

going to be a number of products, a DVD, a report, and several other things, on what I'm going to discuss this morning.

Now, this project began by seeking to identify what are the major threats that America will face in the 21st century, and it illustrates the particulars of how conflict and war in the 21st century will differ in some important ways from the 20th century. And today, I'll briefly touch on growth in a number of actors and players that will make for this new conflict environment.

Now, the report itself, which will be released in March, will also identify specific capabilities that the U.S. needs to develop to mitigate these threats and challenges that we'll face in the coming years. But today, my focus is really going to be, as you can see here, on the security context. And I want to concentrate in particular on weak states, armed groups, and irregular warfare.

Now, there were some in the 1990s that saw this coming and I like to use a quote here from General Chuck Krulak, who argued in 1997, that "war would not be like yesterday." And essentially what Krulak is saying in the quote that you see there is that we will not be able to fight the war or the conflicts, or fight the fights, that we would like to fight, that we're prepared to fight. But rather, increasingly