and as you look at the previous world wars, the Korean War and everything, is that the speed -- the interesting thing is speed and flow of information is drastically different. So, that makes it very difficult to say -- to use those as a basis of comparison to what could happen in the next major conflict, if there is one.

I would say the restriction of the flow of information could be extremely important. So, most of the information does not flow by satellites. It flows by underground cables connecting underground fiber. If those were cut, that would also have catastrophic influences on the world. So, to the degree that we are able to maintain the worldwide economic, technological communications infrastructure in the next conflict among major powers, that's going to be critical.

MR. O'HANLON: That's a great answer. Thank you.

Colonel Hinote, let me go to you. And to quote again, the great Richard Haass (Laughter), my good friend and former boss, Richard has this saying -- I'm sure you've heard this year -- the "so what" question. Right? And let me just sort of -- for fun, for devil's advocacy's sake, remind you and everyone else that in the last few years, we've heard a lot of fancy terms to describe how we're going to use our technological asymmetrical advantages in war.

So last year, we had a very good Air Force fellow here working on cost imposition. We've also heard a lot over the years about air-sea battle, except now, air-sea battle is no longer called air-sea battle. News flash, for any of you who might have missed this, it is now called -- and I'm going to get this partly wrong (Laughter), and good luck getting it right yourself -- something like the joint concept for access and maneuver for global operations. It's something like that. I'm pretty close, but not quite exact. You can see why it's something that everybody hasn't memorized just yet.

Anyway, where's the beef? Where's the beef with third offset that really makes it -- and I don't want a long answer. I just want a -- you know, like one pithy thing about this concept that is really different from all of the other things I just mentioned.

COL. HINOTE: Okay. Well, you can ask General Goldfein about the office. You know, why it was and all of that. So, a pithy answer (Laughter). Because we could lose.

And I don't say that in a -- you know, how many military folks do you know? Ugh, we're going to lose if we don't get this capability. I mean, it's unfortunately a fact that sometimes, we over blow the threat. In today's world, if we don't get technology right, someone will use technology against us in a way that we literally can't understand right now. So, this is what disruption means in the defense world.

So, if we don't think about how we maintain a competitive advantage in technology -- I mean, this is a strategy for ongoing advantage in technology. So, if you don't think about that, if you don't get it right, it's very possible that someone jumps you.

So, as an example, just to kind of drive it home, Jeff is talking about deterrence. And we're talking right now about getting rid of one of the legs of the triad. And typically, when people talk about that, they talk about the ICBMs, although I would disagree with that, but we can get into that later.

What if there was a technology to move ones and zeros around the battle space so that you could track nuclear submarines? I would tell you that there's a

technology right now to push ones and zeros around to track stealth aircraft. And why wouldn't there be, eventually, something undersea that could do that?

Well, think about the problem now, that say, an aggressor in the nuclear realm would -- think about how that solves that problem. That's a tremendously destabilizing technology that could happen. And so, as we think about maintaining technological advantage, I think the pithy answer is, is because we could get jumped by an adversary, and it could be really bad.

MR. O'HANLON: Thank you. And I'm sure others may follow up in just a few minutes here. Let me first ask Colonel Schreiner, and then Colonel Evans a question. So, Colonel Schreiner, I liked the way you started, especially -- I liked the whole topic, but the way you started with that vignette about speaking to your subordinate officers and asking them what the nuclear mission means to them.

And a lot of us, especially people my age, grew up looking at PSYOPS. And you know, this is several thousand weapons at a time being used, and frankly, I think there was a surreality about that nuclear mission, to some extent. I'd like to hope it's changed over the years. I'm hoping you can give us an example or illustration about -- without getting too Strangelovian or classified, a specific scenario.

Leave aside all the buzzwords of, you know, tailored deterrence and other things that my discipline and we academics impose on you all. But a concrete example of how you could imagine, whether by the United States or some other country like India or Pakistan against each other, nuclear weapons being used in limited numbers in a credible way that -- you know, and again, I know you could talk about this all afternoon, but I'm just asking for one example to sort of bring it home and illustrate the missions that you may be helping your -- you know, your fellow officers get ready for.

LT. COL. SCHREINER: You know, that's a tough question to answer. And I think the portions of the paper were -- I look at limited nuclear war. You know, it's

an old topic new again, is really the best way to describe it.

Clearly, early in the Cold War, the idea that you could win a nuclear war decisively was definitely bantered about, and it rapidly got to an absurd level, where we just didn't feel we could control escalation. I think it's new again. I think if you look at Russia, at least from a standpoint of their doctrine, what their leaders are saying, both in the military and in the civilian side of their leadership, they at least are indicating that this idea of using a small number of low yield nuclear weapons to decisively end or stop escalation of conflict, it's something that they, at least, are purporting to believe.

And I would say from a tailored deterrence strategy, it's something that the U.S. needs to work on and address, is, what would our response be in those types of situations? How would we respond? Do we have the arsenal appropriate to that task and mission?

I think there's a lot of work to be done there, and I think when you look at Russia -- as a good example, a potential nuclearized Iran in the future would be the ultimate discussion of how we tailor, because at that point, we have to look at all of the concepts and reevaluate our entire position in the Middle East in terms of how we -- if and when we extend deterrence, who would we extend it to? Would people even take it, if we offered it vis-à-vis in Iran?

So, I think that's a potential horizon example of tailored deterrence. I think Russia is creating a situation right now where we have to relook at national strategy in terms of how we approach them and deter them in the future.

MR. O'HANLON: And there's one tiny follow up. You mentioned the potential need for new types of nuclear weapons, if I heard you right. Are you saying that there is, in your mind, at least, an active, ongoing debate as to whether the United States should indefinitely remain in compliance with the comprehensive test band treaty, or are you talking about weapons that could, theoretically, be built with different tailored effects without even requiring nuclear testing?

LT. COL. SCHREINER: I don't dive into that in my paper. I think when you take the long view of strategy, you have to answer the basic question: Do we have the force structure needed to deter the adversary from taking action? That basic definition of deterrence.

You know, can we do a lot of things and still comply with the comprehensive test band treaty? I think absolutely. And I think you can find scientists that would back me on that within the nuclear enterprise that we could go so far as to continue to develop and innovate without actually testing weapons. That's certainly happening in other countries.

So, you know, I think in the future, that's something we'll have to revisit. I mean, clearly, we have a policy moving forward with what we're trying to do with recapitalization of the triad right now, and we have decided that we don't need new warheads to do that, necessarily. Mod 12 on the B61 aside.

I think that's open for debate. And I think when we really dig into it and look at tailored approaches, we could rapidly get to a point where we go, maybe we really don't have the capability that we need here to fill this gap. And it's probably on that smaller end of warfare.

MR. O'HANLON: Thank you. Very good question and a very good answer. Very obvious question from me (Laughter), but an excellent answer from you. (Laughter)

John, same kind of question, if you don't mind, but in the conventional Army domain. So, can you illustrate for us, maybe a scenario, not necessarily advocating that the United States would want to get involved if it developed, but the kind of scenario that you don't think we can necessarily rule out as a possible future concern for the United States.

I mean, we all realize Korea is still on the table and there's turmoil in the Middle East, but in the course of your work, do you have certain categories -- if you

don't want to give a really concrete, specific one, some categories of types of operations with one or two you know, specific kinds of illustrations of things we need to be ready for, even if we hope we never have to actually carry them out?

COL. EVANS: Well, that's a good question. I think that's what speaks to the research I'm doing and why it's necessary to sustain a significant amount of our force on active duty.

There are people who would advocate pulling some of that down to reserves, or people that would advocate the technological advantage and comparative advantage that we enjoy against some of our adversaries as an offset to a larger land power force. But you know, just to name a few, obviously, you talked about North Korea.

I don't believe the North Koreans believe they can win a war, but they can certainly do significant amounts of damage. And if you take a look at Seoul in particular, half of the population of South Korea lives in the Seoul area. So, we would have a significant responsibility to meet whatever aggression came to Seoul, and we might find ourselves in that protracted battle for quite some time.

Based on the difficulty of the terrain, and particularly in North Korea, that's a pretty ground intensive fight in order to move the ground forces out of North Korea and be able to achieve our objectives there to bring that to stalemate.

If you took a look at two parties that we might not have necessarily an advocacy one way or the other, but could create significant emotion on the world stage, Pakistan and India. What would happen if we saw those forces starting to face off and starting to see an escalation that could lead to a nuclear conflict very easily? Perhaps, we would be part of or spearhead of a multilateral or a multi-coalition effort to go in and provide peacekeeping efforts there.

Just the sheer population size and the size of those militaries would require significant commitment from (audio skips) -- Those are just two that come to

mind very (audio skips).

MR. O'HANLON: Thank you. Okay. We've got a brief period of time, and what I'm going to do is take -- we're going to have one super round of questions (Laughter). And I'm going to take four. And of course, in a dream scenario, it's going to not necessarily be tailored to each panelist, but each panelist will answer one in response. That's what I'm hoping for. We'll see how well we can pull off that miracle.

So, we'll start here with the woman in the second row, and then we'll go work our way back. I might just see, actually, four exact hands, which is good.

MS. WERTHEIM: I'm Mitzy Wertheim with the Naval Post Graduate School. This session is called Evolvers: Innovating Services. So, I have two questions.

What does innovation mean to you in terms of the services? And what does winning look like? You keep talking about deterrence, but what does winning look like in the 21st century?

MR. O'HANLON: And please, I'll take notes and we'll figure out how we do this in a minute. Okay. We'll go to these two gentlemen here in the -- yeah, 60 percent back area.

COL. SANBORN: Good morning. Colonel Scott Sanborn. I'm the Army fellow at the Center for New American Security.

My question is targeted for Clint, but anyone could answer this one. And it kind of picks up where you ended your comments about identifying the force to pick up -- the mission of controlling swarming unmanned systems, RPVs, drones, if you will.

The first panel talked about potentially looking at the culture for cyber operators differently than we would look for a traditional service member. I wonder if you could talk to the fact that as you go to a swarming solution, if that's really the way we're going to go to maintain our offset of our capabilities, more and more automation, less and less hands-on control like you would -- and as Navy, you would appreciate this.

And I just wonder if you could talk to whether you've looked at whether

what that has for implications for how we recruit and retain the next generation.

MR. O'HANLON: I think the microphone right over here on the side, please.

(Audio skips)

MR. OAKLEY: Tom Oakley, National Economists Club. And for disclosure, also, an Army reserve officer.

But my question is, in a time of constraint, we've heard other joint chiefs of staff talk about the biggest threat to security was the deficit and things like this. Clearly, we're going to have to do some more risk management. And how do you incorporate that into the models for force generation, force readiness and force use?

MR. O'HANLON: Okay. And we've got two in the back, and we're going to -- so it's going to get five questions super round. John Angevine and then my friend against the wall.

MR. ANGEVINE: Thank you, Mike.

I'm curious about combat ratios over -- longitudinally over time. To go back to the Roman era, you know, a thousand soldiers had a certain combat capability. If we go to World War II, a squad would have a similar type of capability. And if we go to the future, John, this is -- John Evans -- what threshold -- what is the threshold for the right amount of forces to the amount of combat power that we need to project or to deter? And what is that magic line in terms of the philosophy that underpins that?

MR. O'HANLON: Thank you. And then finally, please.

MR. LUCKETT: Thanks, Dr. O'Hanlon. Steve Luckett. I work and study here in the city.

Fellows, could you give a sense of the U.S.-China space race? The confidence, competencies, any challenges? And are there any rumblings in Tokyo regarding the U.S. defense umbrella? Is Japan considering, not withstanding Fukushima, starting a nuclear -- a protective program? Thank you.

MR. O'HANLON: Great. So, we'll start with John and then Colonel Hinote, the two who have got specific questions. And then, we'll leave the others to clean up what's left. Over to you, Colonel.

COL. EVANS: Yeah. To answer John's question about combat ratios, what's the threshold for combat power we need to date -- you know, that's a great question. You know, not unsurprisingly, we're not the largest land Army in the world; not even close, actually.

What we do have the benefit of is, I believe, a superior training model and an ability to assess and recruit an all volunteer force. So, we can pick the young men and women out there that are going to fight for us. And as the Army, in particular, takes a look at that threshold and how we can apply that combat power, we really are going to look at getting kind of left of the boom on things.

And to Mitzy's point, you know, kind of earlier about you know, what does innovation look like to you, well, to the Army, innovation looks like identifying all of the challenges we have, putting everything on the table, and then kind of parceling out what we think is going to serve us best, as opposed to going back to the old 1980s Army, where we've got the big five programs and we've just got to be able to drive tanks and fly helicopters and win decisively when the battle is joined.

I think we have to do that. Don't get me wrong. H.R. McMaster would kill me if he thought I didn't say that (Laughter). But that's not the be-all, end-all of what we've got to be. Getting left of the boom, getting to the deterrence piece of what we do is very important.

War is a human endeavor. So, we can control technology in all of the other domains, but if we can't do it on a personal level, face to face with our partner forces out there -- and to a certain degree, influencing our adversaries, then I think we're lost on that battlefield.

MR. O'HANLON: Colonel Hinote.

COL. HINOTE: So, I'll take -- a good question, Scott.

I'll take the kind of riff off of that war is a human endeavor. I actually believe that's true. So, you heard it from an Air Force officer. The human interaction that Clausewitz talked about is true yesterday, true today and will be true tomorrow. But the ways that you do it are different.

I was in the Pentagon the other day, and I was talking with someone -- I'll protect his identity, but someone you would know. And I asked him, what do you think our real competitive advantage is going into the future? And the answer that came back was, the only thing I can really come up with is our young people.

Now, what did he mean by that? And we got into this. If we're thinking about using systems of systems and quite a bit of autonomy -- using robots, using unmanned vehicles and things, it seems to become a lot -- you have lots of degrees of freedom; things that we didn't even think about when we were coming up learning tactics.

And the aspect of free play becomes paramount in finding the people that we're looking for. I would offer to you -- I've been all around the world. I could be wrong about what I'm getting ready to say. But if I was looking for young people who are comfortable with free play, I would look first in the United States of America.

And like I said, I've seen Chinese young people, Korean young people, Japanese young people, Europeans. I think we still lead the world in thinking as an individual outside of the bounds. And if we have that, those are the people we need. How do we recruit them? I have no idea. But we've got to. We've got to figure that out. And free play, I think, is your answer.

MR. O'HANLON: Colonel Schreiner?

LT. COL. SCHREINER: You know, what does winning look like in the 21st century? You know, I think for me -- I'm maybe a little bit of a pessimist. I think this idea that the great powers can't have war anymore -- I don't necessarily buy into that. I

don't think we know what the world is going to look like in 20 years. We know it's going to be a lot different. We know there's going to be a lot of things challenging even great states 20 years from now.

So, I think winning is us having deterrent strategies that keep a certain level of stability between great powers, to the point where we maintain the status quo that we have today. Recognizing that we're still going to have warfare in the world, and that the U.S. is going to be directly involved in some of these smaller, more asymmetric situations, and then, finding ways to use the other instruments of power to get them back to a stable place, always with an eye on us not being threatened with our existential existence as a nation.

And I think we live in a world -- as bad as things can be or seem right now, I think we live in a world where the United States, at an existential level isn't threatened. And we need to maintain that, and we need to invest in a way that we keep at a minimal, some kind of a hedge out in the future that no matter how things change, whether it's the environment, whether it's a financial crisis, whether it's a rising military power that we don't foresee right now, do we have the capability to deter that kind of thing in the future, and how to hedge against it.

And that, to me, is winning. Really, I think we're probably in a lot better place than what we like to think we are right now. And we need to maintain that.

MR. O'HANLON: Thank you. Commander, for whatever final comments you'd like to make. Don't feel like you have to hit whatever remaining questions are still around the table, but --

CMDR. MCKECHNIE: Well, I can tell you what winning looks like for me, is avoiding a major war or conflict among major powers just in our lifetime. So, if we can make sure that everybody who is thinking about aggressing, that they're aware of the possible consequences of that, and not to underestimate the consequences. That would be winning, I think. There's always going to be war, but if we can avoid major war

for another -- our lifetime, that's great.

For the U.S.-China space race, it's just not U.S. and China, because you have to realize that there's other satellites out there, too, and they would be probably be a factor. Japan has some. Our European allies have some. So, on a deterrence for space deterrence -- I really covered economics. But for a space deterrence, Japan -- an aggressor has to realize that they have a lot of satellites out there. So, they're going to be able to disable all of them.

And the next one is for Japan -- and the Japan defense umbrella. I've lived seven years in Japan before moving here. My instinct is that Japan would -- it would be -- Japan would have to be attacked with nuclear weapons again before they (inaudible) and develop their nuclear weapons.

And realize, they have high, enriched plutonium because of their reprocessing facility. But looking at the degree of resistance -- they've never modified -- they've never amended their constitution. Germany amended their constitution over 50 times, and so has Korea. So, there's controversy -- not even amending the constitution, but just changing the interpretation -- that's developed into a very big and longstanding political compromise.

So, if there's -- so I would say nothing that would occur, other than a dramatic attack on Japan, was -- they would consider developing a nuclear deterrent. So, it's kind of akin in their society of us trying to get rid of Social Security or something (Laughter). It's a huge societal change for them to think of, considering that they're the only country that was attacked with nuclear weapons.

MR. O'HANLON: Thank you very much. Brendan has an announcement for us about lunch, and then, we will thank the panel after that.

MR. ORINO: Just to make getting lunch as quick and easy as possible, if you could please form two lines, one through the door directly behind me, and one through the front door and wrap around each, and come back into the auditorium

through the doors here at my right, that would be great.

MR. O'HANLON: Please join me in a round of applause. (Applause)

(Recess)

MR. O'HANLON: Well, let me wish you a Happy St. Patrick's Day, now that it's good afternoon as well. So, a second time, thank you for being here, again, today. Again, I'm Mike O'Hanlon from the Brookings Foreign Policy Program and had privileged to work with our military fellows all year to meet a few of the others in town and to be working with a number of you today as well.

But, now at lunch, I have the distinct privilege of introducing Lieutenant General David Goldfein who is going to be our lunch speaker and addressing a topic of great relevance, civil-military relations and advice from the kind of perch that he now holds which, as we all know, is one of the most important military jobs in the United States, the director of the Joint Staff. And, how does one handle the enormous responsibilities that go along with that job, which is really at the intersection of analysis and policymaking and providing military advice.

And, General Goldfein is extremely well prepared for this in many ways. He graduated from the U.S. Air Force Academy. I always knew the day would come when I was introducing an important general who graduated from college after I did. (Laughter) I'm afraid today is that day.

So, he's both a very young man but also a very seasoned and accomplished war fighter and general. He spent time in a number of combat operations, including Desert Shield, Desert Storm, Northern Watch, Allied Force, and Enduring Freedom, and he has done so in and about and with a number of aircraft, everything from training aircraft to fourth generation F-16's to fifth generation or early stealth aircraft like the F-117 and to unmanned systems, so, a very wide range of experience within the Air Force and the combat and fighter community but also a great deal of experience now in the broader policy world. So, without further ado, please join me in welcoming General

Goldfein. (Applause)

LT. GEN. GOLDFEIN: So, what I will tell you that's not in the bio is I am one of the only graduates of the Air Force Academy that took six years to get through. I am the John Belushi of the United States Air Force Academy. (Laughter) It is really great to be with you all. And, now, I just want to say congratulations to all the fellows in the room for this extraordinary opportunity that you've been given.

And, as the director of the Joint Staff, I often get the question, you know, so, what does the director of the Joint Staff really do, you know. So, there's a thousand individuals, and the Joint Staff all handpicked in what we call Joint Staff North or here at the Pentagon. There's a thousand in the south in Suffolk, Hampton Roads, all handpicked.

And, so, what does the director of the Joint Staff do? Well, you actually saw me if you watched the Super Bowl, because, in the Super Bowl, there was this little fat kid on the sidelines who ran out during the break and was able to squirt water into the athletes faces to keep them running, you know, during the game. That's what the director of the Joint Staff does. So, my job is to keep the athletes, the thoroughbreds, the handpicked, most talented group of individuals I've ever been involved in, all working together to support the chairman, the vice chairman, and the JCS, the Joint Chiefs of Staff when they assemble.

And, so, in this role for the last year and a half, I've had a glimpse and a window into how the chairman operates and the vice chairman and the JCS in this business of giving the best military advice. So, especially the fellows, I wanted to give you some thoughts on that and then, of course, take any questions. So, I have a few slides. The good news is only one of them has any words on it.

So, let's go to the first one. So, this is a painting that hangs in the Pentagon in this little conference room called "the tank." Now, the tank is the chairman's conference room. It's actually relatively small. It can only seat about 20 to 25 people, by

design. And, it's where the JCS, the chairman and his convening authority for the Joint Chiefs of Staff, calls the JCS together to talk about the issues relative to using the military instrument of power.

And, this is the only painting that hangs in the tank. It's actually called The Peacemakers, and this is, you know, Lincoln and his generals' just weeks before the end of the Civil War, talking about what we now know as Phase IV operations, or post-conflict operations.

And, where I sit in the tank, I stare at this painting, and it's a constant reminder of the gravity and the enormity of this challenges we face and the importance of that military advice as we give it to the chairman, and then the chairman, of course, gives that to the president, the secretary of defense, the National Security Council, and Congress. And, while the faces have changed, the process hasn't really changed that much over the years. Next slide.

So, here we have just months ago a session in the Situation Room, where the chairman, once again, just like those generals before him, was offering his best military advice to the President. And, it reminds me of one of the many things I've learned from this chairman and this JCS, which is what real and perceived influence really mean in this town, when it comes to being able to operate and influence the dialogue, especially as it applies to the use of the military instrument of power, which is what we're there to do.

Real influence is actually established very quietly, often behind the scenes, one relationship at a time, in a town where a private conversation between two people is expected to come out perhaps in a tell-all book or a memoir. And, so, how do you establish that trust and confidence which is so essential to being able to have real influence. It's something that you do very quietly. Perceived influence, on the other hand, is something that often happens on talk shows. It tends to be very loud.

And, so, I think, as a military officer, especially at the joint level, when

you're providing office advice you have to think through what it is that you're trying to achieve. Is it real influence or is it perceived influence, and where do you all want to align yourself, and who do you want to align yourself with so you can actually affect the dialogue in this very challenging discussion. And, I'm going to show you some of the world view of what we're dealing with, of how best to use the military instrument of power. And, we haven't always gotten this right. Next slide.

So, this is a picture of the Cabinet Room one month after the Bay of Pigs. And, to reset everyone's history, right, this was an operation that was thought up by the CIA. It was brought up during the Eisenhower administration and then handed to a new president and a new team as they were going through transition. And, as we all know, right, in the first months of any transition, you know, it hasn't changed. You're still trying to just get your cabinet posts filled and the staff filled as you make the transition. So, you have a young president in transition who is handed a plan, they do a look at it, and they execute the plan. And, of course, we know it was an unmitigated disaster.

And, so, he hauls in the Joint Chiefs of Staff and he reads them a speech that he has handwritten. And, if you go into the archives, you can actually see his notes in the margins. I have a portion of that, and I want to put yourself in the position of the JCS and imagine what it must have felt like to be called into the president's Cabinet Room and have him read this.

Now, a few words about the Cuban affair. I view this failure as one involving all of us. And, now, I want only to improve our ways of doing business in the future. With that introduction, I must say, frankly, that I do not think that the JCS gave me the support to which the president is entitled.

My impression is that, as a body, you did not study the plan with the thoroughness which so important a matter deserved. Had you done so, I believe that you will have discovered and, I hope, called to my attention such matters as the marginal features of the air plan, the improbability of the guerilla alternative, the looseness of the

control over the invasion shipping, and the military disadvantages of running the operation out of Washington, D.C.

While the CIA was in charge of it, I would say that you should have been continuously scrutinizing the military soundness of their plan and advising them and me as to your views. The record as I know it does not show this kind of watchfulness.

So, if you go into the Cabinet Room today, it actually looks pretty much the same, with one change -- no ashtrays. (Laughter) But, you have to imagine yourself in that room. And, as the director of the Joint Staff, I think about this a lot, because this is what we want to avoid. And, it's also a reminder that it's the chairman and the JCS that will be called in to talk to the president as his key military advisors when things go wrong.

And, words matter. If you go back and look at the archives, what you'll find is that in the tank, when they were discussing the Bay of Pigs, the Joint Chiefs of Staff actually determined that the plan had a 30 percent chance of success. That actually was translated when it got over to the White House as a fair chance of success.

So, as you imagine, on the receiving end of that, you can see how, you know, if we presented to the president that this plan has a 70 percent chance of failure, there's a good chance he would have taken a different attack, than to tell the president there's a fair chance that this may succeed. So, words matter when it comes to offering the best military advice. Next slide. Go back one.

Now, I know this is a dated picture, but I haven't found one that has the expressions that are this great. (Laughter) So, this is our Joint Chiefs of Staff. And, I put this up here because it's a constant reminder of what constitutes accountability or decision-making when it comes to the use of the military instrument of power.

And, there are those that might say -- and I'm one of them -- that accountability comes from being confirmed by the Senate and required to testify before the American people through its elected leadership. So, this is a sacred duty that each general officer who is confirmed must do. And, it's a reminder that, when things go badly,

these are the individuals that will be held accountable, you know, a reminder that -- when we looked at the scene in the Cabinet Room from the Bay of Pigs, right, it was the JCS that was called into that one.

So, when we talk about this business of giving the best military advice, right, it's important to remind ourselves about what accountability really means. It's also important to think through, really, what kind of world view people have in the various dialogues that we enter into when it comes to offering that advice, because there are actually two opposing world views and then there's everything in the middle. Next slide.

This is a painting that hangs in the chairman's office. And, from my seat as the director, I get to stare at this painting of George Marshall. The chairman, on occasion, will look up at the picture and he'll ask us -- he said, you know, during the interwar years, George Marshall focused on two things to build the force we needed for World War II. He focused on leader development and technology and research and development.

And, so, the question really is, are we in the interwar years right now, and is that where he as the chairman ought to be focused. And, it depends on your world view, and there are two opposing world views, if you will, that both have a compelling narrative, and I'll try to do my best at giving you both sides, because it's important, as you're offering the best military advice, that when you're offering that advice you are offering that to folks in that room -- no doubt folks in this room -- who approach the world from these two differing views, right? And, you could call them almost fear and fear not. So, let's take a look at the next slide.

This is what the world looked like for us in January of 2014. There were other things going on, but, for the most part, these are the major issues that we were focused on. So, we knew that we had operations going on in Syria that we were dealing with. We thought at the time in January of 2014 that we were weeks away from a bilateral security agreement. You know, who knew that it would have taken us months to

get that actually signed. The Chinese were flexing its muscles out in the South and East China Sea, and this is where we were focused on in January of 2014. What a difference a year makes. Next slide.

This is what it looks like in January of 2015. Simultaneous operations, all of which have some element of the use of the military instrument of power as we work our way through these, from, you know, attacks in the homeland, Boston Marathon, from, you know, 60,000 unaccompanied children on our southwestern border that the military and the National Guard was mobilized to deal with, from Ebola that was not on the radar back when we started 2014, from, you know, Boko Haram and its now linkage into -- or at least proposed, as they say, linkage into ISIL, from the cyber threats.

While it wasn't the Pearl Harbor, perhaps, it was an attack on one of our islands, right, when we had the cyber attack on Sony. To the transition in Afghanistan to ISIL that was not on the radar back in 2014, to increased activity and aggression from Russia in Crimea and the Ukraine.

I had a chance to go on a trip to Israel and speak with an Israeli delegation, and they said, you know, as an existential threat to Israel, we actually weren't quite sure how to deal with the magnitude of the chemical weapons problem, and somehow you were able to deal with that. I mean, that was an incredibly great success story in terms of taking a vessel that was never designed for chemical weapons destruction, and not only re-outfitting for that, but also figuring out how to do it while underway.

So, this is what the military instrument of power has been dealing with over the course this past year. So, if you've been deployed like I have and just coming back from, you know, two years deployed, you would be more in the category of, you know, between fear and fear not, this would be more in the, hey, this is as unstable as the globe has been in years. As a matter of fact, I had the Joint Staff historian -- and I had to go back and I asked him -- hey, from just a Joint Staff perspective, how does 2014

look like relative to other years as you've looked back. And, he said it's number two in terms of the total number of issues that we've had to work. It's number two only two 1968, in terms of as far as he could go back and look at the records.

And, in 1968, what did we have happen? Well, we had Russia invade Czechoslovakia, history rhymes, right? You had two major assassinations, with RFK and Martin Luther King. You had the U.S.S. Pueblo. We had race riots across the country. So, that Joint Staff was no doubt busy. This Joint Staff in 2014 was incredibly busy. So, if you look at the world through this lens, you see that the military instrument of power as being used simultaneously in a number of operations. Next slide.

This would be my one-word chart. This is the fear not. And, the fear not narrative says, actually, this last decade has been the safest in our nation's history. And, when you look at all of the key demographic areas on what constitutes a lead nation, we lead in almost every area that you see on the right. And, when you look at the major challenges we face, which is on the bottom right, the military instrument of power may not be the preferred tool to deal with those.

So, from this view of the world, now is the time to take risk in the Department of Defense. And, so, through those two competing world views, military leaders have got to offer their best military advice and to understand that that advice will be received in two different ways based on the lens that people are looking through. It doesn't mean that you change your advice. It just means that you understand the audience when you're offering it. Next slide.

At the same time that we're dealing, of course, with the number of operations across the globe, we're also focused on continuing to recruit and retain an all high-quality, all-volunteer force. And, a couple of pictures of here with just a couple of the issues that we're working on, for instance. I mean, we are now to the point where we've opened 41,000 positions to women that were previously closed.

We're on track to continue that and report out on the 1st of January 2016

to the president on those that we ask for an exception that would remain closed. But, the policy right now is that they will be opened unless they are approved to stay closed. We are continuing to work at removing the scourge of sexual assault from our ranks, and we're not going to take our foot off the accelerator on this one, and we have a long way to go on this. We've made progress, but there's no one in uniform that believes we've got this one fixed yet.

So, what we do to retain and to sustain a high-quality, all-volunteer force is at the forefront of what this JCS continues to think about as they offer military advice on using the military instrument of power. Last slide.

This is what I call the mirror check. This is the mirror check in the morning and the last thing we look at when we go home at night, which is to ask ourselves the question -- what have we as a Joint Staff and what have we as military leaders done for these individuals today? Because, we can never forget that we have men and women in harms way as we sit here today.

And, the chairman would tell you that he believes there's one moral obligation we have as leaders, one, and that is to assure that every soldier, sailor, airman, Marine, Coast Guardsman, civilian that we send in to harms way is properly organized, trained, equipped, and led to be able to accomplish the mission that we asked them to do. Everything else we do our very best. That is a moral obligation. And, so, we do this mirror check daily as a Joint Staff and as military leaders to make sure we never forget that. Next slide.

So, in this business of offering the best military advice, it's something that, again, we do clear-eyed in terms of both the challenges and the benefits of real influence versus perceived influence. It's something that we do quietly, and it is our hope, of course, that with truth and with candor that we can offer the nation and our nation's leaders and the policy decision-makers the very best military advice they can have to better tackle these complex challenges. With that, I'll open it up for any

questions you may have? Yes, ma'am.

SPEAKER: (Inaudible) of the appointment of civilian to the Pentagon spokesperson position for transparency with the DOD.

LT. GEN. GOLDFEIN: Yeah, thanks. So, first of all, you know, I think we -- I don't know if struggle is the right word, but we continue to work hard at making sure that we stay connected to America, that we in the United States military, both active duty, Guard, and Reserve, stay connected with the nation that we're privileged to serve. And, so, where we could really use media's help is to help us stay connected, to tell the story.

You know, every soldier, sailor, airman, Marine has an individual story, that when you actually take time to sit down and talk with them and find out, okay, exactly, you know, what was it that caused you to stand up, take an oath, wear the cloth of your nation. You know, most -- the vast majority -- of those serving today joined a service at war.

When I joined, we were post-Vietnam, no war on the horizon. I joined a peacetime Air Force. My motivations were probably a little bit different than those who are joining today who signed up knowing full well what they were getting into. That's a very compelling story that needs to be told. The other thing I will tell you is that, you know, when I was deployed for two years, and, you know, your world becomes completely, you know, every part of your world every day is the fight that you're in and the engagements that you're doing.

And, so, making sure that that story is told, in addition to all the other activities that are going on day to day in terms of what we're doing to protect the nation with respect to the nuclear enterprise, with respect to where we're engaged around the world where it's not active combat but we're still engaged, where we continue to keep military-to-military dialogue going, especially when there's often diplomatic challenges but we can keep that -- what we call mil-to-mil line open. Those are all really compelling

stories that I think we could use media's help to help tell you.

And, then, I would end on that point to just say that, you know, every soldier, sailor, every Marine has a story to tell, and the more you can help us tell that story and let them tell it, the better.

Now, in terms of the spokesman, you know, each leader chooses a spokesman, and I don't know that it's actually that important that it's somebody in uniform or somebody not in uniform, you know. It represents the Department, so I think when any new cabinet official comes in, he usually brings in a new team, and that actually has no impact on the older team, it just has to do with how people come and transition in.

So, you know, John Kirby is just done a spectacular job of being able to be very articulate, you know, take a complex issue and bullet it into some very thoughtful talking points, and so will the next. So, I don't personally see too much into it in terms of whether we go from uniform or not. I think it's more of from one particular spokesman to another. Yes, ma'am.

MS. WERTHEIM: General, thank you very much. This is really an impressive thing. I keep asking sort of the same question. In my case, what do you think innovation ought to look like bringing to the academies. Because, clearly, these young leaders that we're training today are coming into a very different world than you did, and my perception -- and I may be wrong -- is that they're still getting the same education that you essentially get. And, change is really hard, but leadership from the top saying we need to catch up with the 21st Century would really make a difference. So, what ideas would you have about how to go about doing this?

LT. GEN. GOLDFEIN: Actually, I'll tell you that this chairman has taken this on quite a bit in terms of joint education and innovation and how we focused our educational institutions on grooming leaders that can operate in this complex environment that we're in.

You know, the chairman likes to describe issues as complicated or

complex, sometimes both. But, the difference is that a complicated issue is something you can actually pull apart into pieces, solve the individual parts, and then put it all back together and you have a solution. Complex issues, you can't do that, because it's all so interlinked, you know, that there's just no way you can do it.

So, I would say that today's leaders and tomorrow's leaders are going to be more and more faced with complex issues. So, the challenge is, how do we raise them to be able to see that every challenge, no matter how complex, has an embedded opportunity, and the higher we go, the more important it is that we acknowledge that, understand that, and find it. Because, our job is not to put, you know -- using my Army buddy's, you know, terminology -- it's not my job to fill my boss's ruck sack with rocks, right? It's actually my job to help him think through these things and pull rocks out of his ruck, right?

So, helping our future leaders understand the complexity of these issues, understanding that there's an embedded opportunity in every one of them, and being able to understand that the higher you go you're going to hit your glass ceiling at the point where you can no longer find the opportunity and think through them, that's what we've got to get at.

And, the last thing I'll tell you is that, as the director of the Joint Staff, there's nothing better for me than a well-written two-page paper, and there's nothing worse than a poorly-written 15-slide PowerPoint presentation. (Laughter)

MS. WERTHEIM: (inaudible) system should require with every report you get two pages, not longer, on what were the new things that were learned and what would that -- how should we take advantage of these new learnings. And, I came to the Pentagon when all the flag officers had writers who took all of these long reports and got them down to cliff notes, and I think you ought to put that responsibility on the provider of this new knowledge, that, in fact, the way in which you acquired the knowledge, which academics think is the crux of it, needs to be the addendum. What you really need to

know is what are the new things that they've learned and how should that alter what we're doing? Who could do that?

LT. GEN. GOLDFEIN: Well, you know, the way we're looking at technology, -- which I think is healthy -- is we're starting to approach discussions from a family of systems, an architecture approach versus a platform or sensor discussion, right? Because, how many times do you either read or hear about a discussion where we're arguing or discussing, you know, which is the perfect -- as an airman -- which is the perfect airplane we ought to be using for this particular mission? And, if we step back, we would actually realize that we're way beyond that discussion, you know.

We're at the point now where technology has allowed relatively low tech, you know, platforms to be able to do some very high-tech work, right? And, it's how you link that into the family of systems and into an architecture that allows you to be able to accomplish the mission in the most effective and efficient means.

And, so, it's that innovative approach that doesn't start with building a big, you know, platform but actually more looks at, okay, let's not focus on the truck anymore, let's focus on the technology and the architecture and how it all fits together and how we, you know, in this information-based, you know, system that we're able to share that technology, right, in ways that not only allow us to operate unilaterally but more importantly allow us to operate with our allies and partners. That's the challenge, I think, of the future. Yes, sir. In the back.

MR. BURR: (inaudible) Profession of Arms.

LT. GEN. GOLDFEIN: Yes.

MR. BURR: I'm just wondering -- is there a difference when you were dealing with Profession of Arms from a joint level as opposed to a service-specific level? And, the second question -- you know, now, with, you know, almost two years of experience as the director of the Joint Staff, what recommendations would you make to change, like, the Goldwater-Nichols Act? Do you think it's enough now, or do you think

more needs to be done? Thanks.

LT. GEN. GOLDFEIN: Yeah, thanks. So, in the Profession of Arms, you know, what the chairman, I think, would tell you is, you know, we're not a profession because we say we are. We're a profession based on how we act every day of our lives. We're a profession based on the standards that we hold ourselves to, and we're a profession based on our accountability to the American people that we're privileged to serve. And, that trust, that very high level of trust that we've attained over the course of, you know, many years now.

I mean, I'm the son of a Vietnam veteran. My dad came and visited me in 1977, and he was wearing a uniform and I remember somebody throwing a bag of trash on him as we were standing on a street corner. I can't walk through an airport in this uniform three steps without somebody coming up and thanking me for my service. And, why is that?

Well, it's because a combination of, you know, all of those men and women who stayed in the military post Vietnam rebuilt this military and it's the way we've conducted ourselves not only in conflict but also day to day. And, we can lose that. And, the chairman will remind us that our actions, you know, every time we have someone that falls short of what the nation expects of us in terms of our integrity or our character, it affects the entire institution. And, we want to make sure that we always keep character and competence in the right balance.

You know, there is a tendency when you're in war to overinflate competency and overlook character, right? If I just get the job done, right, then I can overlook some character flaws. Not so in this all-volunteer force. You've got to keep your laser focus on both of those, because both count. And, we could lose that. We could lose that trust and confidence of the American people.

I'm also reminded that when I walk through an airport and people thank me for my service, and I've got these stars on that I'm privileged to wear, it's a reminder

to me that the American people are in love with its uniformed military, which I define as these young men and women who are our enlisted force. And, they expect me to take care of them. That's a sacred duty. And, so, the higher we go in rank, the more our character is on display, as it should be. So, the Profession of Arms is all about how we act every day.

Now, in terms of -- give me your second question again.

MR. BURR: Goldwater-Nichols.

LT. GEN. GOLDFEIN: Goldwater-Nichols, yes. Thanks. You know, here's my impression. Now, I'm just, you know, speaking as Dave Goldfein. It works. You know, the chairman, that JCS panel that I showed you, they actually don't work for the chairman. They work for the secretary of defense. The chairman's authority comes in as convening authority, as the principal military advisor.

And, so, as he builds real influence, you know, the JCS members and the commanders and other four-stars know that, before the secretary of defense or the president are going to take action, they're very likely going to look to their principal military advisor and say, hey, chairman, what do you think, right? So, he doesn't have to actually have chain-of-command leadership authority to be able to influence the dialogue and be able to offer best military advice. So, my sense is that from a pure Goldwater-Nichols looking at the JCS, it works.

You know, the other thing that I think that I will tell you is that we do tend to approach problems with our civilian counterparts, sometimes, from two different perspectives -- neither one right or wrong, by the way, just two different backgrounds' perspectives. And, while I'm sitting up here as, you know, an airman in blue, my brothers and sisters in the other services, we're far more alike than we are different.

And, so, here's our happy place. Tell me the strategic objective of what you're trying to accomplish, and I will do troop to task. I will build you a game plan. It will have 15 to 20 PowerPoint slides with lines of effort and branches and sequels. And, to

me, that's nirvana. I am in my happy place. Tell me what you want. I will tell you how to do it.

If you're looking at it from the lens of a diplomatic lens and you're looking at this very complex problem, what you want is options. And, what you come to the table with is to say, hey, tell me what it is you can do. Department of Defense, come back to me and give me what you can do to counter Ebola. State Department, come back and tell me -- give me options, right? So, you have this options-objectives discussion, right? We want objectives, they want options. They ask for options, we ask them, well, what's your objective, right?

So, the reality is that having those two ways of coming at the same problem -- actually, as long as it's a respectful dialogue, it works, because neither one is right or wrong. And, as long as those two approaches get to a understandable solution in terms of not only how we use the military instrument of power but, perhaps more important, how the military instrument of power fits in all of the other instruments that we're going to do with a whole of govern approach to a complex problem, then we've succeeded.

So, I would just tell you that I think Goldwater-Nichols works. Yes, sir.

MR. ANGEVINE: Good afternoon, sir, and thanks for coming out -- the Brookings. I appreciate it. I'm John Angevine and I work a number of Veterans Affairs issues. As I take time to study and to unpack the veterans' life cycle, of which the military life cycle is an intercomponent of it the day the recruiter shakes our hands. And, the veterans' life cycle for the uniformed guy starts the day they leave, be it ETS or retirement or whatever.

My question is, as we take a look and balance what the compensation commissions come out with in terms of the various, different incentive packages or retirement packages, or the medical, whatever it happens to be, how do we prevent regressing like we did in 1986 on the retirement package, and Congress having to go

back in terms of the negative consequences on retention?

And, in the calculus of trying to preclude a retrenchment -- in other words, getting it right the first time, so to speak, if we map out the various sort of changes, is the military culture to the veterans' life cycle, as opposed to the military commander's culture, focusing purely on the military life cycle, meaning preparing our soldier, sailor, air, Marines to transition from the service the day they arrive and helping them prepare to be successful at veterans, so it's not like they're driving off the end of a cliff?

LT. GEN GOLDFEIN: Yeah, thanks. You know, as a retiree in training, I'm spending a lot more time focused on, you know, how a retiree benefits. You know, when I would travel around the AOR or area of responsibility is, as a component commander forward the last couple of years, and I'd be meeting with my airmen. I would periodically get questions about retirement.

The first thing I would do is just sort of reset the picture, and I said, listen, you know, in a crowd of this size, of all the ages that now serve in the United States Air Force, for instance, there are three retirement packages currently on the books. So, that means the young airmen versus the mid-level captain major versus the old general. We have three different retirement packages.

And, I would tell them that, because the fact that we're relooking at retirement is actually not new. We had to have looked at retirement before if you had more than one package. So, let's first make sure that we're anchored on the fact that this is one more look, one more chapter in a continuing dialogue about what is appropriate compensation, right, for an all-volunteer force.

And, so, where the JCS is focused is that they have got to ensure that against the world view that I laid out for you -- and one could argue that this is not trending in a good direction, right, that the world is getting as complex and if not more -- how do we continue to recruit and retain a high-quality, all-volunteer force that the nation

expects us, but at the same time be willing to look a little bit more fresh at some of the ideas that are taking place in industry and not being so opposed to looking at them as just a new way of doing business.

Again, this is one more chapter in looking at it. So, whether it's a, you know, defined benefit or an earned benefit or at what point we start looking at the different aspects of this young, mobile millennial group that's joining now and best serves their needs, right, and most importantly serves the nation's needs in terms of our ability to recruit them and retain them, that's where the JCS is focused. The challenge here -- and it's a similar answer to the question about, you know, innovation and technology, right, which is you really can't look at retirement by itself, because these JCS members would tell you, hey, when General Dunford is standing up in front of his Marines, they're not going to ask him about retirement. They're going to ask him about retirement plus commissaries, plus BAH, plus, you know, TRICARE, plus what's happening with my housing, right?

So, it's the holistic impact of all of the decisions relative to pay, compensation, health care, right, that is the complete package. And, when you look at it that way, it goes from being complicated to complex, and, so, what we've got to be able to do is to ensure that, as we go through this iteration of looking at new ways of doing business, that we don't break faith with those serving today and that we allow the dialogue to continue so we can continue to improve and get better but at the same time ensure that they know that, you know, we as a nation value their service.

So, quite frankly, I think it's a healthy debate that we're having. And, back to your question about, you know, on the media side, it's an important story to tell. But, we ought not get too flustered with the fact that we're looking at it, because it's not the first time. Yes, sir.

CMDR. TAMA: My name is Jason Tama. I'm a Coast Guard fellow here at Brookings. I appreciate your comments. I wonder if you could share some thoughts

on best military advice in the context of the current domestic political landscape, which is not complicated but definitely complex, and how does the chairman sort of view that without sort of wading into the dangerous territory of domestic politics, yet there are very real issues and challenges there that play out with impacts on our military? I wonder if you could share some thoughts on that. Thank you, sir.

LT. GEN. GOLDFEIN: One of my goals today was to have this not be my last (Laughter) conference. So, here's what I'll tell you. You've always got to keep the domestic issues -- and here's the way I think the chairman would tell you, is that, look, you know, you take a look at empires, militaries, large, you know, nations of the past and ask yourself, you know, what caused them to fail, what caused them to get smaller, right, and it almost always started and ended with their economies, right?

So, there's a direct connection and linkage between our fiscal environment and our ability to organization, train, and equip an armed force. And, we can never as military leaders divorce ourselves from that, right? So, we've got to be part of the solution. We've got to offer -- again, this is, you know, I mean, our Secretary Carter has said, you know, one of his priorities is to help the president of the United States, our Commander in Chief, solve very difficult problems. And, so, he's charged us, the military leaders in the Department, to help with that and ensure that we are looking at this through that lens as we offer the best military advice.

Now, having said that, the best military advice is always best politically informed but not politically driven. And, so, we've always got to make sure that that advice that we offer is truthful, with candor, and offers what we believe is the best advice we can for the nation and always understand that there's a domestic tie to that. So, that's the best I can tell you in terms of the fact that we try to never sever that. That's it. (Applause)

(Recess)

MR. SHAPIRO: Okay. If everyone could take their seats we'll try to get

started so that we can get out of here on time. That's my main job as a moderator, is to keep things going on time, so keep that in mind when you're asking questions.

So my name is Jeremy Shapiro. I'm a fellow at the Project on International Order and Strategy here at Brookings, and I'm really actually kind of thrilled to be participating in this conference. It's always an interesting conference for me every year to see what the Federal Executive Fellows -- what we call at Brookings the Federal Executive Fellow, really the people coming out of the government service, and especially the military, are doing. It's my perspective that they inject a very needed fresh view on some of the issues that we work on here. And so it's really a pleasure to be able to preside over some of them.

And I think another great strength of this conference is that it brings in the government fellows form outside of Brookings. And we have four of those here on this panel. The panel is called, "Gamechangers: Emerging trends and adaptive policy." I wasn't really sure what that meant, but I think the concept here is that what we're looking at in the very complex environment that we've been hearing about all day, we're looking at the trends that are happening in the background. One of them is a demographic trend, one of them is a technological trend, one of them is a policy trend. And we're looking at the trends that can really fundamentally change what the military and what the government is doing in ways that have often crept up on us in the past. And so I think all of the presenters here are keeping track of this for us and identifying some critical trends.

So our first speaker will be Lieutenant Colonel Travis Norton from the Air Force. He'll be talking about the trend in small, remotely piloted aircraft. I need to add that.

LT. COL. NORTON: Yes.

MR. SHAPIRO: Our second speaker will be Dr. Brenda Seaver from the CIA, who's going to be talking about the dark side of the developing world's expanding

middle class which is kind of depressing to me, but we'll see how it goes. (Laughter) And our third speaker is Colonel Brett Sylvia from the U.S. Army who will be talking about megacities and whether this is a global dominator or just a distracter. It will be fascinating to hear if it's a distracter. And then our final speaker will be Colonel Benjamin Higginbotham from the U.S. Army who will be talking about the Presidential Guidance for Counterterrorism.

So with that let's get started. Each speaker will talk for about eight to 10 minutes and then we'll go to the audience to get your questions.

LT. COL. NORTON: All right. Thanks. I'd like to put my thanks out for Brookings for hosting this as well as Jeremy for moderating today's event. And I'll give an early shout to Colonel Hinote for setting up a good tee for me on the RPAs, remotely piloted aircraft, or drones as they're frequently referred to. So as they are colloquially referred to as the drones or unmanned aircraft system, or I'll use the phrase UAS today, they invoke a myriad of thoughts and notions and debate, but most importantly I would argue opportunities for both our armed forces and our internationals partners.

Today I'm going to tap into the fervor associated with the so-called drone revolution by bringing to light such opportunities that while often alluded to, researched, they appear mired in the theoretical rather than brought into operational light. In order to scope discussion today I will be discussing the small remotely piloted aircraft. I refer to these as RPA. For those familiar with the Department of Defense classification this will be typically group one through three, smaller than a predator; however, I want you to please keep and consider technology capturing and imagination of popular culture such as the quadcopter, or even bio-based drones that are out there.

And in terms of classification, Air Force uses the term "small UAS" while the Army and Navy often refer to "tactical UAS". And herein lies the initial challenge associated with these systems. Whether based upon existing emotional prejudices or predisposition based on current practices, Department of Defense tends to limit its view

on such systems as tactical in nature. While many admit such tactical tools may enable strategic effects, they're often not viewed under the auspices of providing strategic air power. However many great air power strategists have refocused us in the past, we must look towards the effects and basic tenants of air power rather than the platforms themselves. As my good friend Dr. David Blair wrote, the task at hand is not call for reinventing air power, but for rediscovering it. And small RPA are tools that allow us to do just that. They are still viewed with a sense of skepticism.

RPA are generally accepted as critical capability within the armed forces having successfully delivered effects across a spectrum, both conflict and humanitarian operations. Airman, sailors, marines, and soldiers who deliver air power via remote means continue to find themselves however unable to meet the resultant insatiable demand for their services. Amidst this era of increasing requirements and decreasing resources joint force finds itself with seemingly duplicative RPA capabilities. What I mean, Army, Air Force, MQ-1 variance, Navy, Air Force RQ-4 variance. In terms of small RPA they are too duplicative to note because these systems were taken as off the shelf developmental opportunities, not through standard acquisition means to meet current combat operational needs.

So understandably the services focus on their respective equities when approaching capability development. It has led the Army, Marines, and littoral Navy to focus on smaller RPA systems and autonomy in an effort to deliver tactical effects through organic operations which remain immediately responsive to the unit commander. For its part the Army has made large strides in developing small manned portable systems for enclosed spaces. In terms of autonomy the Army addressed the challenges of its aging helicopter fleet by looking at its MQ-1C variant as a scout for its AH-64 Apaches, where the Apaches now have the ability not only to see the video but control the video, control the platform, the drone itself, as well as shoot missiles from it in support of its operations thereby protecting air crews exposing themselves and exponentially

increasing their available magazine depth or weapons available. The Navy has led autonomous research efforts as demonstrated with their unmanned combat air system completing fully autonomous operations off of an aircraft carrier integrated in with fighter aircraft. Meanwhile Marines have developed autonomous manned helicopters which demonstrate an ability to conduct autonomous resupply operations using young Marines with no aviation training and a tablet device with as little as 10 to 15 minutes of software training to supply themselves out in the field. While these current capabilities apply to mostly larger systems as right now based on the system availability, the techniques developed directly apply to the services' small RPAs desired and end states.

In contrast our Air Force focuses research and efforts towards the larger strategic RPA in order to provide theatre-wide effects within an anticipated anti-access/area denial operational environment. Though Air Force RPA vector discussed potential for small unmanned systems, even discusses the future of a potential loyal wingman concept akin to the Army's already operational MUM-T, or Manned/Unmanned Team I discussed there, these programs mire within the research realm and lack sufficient funding and/or support to transition into operational viability. While strategic focus is necessary, Air Force has created a series of high demand, low density assets which of late met with significant manpower challenges. Meanwhile joint force finds itself unable to meet the collection requirements in operational environments where ground forces are not deployed. It's within these environments that arguably strategic air power effects are most needed, yet despite the growing need our fiscal realities of the day remain the same.

In contrast our civilian markets have enthusiastically embraced this drone revolution creating a field of innovation and development on a scale outpacing the defense industry. Though small RPA are typically chastised for size, weight, and power challenges, rapid technical advances are quickly decreasing shortfalls. In some cases RPA as small as 50 pounds report the ability to stay aloft for over 40 hours and over 1800

miles worth of range. In terms of driving innovation individuals like Chris Anderson, who is a former editor of *Wired* magazine found himself an accidental enthusiast after a weekend involving aviation Lego robotics experiments with his kids. He went on from this event to establish the DIY drones, do-it-yourself drones website and 3D robotics, which now finds itself a leaders in the personal drone market. His concept has been primarily to deliver simple to use technology into the hands of the public, thereby enabling the development of operational concepts or capabilities directly by those closest to the need. This has led to industries such as agriculture, crisis response, police, firefighting, wildlife tracking, anti-poaching, efforts that have enabled RPA technologies to evolve on how these professions are conducted in bringing efficient operations into reality both in terms of effects and costs.

Not surprisingly it's from these communities we in the defense industry should take notice. This unconstrained development has evolved unique operating concepts to compensate for that current size, weight, and power limitations often limited by the small RPA. For example, decreased endurance is compensated by increased inventory, number of flights conducted. Increased inventory also compensates for potential payload capacity challenges. Rather than utilizing a single platform to carry multiple payloads, small RPA can be utilized to each individually carry a unique sensor, or you can aggregate the sensor itself across multiple small RPA. This of course lends itself to the topic du jour of late, swarming -- the application of collaborative flight across multiple aircraft. Unfortunately the concept of swarming appears itself an advocate deterrent as of late. When raised, senior leaders tend towards believing swarming is a concept of futurists, not one with near-term operational capabilities. However, at universities across the nature, to include the Air Force Academy and the Naval Academy, algorithms and control systems are already in place where swarming is actually a daily event at those academies and at universities.

Understanding that this technology is readily available, we must

breakthrough the futurist perception associated with small RPA and begin to look at how we can adapt such innovation to strategic air power. Thought leaders such as Paul Scharre have written on the benefits of swarms enabling this third offset we talked a little bit about earlier, and which we counter precision guided munitions with high tech capabilities and with that of mass. While several kinetic pursuits are in the works towards countering RPA, swarming returns us to the military concept where quantity has a quality all of its own. For example, simulations have shown challenges and eventual defeat of integrated air defenses when faced with an effective swarm attack. Lest we bend to the popular trends of our media, we must not focus solely on the swarm. Small RPA can be applied to strategic air power today with simple concept operations and small program of record modifications. The key is now to take note from those like Chris Anderson and to move technology into the hands of strategic air power practitioners, to develop operational capabilities by placing these capabilities in the hands of -- and I'll with what Dr. Thornhill said this morning, the interdisciplinary focused operators. This includes RPA but also includes those focused on the realm of the disciplinary such as cyber to be one of an acquisition and a whole slew of individuals across the joint force.

This way they can start focusing on strategic air power effects where we can decrease the current capability gap created by our high demand, low density assets. Many situations exist where these new smaller RPA can with increased endurance actually replace MQ-1 and MQ-9 RPA currently tasked toward traditional strategic ISR or intelligence, surveillance, and reconnaissance. This in turn enables the Department of Defense not only to relieve operational pressure on its current force, but also task and manage those forces more apropos missions such as armed reconnaissance or strike, or perhaps address some of those challenges that we see as shortfalls with the A10 departure and potential casts in low threat areas.

However, let's also look to the more non-traditional applications of small RPA, beyond the current ISR focus which truly delivers strategic air power effects. When

we're talking about platforms we're talking some of the larger systems, the ScanEagle or Blackjack, which are perhaps about one-fifth the costs of a Predator aircraft, we're now transitioning to where realities can to costs of less than $200 versus $4.5 million or $12 million for an MQ-9. You can get flight aircraft for less than $200. So a significant increase in both inventory and capability.

While I've mentioned the Marine efforts using RPA for strategic resupply, think of how these small RPA can be functioned into this. While it was alluded to earlier today of Amazon's Prime Air, the delivery system, think of a system of small RPA to develop a logistical train out to remote observations posts throughout the nation. They can also -- perhaps more importantly I think is the ability for a small RPA to partner and work alongside our international partners to train and equip them so that they may better address the shared interests of our nation. In terms of strategic air power these missions are often cost prohibitive. In fact costs and system complexity have often been identified as limitations for sharing RPA technology with our developing partner nations. Now with the use of small RPAs the Department of Defense has a tool that not only exponentially increases in international partners capability, but also allows us to open a dialogue with that nation on how to use that technology.

So examples like these abound beyond the time allotted for today, but in the end the Department of Defense must redefine the way we view small RPA. While tactical developments continue at a whirlwind pace we need to look at these systems in terms of strategic air power effects that produce tremendous opportunities. For its part, without the change the strategically focused Air Force will find itself having to advocate air power effects to those forces who have developed small RPA under the lens of tactical employment. Small RPA now enable us this new approach not only to support the third offset, but to provide the time-honored and proven application of strategic air power.

Thank you. And I love this topic so I will take any and all questions at

this time obviously.

MR. SHAPIRO: That's obvious. (Laughter) Brenda.

DR. SEAVER: Okay. I can't avoid this temptation. Last night when I was trying to get my talk under eight minutes -- be ruthless -- you'll probably have to cut me off -- my husband wouldn't shut up. He brought in his drone, his $500 drone that he had to fix because he had crashed it. He keeps crashing these --

MR. SHAPIRO: Into the White House or?

DR. SEAVER: No. (Laughter) But interestingly we are within the perimeter which we did not know until that had happened. And my son just got his card to fly the drone at Saturday events with my husband. So I said hey, UAVs are now called RPAs --

MR. SHAPIRO: But did you know you're having a strategic effect?

DR. SEAVER: Yes.

LT. COL. NORTON: Absolutely.

DR. SEAVER: My husband would be lapping this up, and I wish my 10 year old son was here as well. But back to my topic. You probably have figured out that I'm the only civilian I think presenting here today, so I am that outlier who is a bit outside of my comfort zone. So General Thornhill will be thrilled. So she talked about reading books outside your comfort zone, well I'm here with all these fantastic presenters talking about topics that I find fascinating and I've been a sponge all morning. But I am that outlier.

So Jeremy briefly went over what my research topic involves while I'm at the Wilson Center through this summer. It explores the impact of middle class growth in the developing world, not the developed world, but the developing world on what I consider three negative political outcomes that have been labeled trends by some scholars. This research is very much a work in process so I'm really anxious to receive feedback today. The timing couldn't be better for me in that regard. The three trends

that I'm focusing on are first, the worldwide democratic recession, second, the growing appeal of rival models to democratic capitalism, which is also called liberal capitalism, and third, the strengthening and spread of political Islam in the Muslim world in both its moderate and extremist forms. And my argument is more modest than it may seem. I'm trying to show how the expanding global middle class is worsening these trends, but not that it's the sole or even the most important driver of them because that is not the case. Just to give you a preview of what I'm going to talk about, I'll talk a little bit about why I chose this topic which some see as contrarian, but I don't believe so, but I will be telling a story around it. The second thing I want to talk about is sort of the mechanics, how is it that middle class growth is worsening the three political trends. And then finally, and time permitting, what are the implications for U.S. interests of this rising global middle class having these potentially negative political effects.

So why I chose this topic. And this has been sort of percolating in my head for two years now at work and I just found myself getting increasingly frustrated. The first reason in that that the projections of the size of the global middle class are staggering if they prove accurate. And one of your own here -- I don't know if he's here and I don't know how to pronounce his name -- Dr. Kharas -- is that -- he's behind some of these statistics. He's done fantastic research on the global middle class. And this is what some of the statistics he has provided. The global middle class is projected to increase from 1.8 billion in 2009 to as many as 4.9 billion in 2030, and that represents 85 percent growth. China's middle class alone is expected to reach 1 billion, and India is 475 million, both by 2030. And Asia, particularly India and China, is expected to surpass the number of middle class consumers in Europe and North America combined by 2030, numbering around 3 billion. Of course these are estimates. So I found those numbers really impressive. This is a major demographic change.

Now second, I grew frustrated with the optimistic expectations of scholars and policy makers about the global middle class, namely that an enlarged global

middle class will bring all sorts of good things. It will lead to higher rates of economic growth and development, the emergence or strengthening of democratic institutions and liberties, and political moderation over radicalism. All of this is firmly rooted in Western political and economic thought and to some extent in experience. My hunch was that these positive consequences may not reflect the experiences and challenges of 21st century developing countries. Specifically I was concerned that these expectations stem from a pro-Western bias, the use of inappropriate western analogies of the industrialization experience they had, and possibly even a little bit of wishful thinking.

And then finally I found it odd that research on other major global demographic changes seemed to be more balanced, emphasizing the negative as well as positive political outcomes. And I'm referring here to research on urbanization, on megacities, aging societies, and on the youth bulge in many parts of the developing world. Like those bodies of research I wanted to highlight potentially disruptive and negative political effects of the mega trend of global middle class growth. There are huge methodological challenges associated with this topic which have given me endless headaches. We can save that for Q&A.

So how does middle class growth worsen these three political trends that I'm interested in? And I'll comment briefly on each. First, democratic recession. So using Freedom House data by and large, Larry Diamond has shown that the world has experienced a decline of democracy since 2005 -- you're probably familiar with this -- both quantitatively and qualitatively. 2013 was the eighth consecutive year in which more countries experience decline in political rights and civil liberties than improved, and Diamond added that the trend is most pronounced in what he calls non-Western swing countries with large populations and economies. So for example, reversals or regressions occurred in Russia, Nigeria, Venezuela, Philippines, Pakistan, Bangladesh, and Thailand. What's interesting to me is that many of these countries are simultaneously experience middle class growth which does not appear to be aiding

democracy's cause, but rather hurting it. And middle class growth is also fueling more street protests, what some have called "streetocracy". In fact there's now a Twitter hash tag called #Streetocracy. Discontented middle classes in recent years have taken to the streets as you know to express their grievances, whether you're talking about Turkey or Brazil. But in some cases protestors have aimed to remove elected leaders through these street protests, such as in Ukraine and some groups in Venezuela have this motivation, particularly after repression is used by state authorities. This is not consistent with democracy, this undermines democracy, it doesn't strengthen it and contrary to what some people have alleged. You have to have democratic processes; it's not just about democratic outcomes.

Now the second political trend is the growing appeal of rival models to democratic capitalism. Democratic capitalism, you've probably been reading for about the last five years is currently being challenged by other political economic models because of its relatively weak performance eon economic growth and on policy and political decision, executive legislative deadlock. You know, you name it. And this has been especially pronounced since 2008. If alternative models like state capitalism continue to outperform democratic capitalism on rapid economic growth and development in particular, and that's a big if of course, then they may acquire greater legitimacy, including in the eyes of the middle class which is looking to maintain its social class standing or to elevate it, depending upon where they fall in the middle class.

So a couple of comments on state capitalism. Of course this is when the government manipulates markets for political ends. It's had considerable appeal in emerging market countries such as China, Brazil, Russia, and even India to some extent. And three of these countries, excluding Russia, have boasted significant increases in the size of their middle classes, often with state assistance. So some studies have indicated that middle class support for state capitalism appears to be strongest among those employed by the state in the public sector, or those who owe their economic standing in

large part to state subsidies and largesse. So as long as middle classes are beholden to the state and as long as the state continues to deliver on economic growth, the middle classes are likely to continue supporting the state capitalism model, and the model may win new adherence as the global middle class swells further. And then some examples of state capitalist countries, China and Singapore are the exemplars; much to my surprise Norway is included in this. But it's a little bit of a fungible concept.

As for Islamic capitalism, another alternative to democratic capitalism which is practiced in a number of countries to varying degrees like Malaysia, Indonesia, Turkey, Pakistan. The main difference between it and democratic capitalism, at least in theory, is that is Islamic capitalism is based on the sharing of profits, the prohibition of charging interest, and the promotion of social justice or what they call charity. Overall welfare and adherence to Islamic laws, the central goal of Islamic capitalism as opposed to maximizing profits. Now middle class growth is fueling Islamic capitalism because many middle class Muslims, and this is in some survey research, say that they favor a government model that is rooted in Islamic law, though they are still struggling to find out how much Islamic law, in what realms. There's a lot of disagreement, but assuming the middle class continues to grow in Muslim countries as projected we may see greater demand for this model in the coming years.

Then the last trend, which has two variances, is strengthening of political Islam. In terms of moderate political Islam, those who are clamoring for a moderate Islamic regime. A Pew Research poll taken in 2012 showed that a substantial number of Muslims, including many from the middle classes in Egypt, Tunisia, Pakistan, Turkey, and Lebanon, said they wanted a larger role for Islam in their political systems, but they did report significant differences over the degree to which the legal system should be based on Islam.

Now in terms of extremist Islam, despite the stream of research and policy statements connecting poverty and terrorism, the substantial body of research

indicates that the majority of Islamist extremist leaders and many of those responsible for the major attacks against the West are from the middle to the upper middle classes. There are some other studies that show no correlation between socioeconomic status and becoming a terrorist which means that middle class Muslims, at least according to those studies, are equally as likely to become a terrorist than Muslims from the lower or upper classes. So these attitudes and these behaviors where they're talking about moderate or extremist political Islam in the Muslim world are significant because if projections of an increase in middle class Muslims in Asia, the Middle East, and Africa prove accurate, then we will potentially see a greater number of discontented Muslims who may be vulnerable to extremism in the worse cases or may support moderate Islamic political parties and regimes. The latter is obviously less dire for us, but it probably would not be consistent with Western liberalism at the very least.

So implications for U.S. interest of my research -- I came up with three. The first is that my research suggests that we may need to reassess democracy promotion and development aid that's tied to. In societies with large Muslim populations, development aid may have little chance of undermining the appeal of political Islam, whether moderate or extremist, religious or sectarian identities are likely to override or suppress the emergence of middle class values that in the West have formed the foundation of a middle class identity that in turn has shaped the behavior that supports democracy. So development may be better spent on other priorities. And then secondly, Western countries need to shore up the democratic capitalist model by focusing on their own performance. And of course here I'm channeling Francis Fukuyama. We need to woo by example. The rising middle class in developing countries and their leaders would be more inclined to demand the benefits of our model only if we could show that it works. We need to demonstrate that entrepreneurial capitalism can produce solid economic growth in an equitable fashion which is important to those in the lower rungs of the middle class. And we need to do all of this while maintaining political order.

Then lastly, and I know you're about to cut me off, we need to reframe the narrative about the connection between social class and terrorism so that it includes middle class participation in extremist activities. We need to focus our counterterrorism, counterpropaganda efforts on a broader range of socioeconomic groups. In the words of Peter Bergen, "Terrorism is generally a bourgeois endeavor and is more of an Islamic than a jobs project."

And I'll end there. Sorry, probably too long.

MR. SHAPIRO: No, that was great. It was both enlightening and depressing presentation.

DR. SEAVER: Yeah, kind of depressing. (Laughter)

MR. SHAPIRO: Travis? [sic]

COL. SYLVIA: Well, thank you. Good afternoon. I just want to applaud your stamina for those that have hung out for this panel this afternoon. Yes, I did take time to start out with megacities, and then I started to really dive into some numbers. So I'm going to give you some of those numbers. I'll start out with easy ones first and then sort of we can warm up.

General Odierno, the Chief of Staff of the United States Army, likes to say that a hundred percent of the people live on land which is a good starting point. And so those interested in doing crisis response, whether it's security related or whether it's humanitarian response need to understand where people are, why they're there, and what's the stability of their environment, therefore why would we want to be involved there. So as we look at urbanization you can find that it is literally the most consistent and undeniable demographic trend that's occurring worldwide. The pervasive nature and pace at which this is occurring is having an impact across all sectors, whether it's economic, governance, diplomacy, security, development, whatever. The rate of urbanization varies from country to country, varies from civilization to civilization, but there's no denying that it is global and it is irreversible.

Just to give you some more numbers, in 1800 3 percent of the world was urban. In 2000 it was 47 percent, and by 2050 we project to add another 20 percent to that to be two-thirds of the world population living in cities. Looking at this from a real number perspective, in 2050 -- that means we'll have as many people living in cities as there are in the world today. This is a pace akin to adding 1 million people to cities every week. So given what I believe is a very compelling trend line it was very surprising for me to note that there are very few urbanization narratives, and certainly none of them are holistic and global. So borrowing from Thomas Friedman's construct on globalism, I'll offer the following narrative concerning cities that have 300,000 or more.

So urbanization 1.0. This is where what happened in these cities was important to the development of that city. It happened in the developed world around a specific industry or a sector at a sustainable pace and under the rule of law of the city governance structure. People migrated to these cities for the opportunities for advancement. Then we started with urbanization 2.0. What happens in these cities is important for the development of that entire country. This is occurring predominantly in the developing world; it's happened at a much faster pace and scale than the local governance structures can handle. These are hubs of innovation creating new economies, and they're emerging as actors on the international scene that's on par with some countries. People migrate to these cities though to escape conflict, to escape environmental hazards, or to escape extreme poverty in their rural environments, and they bring their biases with them. And in some areas we're transitioning into urbanization 3.0. What happens in these cities can have immediate regional or global consequences. In these areas of the developing worlds the cities still grow, but actually their growth is slowing. The economies of the city are globally linked to licit, illicit, and illegal economies and international trade. And as a result the city and the state governance structures cannot collect the revenue that it requires to establish and provide the required resources and services their populations. So the dramatic irony that exists today where six out of

seven people in the world have a mobile phone, but little over 4 billion have access to toilets or latrines only gets magnified as we look to urbanization 3.0.

So as we look to the future many are preoccupied with our largest urban agglomerations, what we now call megacities, or cities with greater than 10 million inhabitants. It's easy to see how we went down this road though. The only reliable longitudinal data that exists on cities today are population data bases. These all come from the U.N. Department of Economic and Social Affairs. And if you look at any study that's done on cities it begins with this data. This data that was started being aggregated in 1950 and projects all the way out to 2050. As a result size has become the default typology. The largest cities have the most data, they're the most accessible, and they draw the most attention. However, if we dig just a little bit deeper we'll find that the focus on the megacity may be just a little misguided. And here are just some quick anecdotes.

The majority of the urbanized population today and in 2050 will live in cities that are smaller than 500,000. The fastest growing cities are those hovering around 1 million inhabitants. And of the 50 fastest growing cities only four are megacities. Of the world's 10 fastest growing economies, only one is a megacity. Of the top 15 most dangerous cities in the world, none are megacities. Of the 456 cities studied for being at risk to multiple devastating environmental hazards, seven were rated at the highest vulnerability level out of all the 456, and none are megacities. The very high alert nations of the Fragile States Index only have one megacity among them, and in the 10 nations that are at extreme risk to climate change, only four among the hundreds in the Index are megacities. So instead of size as a typology I'd like to offer that we use fragility and vulnerability. Just as we looked at fragile states since the collapse of our bipolar world about two and a half decades ago, we should start to assess and categorize fragile cities. With the devolution of the state as the dominant international actor the city emerges as a key component. The challenge is how to do this for the 1,687 cities that have 300,000 or more inhabitants and a very data poor environment. Some studies

suggest singular criteria, or focus their studies just at the larger cities for whom data exists. Yet as urbanization continues humanitarian and security strategists require a more comprehensive manner for studying comparison.

I posit that sufficient data exists if city- and state-based data is aggregated. Currently an effort is underway to evaluate all 1,687 of these cities based off of available state fragility indices and various incomplete city databases. This resulting index seeks to measure the extent to which a city's policies and institutions can or cannot one, deliver the basic functions of security and governance; two meet populous expectations for dispute resolution, economic prosperity, and social progress; and three, respond successfully to economic, political, or environmental shocks. While such data cannot be used to predict future conflict, it certainly serves as a good starting point for more in depth analysis.

And I'm happy to entertain any questions regarding this ongoing research and some of the interim observations during the Q&A. Thanks.

COL. HIGGINBOTHAM: I'll jump in there. So I've had the good fortune to spend the last year at the National Counterterrorism Center. I'm the director of the strategic operational planning of the interagency melting pot that serves if you will as the think tank for the White House and National Security Council for CT policy. So my research over the past year has really focused on policy, really that fourth dimension of the four that we've talked about here today, technological, demographic, or cultural, geopolitical, and then policy.

So since 2013 U.S. government CT policy has really been dominated by this little know policy called the Presidential Policy Guidance for Counterterrorism, or more simply as the PPG. PPG has a profound impact on the whole of government, but especially on the DOD. It's institutionalized this rigorous set of processes and these precise criteria for what we do. It really describes the how of U.S. government CT operations. Because my own organization, the Department of Defense, understood it so

little, and understood the impacts on it so little, I really sought to develop a primer that answered five questions. First, what is the PPG? Second, what initial challenges have arisen with the PPG's implementation? Third, how has it specifically impacted the DOD to date? And that plays into the fourth which is what impacts we're likely to see in the near future. That segues naturally into the fifth and final question which is so, what then do you do about it, how do you mitigate the challenges that have arisen from this policy that shapes this complex environment?

Now there are two caveats that are necessary right up front. The PPG itself is a classified policy document, and my full body of work on this is classified as well. That said, in the name of transparency the Obama administration has published an unclassified abbreviated version of this policy, and the president has talked at length about this policy, his criteria and other aspects of it. And so I was able to put together an unclassified body of work on this as well, and that really forms the basis of my comments today. Now the second caveat is that my discussion here focuses solely on DOD operations, not on the activities of other departments and agencies. So I'll try to stay in the DOD lane.

So the first question, what is the PPG. The PPG as I said is this policy document that describes the how of how we are going to do CT operations in this complex environment. It starts by affirming this set of core principles. The first one is this commitment to conduct CT operations in a manner in keeping with U.S. and international law. It commits to sovereignty and to respect the law of armed conflict. It prioritizes capture over killing of terrorists, commits to discrimination and precision in what we do, and establishes this process or this commitment to this comprehensive interagency review. In response to criticisms about the criteria that we use for designating targets of a terrorist nature it establishes a set of conditional criteria for any proposed CT operation. The first one is this continuing imminent criterion. We are only going to conduct CT operations targeting targets that represent a continuing imminent threat to U.S. persons.

The second conditional criteria is this near certainty, near certainty of the target and its identity, and near certainty that we're going to be able to avoid collateral damage with these targets. The third is an assessment that host nation partners will not or cannot act against a given target. And the final one is an assessment that no other alternatives exist on the spectrum to deal with these threats. In addition to those things, the PPG lays out this comprehensive interagency review process that now involves the heads and deputies of the respective departments and agencies and their legal counsels. It provides for additional scrutiny for targeting potential U.S. citizens, and then it establishes these provisions for periodic congressional notification. Now unquestionably there is very much that is right with the PPG today. It codifies this common process for all the departments and agencies that are involved in the U.S. government CT enterprise, defense being one of the most significant, to get to yes. The same process for everybody. It addresses these valid concerns that have arisen over capture versus killing of terrorists. If you kill a terrorist you cannot exploit the intelligence that might come from his capture. And it establishes criteria that are meant to mitigate or minimize the risks associated with errant targeting and collateral damage.

But at the same time what we've seen is that there are several challenges that have arisen with implementation of this policy over the last 18 to 24 months. Without further definition the policy introduces several terms that are policy terms that differ significantly from how they are used elsewhere, most notably in its use of this continuing imminent threat criterion that I've talked about and in regards to near certainty, what we mean about those. I'll talk about those briefly for just a minute. We introduce this concept of imminent threat as a criterion for targeting that differs significantly from the legal definition, the international legal definition that our own secretary of state, Daniel Webster, long ago was responsible for formulating. On the one hand that concept of imminent threat fails to satisfy critics who say that we are too liberal about what meets the imminent threat criteria. At the same time the continuing portion of

it proves to be overly restrictive for those who have to execute CT operations, particularly in a post-9/11 era when we see terrorist organizations and terrorist targets that have significantly improved their gain in terms of trade craft. In terms of near certainty the term is also undefined and it really has proven to be unrealistic in practice. A bar so high that nobody can agree what it is, much less meet that criteria.

The second area that has arisen as a problem in terms of PPG implementation is that the PPG fails to clarify where it does and does not apply. While it sounds simple to stay outside areas of active hostilities, which is the definition of it, when this was published that only applied to Afghanistan. When a situation arises like that in Iraq and Syria today, is that an area of active hostilities or is it not? While we all have our own opinions, we have 30 different opinions in this room out of the two possible options. So what we see is problems exacerbated by inconsistent application of this criteria about where it does and does not apply.

The third and final problem that we've seen with implementation is that our policy fails to account for strategic narrative. A critical component of our overall strategy for counterterrorism is that of countering radicalism and the messaging of violent extremism. When we fail to take that into account, and what our operations send as a message and how we send that message then we ultimately fail or fail to achieve all that we could with our CT operations.

Now the PPG has affected everybody in the enterprise in those ways, but there are a couple of ways that it has specifically impacted DOD. I will only address a few of these. The first and foremost is one that we are responsible for ourselves, and it is a self-inflicted problem. That this institutionalization of this exacting, iterative, bureaucratic process, to use a pejorative term. We have created layer upon layer through which we pass reviews and approvals of counterterrorism proposals. The second way that it has impacted DOD is by slowing the overall pace of DOD CT operations. This slowing has occurred since mid 2013 at the same time that ISIL has

emerged from the ruins of AQI. It's emerged at the same time that Boko Haram has emerged from the wreckage of previous iterations of Boko Haram in Nigeria. It's arisen at the same time that Libya and North and West Africa has fallen apart. So you've got this slowdown of operations against terrorist organizations at the same time that terrorist organizations are on the upswing that General Goldfein talked about when he showed his graphic of January 2015. A third way that it has impacted DOD is taking away the methodologies that we've developed over the last decade of counterterrorism operations, things like define, fix, finish, exploit, analyze, or F3EA cycle that's proven so critical to targeting terrorist networks in countered network operations. Something that relied on commander's initiative at the lowest level. The ability to go rapidly after the next target, and the ability to exploit node by node through the network. The new Policy Guidance for Terrorism does not allow that that initiative and it does not allow targeting of lower level individuals. The final way that I think it's important to understand that DOD has been impacted by this new CT policy is the centralization of decision making authority over not just CT operations, not just direct action, but also indirect CT operations. Formerly a TSOC commander or a COCOM commander like the AFRICOM and SOCAF commanders had the authority to approve activities to advise and assist partners to go out and shape the environment to hopefully get out ahead so we don't have to conduct direct action operations. In many cases they've lost those authorities now. Those authorities have been rescinded to the secretary level or even higher back to the White House as a part of the PPG methodology.

Those impacts have already been felt, and have been felt in significant ways, but there are two more that I think we're going to see that we are already seeing the bow wave of now and we'll see increasing amounts in the next few years. The first is this institutionalization of policy by CONOP. Allow me to digress for a minute and talk about what this is. We may have a plan to go after Al Qaeda in the Bahamas and destroy the network, and that may be the U.S. government policy, but when the

Presidential Policy Guidance for Counterterrorism only allows us to go on a case by case basis and address members of that organization, we can no longer achieve the policy effects that we wanted to achieve with our overall strategy. What we do instead is derive a new policy by CONOP as we go through. That's the macro sense of policy by CONOP, or the micro sense is that. The macro sense is this, when you look at our policy we say that our policy is now capture over killing. However, when you do significant work on U.S. government CT operations in the unclassified sense, as Micah Zenko at CFR and others have done, what you see instead is that by and large we continue to favor killing of terrorist over capture of terrorists because it is more convenient, because it is an easier step to take; it is the easy button. So that's the macro sense of policy by connup. The other one, as I went around and talked to key leaders at AFRICOM and CENTCOM and elsewhere, is this adverse impact on the organizational culture of DOD's CT community. One TSOC commander described to me that he has a whole generation of leaders underneath him who have forgotten what it is like to exercise freedom of maneuver in CT operations. He says that he has to now press commanders who at lower levels once took the initiative to go out and identify targets, develop operations, and develop options against those. He now has to push those instead of just receiving those. He describes a similar phenomenon that he sees in the Pentagon, one where there is a reluctance to do things that people don't think will be PPG-able. If this continues to develop it is a significant adverse impact on DOD's organizational culture.

So what do you do about it is the final thing. I really suggest six ways to address this in my work. And I'm just going to address a few of these very quickly. I think that going forward DOD needs to take advantage of the review process and recommend better, less ambiguous language for the policy, something that our fellow departments and agencies in the interagencies share as a goal, more clearly define where the PPG does and does not apply, restore some degree of decision making authority to COCOM commanders, to allow them once again to achieve the policy goals

that we've asked of them, to incorporate strategic narrative discussions into the PPG review and approval process. And then the final one is one that DOD can do without having to recommend it, they can do themselves, and that's address this problem that Dr. Thornhill talked about right up front, that COCOMs are no longer responsive, that they are hierarchy organizations that have 12 steps to go through. What DOD can do now is undertake this review to streamline our own approvals process.

So that's quick rundown of how the PPG has affected us and where we go from here with the PPG. With that I'll turn it back over to Jeremy to get us through the Q&A session.

MR. SHAPIRO: Thank you. And thanks for that presentation. I think "PPG-able" is a real contribution to the English language. (Laughter)

It struck me in listening to all your presentations that you've all identified factors that I guess because of a more complex environment that we're facing across the traditional lines of both sort of subject matter and organizations. And so I'd like to ask you all in looking at your subject just to think about whether or not, putting back on your government hats, the U.S. government is actually organized to deal with your problem, and if not what would need to change in order to face up to the factors that you've identified? To be fair to you, Ben, you already did that a little bit, but I'll give you a second chance to focus on it in that way, but I think all of the others it would be helpful to understand how you think the government is organized for this and if it's not well organized for this what needs to change for your particular problem.

Can we start with you, Travis?

LT. COL. NORTON: For my particular problem with the small RPA we have a tendency to build new organizations and that might not be the case for my particular piece.

MR. SHAPIRO: Can we get rid of some then?

LT. COL. NORTON: Perhaps. I think that we have the right people

involved, we just don't bring them together. And so instead of creating centers of excellences or anything else I think in the realm of what I'm looking at it is -- to be honest we're still in a test phase a little bit too. We know what's coming, we know the application of this technology is coming, we just don't know how it's going to be executed. So to move forth what I've been looking at is something like a USSOCOM, a joint organization that has a tactical-like focus with strategic implications as well where we can bring together individuals from that in a disciplinary effect to take a look at this one particular problem, create a smaller organization, not a whole big onset of bureaucracy and to address that problem and try it out and do that free play that we discussed earlier and start working through those issues together. So I don't think we right now need to create a whole new piece just for my subset.

MR. SHAPIRO: Brenda?

DR. SEAVER: It's an interesting question.

MR. SHAPIRO: Thanks. I spent a lot of time thinking about it.

(Laughter)

DR. SEAVER: I'm pondering it. My first reaction is it's not so much that it's the U.S. government agencies that need to change. And I'm sitting here jotting like state and USAID. We have the National Intelligence Council that's been focusing on mega trends through the global trends projects that they do periodically. They're up to 2035 now that they're working on. You have U.S. agencies that have units that are looking at this, but here's the problem. What I'm really trying to do is tackle deeply rooted assumptions and biases. So is it organizational change that's required or is it more thinking in a different way and not using analogies that are inappropriate when we're trying to look forward to what these projections about middle class growth might actually mean. So in other words, strip ourselves about what we know about democracy in the first wave, democracy even in the second wave, and the third waves, and approach it cold, and looking at the challenges that the developing countries are facing right now

whether you're looking at megacities, smaller than megacities, whatever. And I think one thing that would be really helpful, and this transcends U.S. agencies, is there is so much work on this going on in the nonprofit sector. Bridging that gap a little bit better between U.S. agencies and the very active work going on in the development sector which in many cases involves nonprofits and ground truth. I've been attending a number of panels where people who are on the ground working in economic development, working on challenges like countering violent extremism, which by the way everyone in the developing world hates, in the Muslim world. Just that term, CVE, gets a visceral reaction from people who are moderate Muslims, much less extremist. We need to know this kind of stuff. So me sitting and listening to these more development, nonprofit focus folks, I need to bring that information back into U.S. agencies.

And again, you know, as I sit back and watch a major restructuring going on in my own agency and some previous changes post 9/11 -- you know, organizational change can accomplish only so much. Assumptions and biases, those are hard. And organizational change isn't necessarily going to change those.

COL. SYLVIA: I would tell you that I believe that there is limited bandwidth for analysis. And so as I look at kind of the city construct you need to focus 1,687 cities as I talked about and you can't focus on all of them simultaneously. So how do you get to that ability to focus? And right now there's a real data problem because we're not gathering the data on the places where we should be or could be. And we have some organizational issues associated with that. You've got combatant commands that focus regionally, you have the state department in a Westphalian mode that's just doing country to country. And so we really don't have the ability to look at sub-state, state, and supra-state all simultaneously and then be able to fuse it together. And if we could develop that, some type of --

MR. SHAPIRO: What would it take to do that?

COL. SYLVIA: It is amazing how many people do not talk about beyond

Goldwater-Nichols anymore in this town. It was a very popular thing and James Locher was out really doing great work and trying to push it forward, and ultimately that's what we need, is we need that inter agency, foreign policy instrument so that the first point of inter agency integration isn't the National Security Council, that we push that much further down and can focus it out regionally and get it out there. I think that there are a lot of people that have lost heart with that and, you know, the 225 oversight committees on the other side of this town that are systematically working against that.

MR. SHAPIRO: Ben, I know you already covered this a bit, but if you have anything to add.

COL. HIGGINBOTHAM: As seen in the movie *Office Space* where they sit down with Peter and ask him, you know, what are the problems here. He says I've got five bosses, Bob. And that's really the problem that so many of us face with dealing with so many of these complex problems. If you take the AFRICOM commander and his efforts to deal with Boko Haram or with ISIL, he's got to deal with two divisions and three centers at the Agency, he has to deal with two different desks at state, he has to deal with several different desks within the Joint Staff at the Pentagon. And I know that Brenda says, you know, maybe organizational change isn't the way. I think it is somewhat of Don Quixote tilting at the windmill, but I think some organizational change to restructure ourselves to deal with the world that we have now is what is needed to allow us to better see these problems, recognize these problems, and do something meaningful about them. Our own organizational structure is an inhibitor at this point to making progress with a lot of these problem sets.

MR. SHAPIRO: So bureaucracy is the enemy and we need a new agency to take care of that. (Laughter)

I'll go to the audience now. In the row right here. Wait for the microphone. And please when you ask a question please identify yourself.

MR.BRIGGS: Sure. ZackBRIGGS; I'm a reporter with *Jane's*. I had a

question particularly for Dr. Seaver. The correlation that you were describing between the rise of the middle class, and in particular potential radicalism in the Muslim world, I'm wondering if you've also looked at causation as part of that? As far as is there anything that can be looked at such that one could promote middle class and still not yield to the radicalization? Is there an additional link there? Thank you.

DR. SEAVER: Yes, I don't see it as causation, I see it as a contributing factor, as something that exacerbate. I started diving into all of the literature for motivation for violent extremism, terrorism, whatever you call -- I went through the psych, I went through the sociological, and I went through the economic. You know, I went through all of it and I think the bottom line is when you're looking at violent extremism, at least as I read it, my interpretation, it's multivariate. In statistical language, it's multivariate. Different reasons. You go to ideology, you have religion, within that you have sectarianism, you have social isolation, you have age, you have those kids in their twenties who are looking for transcendental ideologies, and communism is not there for them right now at least in any viable way, and then you have people in their thirties that suffer from what people call the revolutionary itch. They are assessing the gap between where they want to be -- and this is way before midlife crisis -- where they want to be, what they've done, how can they achieve their broader goals. You have so many reasons, so definitely correlation is the key word here.

So the big question is mitigation, right. And as Peter Bergen started sort of attacking, he's like we can't just create jobs programs because it's not just about that. It can be for some people that are underemployed or unemployed, but that's not what this is about. How do we give these 20 year olds, how do we give these 30 year olds, how do we give these people that saw a number of people, you know, killed by drones, a reason not to be hostile and want to respond in kind. Mitigation measures are key. And I actually -- that's something that I really want to focus on towards the end of my project, and I throw it back at you because I've only just started thinking about that. I gave just a

few ideas of what this could mean for U.S. policy makers, particularly on all this messaging emphasis right now. How do we form this narrative, reframe the narrative to either prevent folks from becoming foreign fighters in Syria or joining terrorist groups, or whatever the case might be, but that's not enough. We need other mitigation measures and they need to be psychological, sociological, economic, they need to encompass the multivariate nature of why people either finance or participate in those groups in the first place.

Very hard question and very, very good question.

MR. SHAPIRO: We're running out of time a little bit, so we'll take three questions and then we'll come back to the panel.

MR. WINTERS: I guess this is directed to CT and PPG --

MR. SHAPIRO: Please identify yourself.

MR. WINTERS: The question is General McChrystal spoke here --

MR. SHAPIRO: You haven't identified yourself.

MR. WINTERS: Oh, sorry. Steve Winters, independent researcher. Thank you. So when General McChrystal spoke here at Brookings a while back he described this 24 hour cycle that they had developed in Iraq for going after the terrorist networks with basically a raid one night and they would process the information from that raid and be out the next night, even perhaps before those people had heard that the first cell or whatever had been taken out. What you describe would seem to make such a way of proceeding absolutely impossible. Could you address that?

COL. HIGGINBOTHAM: It does. And that is the cycle that I referred to. I gave its long term, but when he describes it he describes it as F3EA. It's something we drew up on a white board. There were many people who collaborated in the development of that and it really represented great cultural innovation within the organization when did so. It was a dramatic departure from the way that we had operated. The PPG with its process of week's long approval of each individual target

absolutely does undo the speed of the F3EA process. In some cases that is okay with decision makers. They want to make sure with this policy that we don't back into another war, that we are very judicial about the use of it. What we can do I am convinced though as I continue this research, is find the balance between the president's intent and how we undergo or how we undertake this policy and meet those concerns.

MR. SHAPIRO: Let's take two in the back. The gentleman with the beard and then -- yeah, the -- right there. And then we'll take the gentleman with the beard.

MR. HERSHEY: Thank you very much. I was trying to come up with my own game changers so let me try this one out on you. Dr. Seaver, you make -- Loren Hershey, was a guest scholar here a long time ago. I'm an antitrust attorney originally and I study foreign policy as much as I can. Why doesn't the U.S. face the demographic trend lines by agreeing to some kind of population growth policy? One of things that could be done I suppose would be to double the rate of immigration, invite middle class people to come to the United States. And we have a lottery system, I don't know exactly how that operates, but the stats that you give make it seem like 20 or 30 years out we are dwarfed and I don't see why the psychology of the next 30 years shouldn't be what Ronald Reagan -- this is not meant to be political -- referred to as the shining city on the hill, which I think he drew from the Mayflower Compact or thereabouts. We remain that shining city so why don't we invite people to come here at a higher rate from all over the world? My ancestors got here in 1877 --

MR. SHAPIRO: Why don't we go to the last question, just here in the middle? Then we'll just go back to whoever has a comment.

MR. LOPEZ: (inaudible) Lopez from Columbia University. This is also a question for Dr. Seaver. You mentioned a couple of proposed solutions as to how U.S. policy should change its approach. One you mentioned is the targeting of counterterrorism to different socioeconomic strata, and now there would be just the

cultural change that is needed. How do you evaluate the efforts on behalf of state departments, you know, with the teams of (inaudible) for example in using multi stakeholder interventions and in the developing world to deal with national security threats? And whether you think this is a welcome change in working with different nonprofit actors, and we're in between Google ideas and people doing innovative work in this general spectrum, not just, you know, agencies? And whether you think that is a move in the right direction or not. Thank you.

MR. SHAPIRO: Brenda, you had both questions so final world.

DR. SEAVER: Okay. For Loren regarding why doesn't the U.S. government have population growth policies that will give us a brighter future, we won't be as dwarfed as some of these other countries with expanding middle classes. From what I remember from the data I've seen, of course which isn't always consistent, we're not quite as bad off as some of the other advanced industrial countries. And that is particularly because we do allow immigration. So for example, if you compare us to Japan, if you compare us to some of the European countries, immigration is something that has helped us because of our lower birth rates compared to in a lot of these developing countries. So I do remember that data.

As far as, you know, becoming the shining city, the impression I get from the data is that we won't be able to be the shining city in sheer numbers because women aren't having as many kids. I mean there's this basic demographic thing. Unless we change all that dramatically or open the floodgate to immigration -- and even then I'm not sure we can catch up with Karachi, Daka, some of these other places where there are higher birth rates. But that doesn't mean that -- and again this is outside the scope of my project -- that doesn't mean that we can't institute policies that protect not only the middle class that we've had in the past, but also what is a really important issue right now which is social mobility. Robert Putnam just wrote a book about it too. Those are --

MR. SHAPIRO: Thank you. I'm getting the signal so I think we maybe --

DR. SEAVER: Oh, you're getting the signal?

MR. SHAPIRO: -- have to wrap up. But please join me in thanking the panel for their contributions and for their attendance. (Applause)

(Recess)

MS. DAVIDSON: It's great to be back, and to moderate this panel. I'm now the senior fellow for defense policy at the Council on Foreign Relations.

So, it's my pleasure today to introduce this topic, and these scholar-practitioners. We are calling this “Matchmakers: Military, civilian, and industry relationships.” You know, many have tried and many have failed to create some sort of perfect interagency coordination mechanisms, which we've talked about in previous panels today. And also there's a big push, always, to enhance our relationships across military and civilian and divide, and whether its business or in academia, and other areas.

And so we are going to touch a little bit on all of these kinds of things today. We have a great group today, we have, to my left, Captain Bob Hein, and I'm not going to read the bios, but we are represented by the Navy, the Coast Guard and the Air Force here. And Captain Hein is our Navy captain, he's going to be talking to us a little bit about how to fix all the interagency problems. I hope you have the answers to all this.

CAPT. HEIN: Of course.

MS. DAVIDSON: Followed then by Major Greg Cameron, from the Air Force, who is from the National Nuclear Security Administration. And then Jason Tama who is the Federal Executive Fellow here at Brookings, and he's going to be talking a little bit about the public-private piece and acquisitions. So, without further ado, I'm going to go ahead and turn it over to Bob. We are going to go through all of them, and then we'll open it up for some questions.

CAPT. HEIN: Thanks very much, Janine. And I'd like also like to thank Brookings for what has been an incredible year, and they are putting on a great program

here today. So this morning during the kickoff event, Bruce Jones talked about the complex world that we live in. And it is a complex world, and it has complex problems, and one of the -- part of that discussion also brought out an article that was in the *Atlantic* earlier that talked about, with the greatest military world, you know, how come we are not winning the wars.

I would say we are winning the wars, it's the peace that we are struggling with, and so to just kind of put that in perspective, in a couple of vignettes. The United States Fifth Fleet is based out of the small island kingdom of Bahrain. It's a constitutional monarchy that hosts about 2,300 servicemen and women and has done so since 1971.

During the Middle Eastern uprisings in 2011, commonly referred to as the Arab Spring, the Shi'a majority start a protest in the government of Bahrain. Now this is a government of course they have to work very closely with Fifth Fleet, and Fifth Fleet works very closely with them, with that government.

So while this protest was going on, it was the State Department representatives that were down giving coffee and donuts to the protesters, kind of making it -- putting the Fifth Fleet commander and that organization in a tenuous position. Causing journalists to actually, within Bahrain at the time, to way that it was the U.S. who was really trying to partner with Iran to impose a Shi'a majority rule in the Middle East.

In 1988 the Department of Defense was very openly critical of the State Department's suggestions to use the military to oust Noriega in Panama. The State Department was pushing, hey, we've got to get him out of there. The DOD was coming back and saying, no, no, no, we can't, it's too much risk, too much risk. Finally we did, and we did we did the right thing, and the State Department actually convinced the Security Council that that's what we needed to do, and that's what we did with success.

Now, we are back again, 2001. Now following the attacks of 9/11. U.S.-led bases were in Afghanistan, a clear treaty party at that time was Uzbekistan. We were able to secure basing rights, and to be able to operate out of Uzbekistan until such time

as the State Department including Uzbekistan on the list of major violators of human rights, which against that Uzbek government, in which case we got kicked out.

And then the final vignette, or maybe two more. This last August, the State Department was trying to establish a ceasefire between Israel and Palestine in Gaza, and at the same time, DOD, the Pentagon, my august, beloved organization was continuing to provide anti-tank rounds, tank rounds to Israel again, against current policy. Now, I don't think it was done illegally, it was just a kind of two guys talking past each other, and not able to get those policy straight, and when they did it got sorted out. But again, policy mishmash led to the inability to execute the policy of the day.

Now, sometimes the partnership actually works together well. The State Department and Defense Department can be very good partners. For instance, again, during that same conflict in Afghanistan, in Ukraine, 2001, the State Department kind of read the tea leaves on that, they actually got together with the Ukrainian Government, they were able to securing over-flight rights long before anyone form DOD ever approached them to do so.

And again, so finally when DOD did say, hey we need over-flight rights. They said, hey, we are there, we've got it, we are good. A good partnership but, again, only done because of professionals that were there at the embassy as part of the country team, not part, unfortunately, on a good -- which should have been a good partnership and a good sharing of information between the two.

So, who creates foreign policy? That’s a kind of a tough question to ask. Certainly, the president, our national security advisor had the major voice. The Department of State with allegiance of Foreign Service officers and embassies in every nation around the globe are major day-to-day player. A significant role though, is played by the Department of Defense. The combatant commanders who actually were described by some as modern proconsul, that have played an ever-increasing role ever since the Goldwater-Nichols Act. We'll get to that a little later.

The military services, or the phrase, if you want to know our policy, look at our budget, is a common refrain among service planners. Now, Defense Secretary Ash Carter recently advised Congress, you know, the continued cuts to U.S. defense spending were causing corrosive damage to national security, and the service secretaries have just also frequently expressed their concerns, that with increased cuts to the budget, their inability to execute with the recently-released National Security Strategy.

So, during major global events that affect that U.S. interests, the focus on national power from departmental secretaries, to National Security Council and the president, all become involved in addressing those crises. Wars, natural disasters, pandemics, genocide, nuclear proliferation, those are -- they all provide a nexus around which all of those elements of national power converge.

But what are those issues that brew beneath the surface? What about the demonstrations? A drought? Arm sales? That third world nation that feels bullied by one power may capitulate or stand its ground if they thought that somewhat -- that we had your back. These are the issues that ambassadors and COCOMs, and services deal with every day. Peace-time shaping operations, foreign military parlance, phase zero operations.

They are the day-to-day operations that shape the next crisis. They determine who our allies are, they determine our future trade agreements, and they open the way for U.S. markets. What is usually not difficult for those organizations to bring on policy, sometimes there is conflict. Attempts to disassociate policy development from execution are not feasible in today's environment. Gone are the days when militaries are told to destroy the enemy, as Admiral Dewey was in the Battle of Manila. Rather policy development and execution have grown increasingly intertwined as the United States has evolved.

Now this will be the part where I get into the whole history of -- I can go into Napoleon, Bismarck, and Von Moltke, of Samuel Huntington brought those theories

forward, and those are all in the papers that you can read, but I'm not going to get into that today. I'm just going to talk about where we are now, and kind of, what are the fundamental pillars that got us here. And of course we talked about Goldwater-Nichols. Very strong intended consequences, namely ensuring the departments, the Army, Navy and Air Force, we learn how to operate together, following the debacle of Desert One, the failed hostage rescue attempt from Iran. However, there are unintended consequences as well.

Arguably the view of global strategy was reduced into service. They were given the responsibilities to manage and equip their respective services. The role of geographic combatant commanders though, of which there are now six, were given tremendous latitude with regard to their responsibility, which created a major player, a major new player in the foreign policy arena, far outside of D.C. beltway, which is the tradition home of the policy development.

There is a great story that Former CENTCOM Commander, Anthony Zinni, tells about getting off an airplane with Secretary of State Albright, and he was just kind of showing that balance between, you know, really how the COCOMs were viewed, versus how the people that are actually affecting policy back in the United States were viewed. And he got off a plane with Madeleine Albright, and General Musharraf from Pakistan, comes running up saying, Tony, welcome back. Absolutely ignoring the secretary of state.

And again, why? Because from what that country knew, what that leader knew, this was the guy that brought the bullets, that had the waters with them, that they could affect change when, in fact, he was not the directing policy. However, because of perceptions, perceptions are reality, so maybe he was.

As we implement our pivot to Asia, you will rapidly of course see the Pacific commander. Again, he will be -- whether he wants to or not, will be thrust in that position to take a bigger role in those policies. Let's talk about the services a little bit

then. We talked about how Goldwater-Nichols kind of degraded that's -- with the traditional services role in policy formulation.

Representative Randy Forbes, chairman of the House Seapower Sub-Committee, in a letter to the CNO last July, emphasized his concern. Let me read this, "Jointness has brought great benefit to many areas, but I fear that it has reduced the perceived position of the chief of aval Operations to the Navy's head programmer and budget maker, rather than the nation's foremost expert and advocate on the nexus between seapower and national power."

What that means is an acknowledgment of that -- what traditionally had been that global view, and global view is now within the military had been replaced or supplanted by regional views of the combatant commanders.

So, what can we do about this? Usually as a research I was speaking to a former ambassador, we were talking about budgets, and it's well, well known and documented and brought up routinely about how much bigger the Defense budget is versus State budget. And how he described it to me was, that if you want to feel good about America, you should support America, you support patriotism, and you give to the Department of Defense. If you support that bloated bureaucracy, then you obviously increase the State Department's budget.

That's kind of the perception that they kind of thought was going on. All of that again, that's the perception, here is a case that that's not necessarily the reality. So what can we -- for me the biggest issue is making sure the communication works together. Education and communication, that's just kind of the key. So I don't need a new organization, I just need to -- really in order to fix this, what I perceive to be an issue, is how do we better work these two organizations together.

So with regard with to the Department of State, we talk about training. Now I think about, through my career, since I have been commissioned, so not counting the time I spent at the Naval Academy, I was adding it up earlier. I spent 39 months of

my career in training or education. A counterpart that I would have at the State Department, excluding perhaps our Defense Language Institute, probably has received none. Although often time training is available, there's a big difference available and required, you know, in order to move on with your career.

So, certainly I would say, and obviously there's impacts with regard to who would become ambassadors, but think about political appointees as well, who haven't even had the OJT, you know, that their peers, that the Foreign Service Officers get. So I would say there needs to be some level of training.

And actually the State Department has brought this up before. When Colin Powell was secretary of state, he implored, and was able to get basically 1,000 additional people in the State Department with the view of, that those people would go in so we could build some time, some time into their careers, so that they can go in and get some more training and education. Well what happened was, those 1,000 people just came in to fill positions that weren't being filled. And, you know, he left, and that program went away, and so, again, that level of training is not occurring there.

Now as I was talking to various COCOMs and various folks at the State Department I did feel one example, that I really, really liked, I call it almost a shining light. And it is unique in AFRICOM, and in AFRICOM they have what's called a Regional Security Office there, and that Regional Security Office actually is a component of the State Department, it was actually collocated on the COCOM staff at AFRICOM, and that person works for the State Department, advices the COCOM, and what's great about it is because if you look at AFRICOM, it's probably arguably the least -- or one of the least resourced of all of combatant commands.

Well, they are forced to make their decisions, in order to come to their solutions through an interagency process. They are forced to all those elements of government power, so when General Rodriguez is determining his courses of action for the way ahead, he is there with the State Department, and they are coming up with a

plan together using both those elements of power, and it seems to work effectively.

The other issue is POLADs, every COCOM has a political advisor. However, those POLADs are not answerable at all to the -- back to the State Department. I would suggest that now that they be dual-hatted so work that falls back to the State Department, and of course with that combatant command. And finally, there was a proposal a couple years ago to put basically the Assistant Secretary for Regional Affairs and collocate them with the Combatants Commands.

I was kind of laughed at, because obviously this is the center of power, this is the center of policy in D.C., but I would say, so don't send the deputy or the assistant secretaries. However, I would say, the position of deputy assistant secretary, collocate them with the combatant commander, again, to work to make sure they bring together all elements of government power. And if you do that, the one thing I find through all this research, I found, through a crew in the military, you know, war is easy, peace is hard. And hopefully by implementing this, implementing these measures, we help to win the peace again. Thank you.

MS. DAVIDSON: All right. Greg?

MAJ. CAMERON: Thank you. Thanks to Brookings. Thanks to Colonel Kieffer for opening this up to the other Air Force fellows and giving us the opportunity to come and stretch out topic out, like a new rubber band, if you will. The research is still ongoing. I'll just preface this, these are my viewpoints, not those of the Air Force or the National Nuclear Security Administration.

I also want to talk about inter-departmental relationships as it relates to nuclear weapons. The DOD's had to share the is responsibility with another department or agency since 1946, the Atomic Energy Commission -- the Atomic Energy Act in 1946 created the Atomic Energy Commission to put them control of the national laboratories under the AEC, which were created during the Manhattan Project, which is now under the control of the National Nuclear Security Administration under the Department of Energy.

Since then the DODs had to share the design, the production and the sustainment of nuclear weapons in this realm. And this relationship has not always been easy, for example, the tension of always never has always present. Meaning, that we want nuclear weapons to perform always when called upon but never when in the hands of an unauthorized user or subject to an abnormal environment.

These weapons are very complex, there's multiple parts, there's the warhead itself, a delivery platform, diffusing, the firing and then all these things need to be integrated. DOD does integration all the time, but what makes this relationship different? That's what I'm going to talk about.

There are two, really, different paradigms between the way the Department of Defense does their work, and the Department of Energy does their work. These dynamics cause some tension, and the tension exist today, especially in a tight, fiscal environment, and in a political environment where nuclear weapons are a very sensitive topic to talk about.

In the keeping of nuclear weapons you always hear, safe, secure, reliable, sometimes effective is thrown in there. I would say that DOD is primarily focused on the effective and reliable portion, while DOE is focused more on the safe and secure aspects of that. This is clear -- if you look at the National Security Presidential Directive, 28, which is a combination of three previous presidential directives going back to President Ford and President Reagan, there is a portion there that identifies a requirement to the National Nuclear Security Administration where previous agencies play that role, to identify and employee new weapons security features.

And I think I'm going to say, sees this requirements as kind of an independent external requirement without having to really get permission from DOD to implement these new security features. And just in Saturday's local paper in New Mexico, there was a former Los Alamos National Laboratory employee who wrote a commentary saying that the mission of Los Alamos always was, and should continue to

be nuclear security and nonproliferation. No mention of weapons there.

And this is one of the design laboratories for nuclear weapons. Another difference is that NSA is largely made of scientists and engineers at the PhD level. So you are dealing with people who are very technical, who are very comfortable in working and down into the weeds in technical levels, and then often have difficulty coming back up to explain the work that they are doing at the deep science level, why it's relevant to the weapons programs.

This is frustrating for the Department of Defense especially when large sums of money are being spent on projects that don't have a large significant -- a significant portion of the activity to be associated back to weapons activity, and there's multiple examples of that.

And don't get me wrong, science is very important, in fact, the whole weapons complex in the sustainment of our weapons relies on science, for the performance and aging and our life extension programs. But I just think, NNSA needs to do a better job at communicating the importance of science in the work that they are doing.

One of the missions given NNSA, in the NNSA Act created in 2000, is to support the nation in science and technology, again, no reference to nuclear weapons there, and I think NNSA sees this mission as another external requirement for them to give them kind of free range to conduct science activities. The contract models that are used by NNSA are significantly different than what DOD uses.

The laboratories are operated under a management and operating contracts. These are FFRDCs, Federally Funded Research and Development Centers that have a special relationship with the Department of Energy, the Laboratory directors have a significant amount of power in the annual assessment process, and that they are able to provide comments in the annual assessment, that make it up to the president unedited.

So the relationship between the laboratories and NNSA is strained at times, and really, who is running the show there? All these contracts are done under the GOCO government operated contract, government-owned contract to operate scenario. And generally, the folks at the laboratory are not concerned about profits, as much as they are on the DOD contract side.

DOD contracts are very specific in scope, they are rigid. The relationship is clear and those contracts, is we are out to make money in the end. One of the biggest areas that differs between DOD, and Department of Energy and NNSA, is the appropriations, and this is something that I think could be really addressed, but it's going to take a lot of fire power, because it's up at Congress -- the congressional level.

Both departments have the same authorizers, however, the appropriators are different. So you have the energy and water development sub-committees on the appropriations side who direct the money for NNSA. In 2010 there was a memorandum of agreement that was signed between the two department secretaries to transfer budget authority to the Department of Energy to help with nuclear infrastructure improvement that was based out of the 2010 NPR.

Three years later the authorized from the Senate, so I came back and said, NNSA, you need to tell us where that money went, that we asked to transfer. And NNSA never provided a response because it's really at the appropriations level where this happened -- this occurred, among other things. NNSA traditionally had a hard time tracking money on specific programs, B61 for example, and the governance study that just came out at the end of the year, there is a chart in there, that come with details where the money comes from for the B61 program.

And it's all over the place, and that’s because there's multiple subsets in each nuclear weapon that are common, and money is fed to those sub-programs, and it's really kind of hard to track, how much money is for B61 or some other program, as an example.

The acquisition process is another topic where it's completely different. DOD is the 5000 series, and training, as the captain just mentioned on the Department of State side, versus DOD. Acquisition professionals within the Department of Defense are trained from a very young age, brought up through very big program offices and they understand and learn acquisitions as they go, where it's much different with the Department of Energy, 6.x process, very little training. And again, you are dealing with professionals that are scientists and engineers that don't have a lot of acquisition background.

So these two different paradigms make it very complicated and complex, and really, I just would like to raise awareness through my research to both sides, to better understand that you are not dealing with the same set of rules and regulations on both sides, and I think that a lot of the confusion comes from DOD projecting their paradigm onto the Department of Energy, and saying, you guys are really confused and don't know what you are doing, and vice versa.

DOD also needs to think longer term in terms of science. Science is really important, and not just think about getting the weapons out the door to meet their numbers. DOD, in my opinion, also needs to address and fix some of the problems that had been identified. Like, poor cost estimating, poor communication and poor program management that had been identified for the past 10 years, and numerous reports from different agencies, GAO, and National Academy of Sciences, and independent advisory panels.

I think, ultimately, these two agencies need to look at each other as partners and not adversaries. And I'll turn it back over. Thanks.

MS. DAVIDSON: Alright, and on time. Jason?

CMDR. TAMA: Thank you, Janine. Thanks to my fellow panelists, thanks to Brookings for hosting. I can't tell you how awesome it is to be the last panelist, on a full-day event on St. Patrick's Day, but you guys have hung in there, so we

appreciate it.

It's also an honor to be the Coast Guard rep here today on a panel with the Navy and the Air Force. We all know the Coast Guard is the hard nucleus about which the Navy forms in times of war. And I also have a special relationship with Air Force, I did a semester at the Air Force Academy on exchange, and everybody in DOD, especially the Air Force, and the Army, in particular, don't know really what to make of those Coast Guard guys.

And I saw this play out when I was at the Air Force Academy, because they didn't know what -- to deal with us. We were a much smaller service, and we play division three football. There is no football game, right, against the Coast Guard Academy, so they would just haze us when we played the Navy, because it was like, okay, you guys were close enough. So thanks for that, Colonel Hinote, and your colleagues.

What I wanted to do was talk a little bit about the military industrial complex, and I think it's a niece fit, because it links -- I was taking notes earlier and kind of adjusting my talk based on some of the themes we heard. Because you would think it's a nice sort of fit for a lot of the stuff we talked about in terms of the third offset technology overmatch.

I came to this idea, because my last assignment was in San Francisco for the Coast Guard, and I had the chance to work with a lot of technology companies, emerging tech companies that wanted into the Maritime space, and I saw their frustration time and time and again in coming and trying to work with us. Previously before that I was at a civilian institution, and I went to school with a lot of these guys pursuing an advanced degree.

So I got sort of a better appreciation, culturally, kind of what drives these folks in some of the emerging technology sectors. And I thought, how could I kind of take what I learned from that world, and bridge the gap between my other world in the staffing

element, my staff jobs in the Coast Guard have primarily been on this sort of budget resources acquisition side, how can I bridge that gap, and that's what's, kind of, led me to this project.

And I'll try to keep interesting, because if you say acquisition reform there will be more eyes that close than are already closed now, so I'm going to frame this in a fresh perspective. I mean, we have to remember that the digital revolution is not over. In fact, if you look at the Information Age, you could almost argue we are still in the infancy of the Information Age.

With technologies like 3D printing, artificial intelligence, advanced robotics, predictive analytics, all these things really on the horizon and about to land in a sort of game-changing ways of practical application. And these technologies are disrupting industries all over the world in all kinds of different markets. But there is one industry that's proven itself immune to disruption for quite some time, and that's the current sort of military industrial complex in the United States.

Despite all that's gone on, this industry is immune to disruption and is generally dominated by the same players that have dominated the space for the past several decades. And when you look at the -- I want to talk about that a little bit more -- what that manifests itself to be is significant barriers to entry for new players. I mean huge. And you cannot -- I cannot overstate how formidable those barriers to entry are. And I'll tell you a little bit more about that.

But before I get there, I want to talk a little bit more about the state of the military industrial complex. Tell you about the state -- my view of the state of tech sector based on my research. The difference there, why that difference matters and what it means to our collective national security?

So first back to the military industrial complex. We have a highly, highly consolidated industry with very little commercial diversification. In the post-World War II era we had major industrial conglomerates that both commercial lines of business and

military lines of business. Now we are down to the big six primes doing basically nothing but military business.

We are almost back to one individual I interviewed, a very senior former CEO of a major defense company said, hey, we are back to an arsenal state, a post-Civil War arsenal state, the only difference is we've outsourced the arsenal to these small numbers of players.

These companies aren't growing, they have limited growth prospects presently, if you look at what they are doing with their cash, they are all engaged in stock buybacks trying to support their share prices. They are not investing in game-changing R&D, in fact, their R&D levels are significantly lower than what we see in other advanced industries.

What's the state of sort of government contracting in general? And I'll pick on kind of DOD, DHS, because that's my world, but you could say the same thing about the entire government. We have exceptionally long development cycles, exceptional long sales cycles, very difficult to break into, history of cost and schedule overruns, I was going to name examples but you can all think of them.

And the situation where capabilities are sometimes delivered. Sometimes they are delivered on time, sometimes they are delivered with schedule and cost overruns. Sometimes capabilities are not met, or the worst-case, sometimes capabilities are delivered with cost and schedule overruns, or on time, and as soon as the capability is finally delivered to the field, it's already been eclipsed by some emerging commercial technology.

I think there's a mentality inside government, in some circles that the meal is so good once you break into the government services business, that you will keep coming back for more. And I think I've heard this from a number of my interviews, and we'll talk about, but it creates and environment where there is very little incentive to change and update the process, and very little incentive to attract new entrants.

And I think there is powerful belief outside the circle of existing government contractors, that the first that get these contracts are good, they are good at getting contracts, they are not necessarily good at executing them, and delivering the best value on the taxpayer dollar, and delivering the best technology to those who are out in the field.

So what's the state of tech sector? Now, I'm not going to say that Silicon Valley is perfect because it's not, but I'll say we have an emerging tech sector in the United States that is, unquestionably, the envy of the world. For every country that wants to move up the advanced industrial ladder is coming to the United States and saying, how can we replicate Silicon Valley? And I only use the term Silicon Valley, but we could talk about Boulder, Colorado, and we could take the Tech Triangle, Raleigh–Durham, North Carolina. We could talk about Cambridge, Massachusetts, I mean there's tech ecosystems all over, I'll just the term Silicon Valley because that's where I focused my research.

It's a culture of speed, it's a culture of disruptive innovation, it's an industry that's flush with cash. Apple has got $180 billion on hand. Google has got about $60 billion of cash on hand. Either one of those companies could buy anyone of the major defense primes or their outstanding shares, with that kind of money.

It's an industry that's bent on solving the world's problem, and it's an industry that embraces trying lots of things, and isn't afraid of failure. Right, fail fast, fail definitely, move on to the next thing. Wouldn't it be nice if we had something similar in government where some of these horrendous projects that we've all hear about failed earlier in the development cycle, and we are able to say, cut, let's cut our losses and move onto the next, this didn't work.

So why does this matter? Let's see. We live in a world that's dominated by platforms right now, ships, aircrafts submarines, and eventually perhaps, we'll see a world -- and I think some speakers alluded to this, where it's no longer about platform, it's

about the payload. Of course we have the best platforms in the world, but we have to have the best payloads in the world. Whether we are talking about the sensors, the weapons systems, the underlying software and hardware.

There is also -- and I don't just want to talk about a frontline assets, you've got to remember the tail. For every Healthcare.Gov that's out there, the military members in the room can tell you about 10 other Healthcare.Govs within their organizations that nobody ever sees, because they are never exposed in the public eye. I see some people nodding their heads. Sorry.

So there is a technology inversion right now. Government is no longer own the frontier of technology, this is being driven by globalization, it's being driven by the complexity of the technology, and sort of our inability to get the greatest tech from our suppliers.

So I've got to move on. But I first want to talk about, you know, when the government talks about attracting non-traditional entrants, they talked, I think there's a fallacy of this term non-traditional, and I just want to pull this out. Sometimes people's dictionaries are still valuable. So I looked up Merriam-Webster's definition of non-traditional. And it says, "Not bound by traditional ways or beliefs. Example, a non-traditional couple were planning a very unconventional wedding."

Not exactly, you know, the most sort of positive light to paint this term non-traditional, and also think about this, if you look at procurement across the fence in the IC, you know, anywhere from like $200 to $300 billion per year, right. Put that in the context of a $17 trillion GDP, so we are basically the whole rest of the economy non-traditional if you are not in this sort of unique space.

So if you look at antonyms on non-traditional, conservative, conventional, high bound, non-progressive, old-fashioned, orthodox, dodgy, traditional. Not the best sort of terminology or dichotomy to frame this sort of traditional suppliers versus non-traditional. So in my view, you know, we have to attract the new entrants.

We don't have a choice, because if the technology gets ahead of us, it gets commercialized by the new tech industries, sold to global markets, sold to any actor. And any actor can have it before we can have it, the U.S. no longer has an edge, we can't sustain overmatch, we can't execute on the third offset. And there will be significant cost imposed on the United States, and we have no choice but to change.

So my research focused on what -- a lot of talk on acquisition reform from inside the beltway, my focus was, how do those outside the beltway think of this? What does tech and Silicon Valley think of this? So I spent the last few months interviewing tech CEOs, and venture capital guys to get their perspective on this issue, because I think it hasn't been captured. And I think they don't care. It's not on their radar.

I don't mean they don't care because they are not patriotic and they don't want to solve problems, it's a whole other world that has no interest to them. That's how formidable they view the barriers, and how they view the probability of success. So here's a huge hurdle to get over this, and I can talk about some of the specifics, you know, barriers to entry, our culture, process, people, there are market-driven barriers, and huge barriers to entry.

So if I can leave you with one thought, I would say that the barriers to entry are larger than anybody thinks. We need to change these discourse from sort of an acquisition reform discussion, to how do we win the fight by out-innovating the enemy? Because acquisition reform means nothing. We are sort of immune to those conversations in the United States, and I think there's a number of solutions that potentially came up and I'm happy to discuss those in the Q&A.

And there's no silver bullet here. We are worse off than we think we are, but I think in my view, the good news is the opportunities are tremendous, and if we get it right, there's no greater source of innovation and technology than what we have right here at home. And if we get it right, we can have the third offset, the fourth, the fifth, the

sixth. Thank you very much.

MS. DAVIDSON: So, if I had to pick a theme for these projects, papers, it's barriers, that are either cultural, structural or policy-oriented, and it's very hard to determine where you can pull out the things that will make it move to the next level. I'm reminded, I was on the transition team for the Pentagon in 2009, and so all these Obama people came in, and they had been screaming fast pace, during the campaign, and they came into the Pentagon and they flipped open their laptops, and are like, all right what's the wireless code.

And we were like, do you know where you are? But I mean, I've always remembered that moment, because it was like, they were going to leave their iPhones and everything else in their cars, and so that's where all the innovation was going to stay. It's kind of what you are talking about. It's sort of, it's just a symbol, you know. We have our own -- there are reasons why we have barriers, right? And so whenever you want to come up with solutions to the problems that you three have identified, you have to ask yourself what problems you are going to create in so doing?

And so it's kind of like writing a computer program, every time you try to adjust policy. You are going to have bugs in the system. And what are those bugs going to be? I think on the culture side also, you know, Bob, you are talking about policy fracture side, and I actually appreciate that you are not trying to reorganize the government in order to fix it, because it's sort of like a huge mountain to climb. But I also wonder, you know, the differences between what's happening in the field, versus what's happening back in D.C., I mean the things that you are talking about need to happen in the field, yet you answer is to put people from D.C. into the field.

So I'm kind of questioning a little bit about that also, hoping to being convinced that that would actually bridge some of these gaps. And you mentioned Goldwater-Nichols, and people talked about that in the last panel, as part of the problem in a way. And the CNO not being engaged as much, or the service chiefs. Would you

change Goldwater-Nichols at all?

And for Greg, you were talking about these two organizations be partners not adversaries. They are sort of like in shotgun wedding right now, already. Would you pull them apart? Or how would you -- what are some of your solutions?

So those were some of my observations, but since we are short on time, I'm going to lay those out, and take a couple questions, and then come back up here to the panel, because I saw some hands up already. Right, here in the front. Sorry, the microphone is all the way in the back, I should have picked someone in the back.

MR. WINTERS: Steve Winters, independent researcher. I've heard some experts here from the Pentagon saying one characteristic of the Pentagon because of the size of our budgets and so forth and so on, is that it basically -- I don't want this in a critical sense, but just as a fact, it's impenetrable.

I mean, the comment is, well I've been working there 30 years, and I'm just barely getting a grasp on how things work around here. Maybe, for you three, I mean, do you see -- is that your experience really, when you really try and think about the Pentagon? And certainly it would seem to be relevant to people trying to break in by getting into the contractual defense deals with the Pentagon.

MS. DAVIDSON: We'll take two more, so we'll do a cluster, and then we'll come back here. Right in the back?

MR. EVANS: Thanks. Bob, if you could talk a little bit -- sorry? Sorry, I'm John Evans, the Army fellow here at Brookings. So, Bob if you could talk just a little bit, you know, we tend to be or own worst critics but also we tend to be our own best advocates sometimes at DOD, about the way we do things. You know, and you gave some good examples, I think, of where the friction points have been, historically between State and DOD.

And I think you kind of made some overtures towards the fact, that State could probably learn a few things from us. What in your research did you find, that we

could kind of learn from State? Things that they are doing well, that could maybe transition into culture that would help us with that signal relationship piece.

MS. DAVIDSON: We'll take one last one in the back and then we'll come back up to the panel.

MR. DENHOLM: My name is Tracey, Tracey Denholm. I'm not affiliated with anyone, I'm job hunting in D.C. I have two questions. The first one is for Commander Tama. I'm interested to know if you found these CEOs and tech guys, if they saw it as a barrier because it was difficult to crack into, or if these global issues, they are just interested in solving for everyone, not just for the United States? That they have no particular national affiliation.

The second is for Captain Hein, you said -- you mentioned that AFRICOM is like the most efficient, considering the smallest budget and they have the best interagency interactions. Does that not answer the question of maybe just letting DOD budget kind of decrease so it becomes more efficient, it's forced to become more efficient? And maybe I'm going to give a positive plug for State, maybe give State some more money?

MS. DAVIDSON: There is an idea. All right, back to the panel, we'll start with you, Bob.

CAPT. HEIN: Okay. John, let me address yours first, is it's actually kind playing off that question because the one thing that State Department does very well is understanding how to work with all elements of government power. To bring in commerce and agriculture and the treasury, and that, you know, unfortunately we in DOD, very much have a view that this is our problem, and it is ours to fix, and we will fix it; because, you know, too many times it's when we get into a position relying on somebody else to come in. You know, we fell into this, and we face four operations in Iraq and Afghanistan.

For instance, I remember, Secretary Rumsfeld, you know, trying to bring

the State Department on board. We fell into this, and when we face phase four operations in Iraq and Afghanistan, for instance, I remember Secretary Rumsfeld, you know, trying to bring State Department on board, in order to get involved in those phase four posts -- you know, military operations, and he didn't want anything to do with it.

So, it kind of taught us, that we are in it by ourselves, but I think from the State Department, they really need to leverage those other types of power. There's a difference, going back to you question about budget, there's a difference between COCOM budget and a military budget. And certainly, if you think about what is the purpose of the military, fundamentally, it is to fight and win this nation's wars, and we need to be prepared to do that.

Now AFRICOM uses other -- again, other sources of power within the intergovernmental, interagency process for those peacetime phases of your operations. In other words, does AFRICOM -- do we need a huge budget to fight Ebola? Absolutely not. However, do we need a huge defense budget in order to fight a potential global power war against your competitor? Absolutely.

And there is nothing in the interagency that's going to help us do that, because you know, fundamentally that is the one task that we in DOD do, and we'll do alone and do it well, is fight and win the nation's wars. So by paring down services, then we create, basically a vulnerability to ourselves, whereas, but I think what I'd like to do though, as far as policy development, as far as -- and bring these two questions together again, it's having DOD work through the interagency process more, you know, going -- instead of the -- You know, when the only tool in your toolkit is a hammer, everything looks like a nail. And so it's to show there's other things we can use. The other tools we can use.

MS. DAVIDSON: The process?

CAPT. HEIN: Well, there's that.

MAJ. CAMERON: I guess the only question that was specific was the

one that you asked Dr. Davidson, and potentially the one about budgets which I'll address first. And I think with regard to nuclear weapons you'd have to be -- there's not really room to bring in people from the outside in my opinion, it's just a very, very niche business. A lot of clearances involved, and it's largely been controlled by the laboratories for the longest time, so I don't really see industry coming into working nuclear weapons any time soon.

And then your question was, what would I do to fix that thing. One thing that you can do easily is there's already a military contingent within NNSA, and there's a one-star Air Force general who has been there, not the same guy, but it rotates every couple years. I think they can make better use of those positions. There's also Navy and Army and Air Force folks working. And it's largely acquisition work, but a lot of those people that come on regular assignments are not acquisition professionals.

The one-star had not been an acquisition officer and doesn't even know that the DOD side, yet comes in and tries to understand both. So there is opportunity there for the Air Force to better place that individual to come in with some resident knowledge on Air Force acquisition -- or DOD acquisition, and then be a better liaison between the two.

CMDR. TAMA: I'll address the sort of Pentagon comment first, and of course Coast Guard is in DHS and I've spent very little time in the Pentagon, but I've talked to a lot of people there, over the course of my research, including some very senior people. And I think there's a couple things. This issue has more energy than I think it's ever had. From very senior levels, from Secretary Carter on down, and that's -- you know, and there's so much visibility on kind of DOD is doing that others follow, because it's just such a powerful ship.

So there's tremendous energy and senior levels that recognize the problem, but it's a huge organization to move. A metaphor, you put the rudder over hard, it takes a really long time to turn. And I think there's a lot of frustration even at very

senior levels at how difficult that is, and frankly the public has become immune to some of the bad news stories coming out. We in the services have become immune by sort of accepting that we just aren't going to always get the latest and greatest stuff, and it's very hard to solve big political problems in Washington right now.

I, for one, think this should be like a bipartisan issue that a lot of people can support, but some things, you know, Better Buying Power, one, two, three, which are great initiatives being pushed forward, but the change agents are the program executive officers which are like the leaders of acquisition programs, and these are the individuals that got where they are by following a strict rules-based system.

Not exactly, you know, innovative change agents, so it should make a broad statement. And I think human capital is the biggest problem, and I'm going to say something that may be offensive to people, and I apologize, we try not to do that here at Brookings, but somebody said earlier, you know, I think it was General Goldfein said, I mean, "the future is our young people, and I'm optimistic."

Well I'm not, because there aren't any young people in government. The average age in the federal Civil Service right now is 47, 47. There's less than 6 percent; less than 6 percent of the Federal workforce is under the age of 30. Can you guys imagine that? How hard it is to break in because of hiring preferences and so forth.

So one of the huge things that came up in my interviews with some of these tech folks, I had all these promising meetings, and then I'd get to Washington, and I -- I'm just quoting, I'm just quoting; "I'd sit across the table from some gray-haired bureaucrat," no offense, I wish I had gray hair, I'm just losing my hair, "But who had no idea what I was trying to do, couldn't appreciate the technology, dah-dah-dah."

So the human capital is massive on this. And I think to the question back here, and I didn't have the time to hit all the stuff, I'm not suggesting the prime defense contractors, are bad, they are doing great stuff within the space, and trying to make their businesses work, and they have history of delivering awesome technology for certain

things.

But from the tech guys, and this is a critical point, I ran out of time, and it didn't make it, so thanks for asking the question. There is no -- this gets beat around a lot, based on my research a lot of people say, "oh, they just don't want to work with the Pentagon or NSA, because there's some moral issue or they are not patriotic, they'd rather sell to China."

Okay. There's market dynamics in that, you know, China is just a much -- the Chinese middle class, as we heard today is just a much bigger market than our market, so sure, there's market dynamics, but these are patriots, they love their country, they'd love to put their technology to use to solve big problems. These people view themselves as disrupters and problems solvers, and what bigger sink of problems, right, than the United States Government?

And I mean that seriously. I mean, we hold so much data and information on tough problems to be solved, and I think the issue is the transparency there, the connectivity, and breaking down some of these barriers, they just view it as so hard to get through.

There are two camps, there is older entrepreneurs that have tried and failed, and vowed to never do it again. Then there's younger folks that are like, "oh, I have this really cool technology, and I met with this guy at the Department of Homeland Security, but what happened is, it was just one meeting, one meeting, always another that never go anywhere." These young people that really want to do this.

MS. DAVIDSON: I had a similar experience in my engagement with the Council out in Silicon Valley. A lot of those folks are really concerned about cyber issues, and really want to, you know, how do we engage? How do we partner? There's just no -- there's just no easy way to make it happen. It's just a similar situation on the acquisition side, I think, yeah.

Okay. Other questions, here. Right, here in the front? Please stand up

and wait for mic and speak loud, and who are you?

MS. OPRIHORY: My name is Jennifer-Leigh Oprihory. I'm a digital fellow with the Medill National Security Journalism Initiative. And just so you have an idea of where the question is going. I spent six months researching civ-mil humanitarian affairs, with a special focus on Haiti, as well as the Philippines, and a little bit forces up in Iraq and Afghanistan.

So my question is in terms of the constant reminders that we have of sequestration, in just general budget cuts, really constraining the ability of the DOD to keep preparedness up, and what not. Do you think that the State Department should take on a bigger part of the burden of doing the emergency humanitarian responses? Do you think it's -- Even, I guess the gist of it is, just because the DOD has the capability, do you feel that it should be its job?

MS. DAVIDSON: Let's take a couple more questions, and then we are going to have wrap up. I'm waiting for the mic, the hook. Right here in the front? Yeah, right here.

MR. SKODON: My name is Emil Skodon, I'm a retired Foreign Service officer, and I also have a question about State-DOD cooperation. If you could drill down a little bit on cooperation within the beltway in Washington. I served as both an ambassador and a POLAD at different times, and it was always my experience that cooperation in the field was pretty good between military and civilian.

People worked out shared goals. They communicated, there was a unity of effort. You get back to Washington and the same people, it just fell apart. People stayed within their own buildings. Worked out hard positions and only got together to argue about it.

My question is, do you think personnel policy can affect that through more cross-postings? Placing people at all sorts of levels, from State, in DOD, and vice versa. I know it's been tried, one of the State Department officers in OSD, and vice

versa, particularly in the Pol-Mil Bureau from DOD, but people don't necessarily view those as career of death, but maybe career of coma. Is there any way to get past that in your estimation?

MS. DAVIDSON: More, anybody else?

MS. SEAVER: Hi. I'm Brenda Seaver from Wilson Center. And my question is for the commander. In your interviews out in Silicon Valley and more broadly, when folks were talking about barriers to entry in the USG, I'm curious about what they said about the IC, in particular. Particularly in the post-Snowden era, you started making references to moral issues.

Do they have concerns along the lines of -- you know, like the telecom companies, or anything else? Or, are they, like you said, patriotic and creative and thinking of ways they could help the IC? Whether it's cyber related? Whether it's something big data related, whatever? Thank you.

MS. DAVIDSON: I'm going to go ahead and take one more in the back, because he's so passionate back there. And then we'll -- I think -- Brandon, how are we on time?

MR. BRIGGS: Thanks. Zach Briggs, with *Jane's*. I wanted to ask the commander as well. When you are looking at that innovation, obviously there are enormous barriers to entry, you mentioned some of the apathy when it comes to acquisition reform because of how difficult it is. Given that the big defense primes have been cutting their R&D spending. Given that the Pentagon has been trying to incentivize increased interest in innovation, and it simply hasn't taken.

Is there something from the tech sector that you've seen from your interviews, et cetera, that might be applied to those defense primes to try to encourage the innovation, given that they do a very good job of, let's say, elbowing out of the potential competitors for some of those dollars?

MS. DAVIDSON: Hey, this is your final comment to say -- opportunity to

say something brilliant. No pressure. We'll start with you, Tama.

CMDR. TAMA: Okay. So just to clarify. You are asking if we can't bring in new entrants, can we sort of change the primes? Okay.

MS. DAVIDSON: Is that a structure?

CMDR. TAMA: Yeah. Okay. So, first on the IC question, and I'm so glad you asked because it's a critical question, and it was a very specific question I asked, right, because there was part of this narrative, and again, I'm sorry I didn't have more time to talk about this, but when I finish my paper hopefully you can read it.

It's a narrative, well, after Snowden, nobody wants to work with us, and that's the cost. Okay. I think there's a limited amount of truth to that. To say that there is a prevailing view in Silicon Valley about Snowden, there is none. They are all over map, the broad community. But it resonates with more, okay, I asked people is there moral issues with it working with IC, with the Pentagon, and nine times out of 10, no, absolutely not. I'm willing to work with anybody.

There's a few exceptions. If you are in big data space, if you deal with millions of people's data, don't want to touch it, because of the threat to your commercial markets. In fact, some people would say they would get questions from potential customers, do you do any work with FBI, with dah-dah-dah? I mean it's a real and tangible issue, and look no further than Google. Google won't talk about this, you know, on the record, but the reality is they are wounded, the relationship is hurt, and there is a huge uphill battle, and I think with some companies that are in the data space, that same issue applies.

Other than that sector, didn't see that, at all, and I think the point on that, is that Snowden cuts both ways, so for a lot of cyber companies, it cut both ways in that, okay, there were concerns about what they were doing, but it also, perhaps move the needle on their business in a positive way because people would say, "I don't want to be hacked by China. I don't want to get hacked by the activist, I don't want to get hacked by

the NSA either, can you tighten us up." So it cuts both ways.

And I think on the -- this is a fundamental question too, right, because there is a crisis brewing and do we -- you know, we either attract the new entrants through some type of reform, or the primes get to a position where they are delivering -- they are getting faster and delivering better technology.

And it all comes back to, like who is blame, right? And it's easy to say the primes are slow, but you have to look at budget cycles, you have to look at years and years of acquisition regs that have been written in blood, and sort of lost money and lost political capital because people have gotten burned, that had taken us so far, that we no longer sort of -- you know, where compliance -- We talk about terms of accountability and compliance, and but it's actually delivering the best technology.

To answer your question, I think there's a few organizations that are trying to come up with creative incentives to get more innovation out of the primes, but the business model is really tough. Right now to innovate, they do a merger by a small company. Assimilate the technology and deploy it eventually, but there's a huge time cycle there that's really challenging. Thank you.

MAJ. CAMERON: Then I'll be real quick, since there were no specific questions. I guess the big "so-what?" Really, whether you like it or not, nuclear weapons are fundamental to our national security. There is a lot of history there, and as Colonel Schreiner said earlier in his presentation, the environment has been very stable over the last 60 years.

And we need to keep it that way, and if we don't get this right, organizationally, we could mess things up by having money taken from us, having programs fail, which could affect, it could affect Triad, it could affect how we deploy, it could affect a lot of things, which could, in essence destabilize the current environment that we have that's going to cause huge problems in the near future.

So just want to be an advocate of nuclear weapons and I wouldn't be

afraid to talk about. I like, again, Colonel Schreiner's questions to his new pilots: Is your attitude positive towards nuclear weapons? And I would encourage you that don't talk about it much, find someone in the nuclear enterprise to start a conversation, and get to learn more about it. Thanks.

CAPT. HEIN: Certainly Carl von Clausewitz would agree with you that the State Department should take a greater role for humanitarian assistance. However, there aren't resources to do that. You know, they don't have the ships, the helicopters, all those things. Oh, by the way, DOD actually gets reimbursed for the usage during those humanitarian crises.

Certainly the readiness issue, the readiness impacts it had is a real issue. That's something we are going to have to deal with, and what the -- the readiness issues are more than just dealing with those humanitarian crisis. Actually, you know, we like those. Not that we like the disaster, but we like the opportunity to help people.

That's why, you know, for a long time the Navy's motto was -- or slogan was the "Global Force for Good," because at the time that really resonated with the millennials, they wanted to be part of something bigger than they are, and I think that it's now part of our heritage and part of who we are. And so, although I think it's the interagencies work better together, I think better with the state, do some of the advanced planning.

I think the State Department needs, basically, to put more emphasis on advanced planning, so they don't have sort of become -- it's more a partnership than DOD rollingin, and then waiting for the State Department to kind of catch up, which is just my opinion, but I just want to see that.

So, could not agree more. Cross-posting, you know, to me it's all about that sharing of understanding of each other of what we do. The reason it works so well out in the field, because you as a member of the State Department, you were collocated, you saw what they were doing, and going through. And you understood, what the

dilemmas they had with regard to formulation of policy, and that's why I think that, certainly if you do more cross-pollinization, and there's a lot more people in uniform or with State -- than are State employees over on the DOD side, unfortunately.

But even something as simple as, you get another great thing that Colin Powell did for the State Department was establishing drafts of legislative affairs. Again, it's getting the State Department as part of those other organizations of government. That is something I think it would be beneficial to everyone, it's certainly at those senior levels it would be beneficial, because again, once you understand the other guys problems, you can have a better conversation.

MS. DAVIDSON: Well, it looks like we are out of time. I would like to say thank you, one last time, to our panelists. And if we can give them a round of applause. Thank you. (Applause) Thank you also for sticking it out to the last panel, I think we have Brendan.

MR. ORINO: Hi, everyone. My name is Brendan Orino, I manage the Federal Executive Fellowship Program here at Brookings. I just wanted to take one last chance on behalf of Brookings to say, thank you, to all of you for coming out today, and for sticking it out through the last Panel. Thank you to all of our other participants, Janine, and our other moderators. Michael O'Hanlon, General Barno, and then Jeremy Shapiro.

Our morning discussants Bruce Jones, Paul Thornhill, John Evans, General Goldfein, for keynote remarks; and most importantly to the military and intel fellows who had the courage to get up today and talk about their research. So, another hand for them please. (Applause)

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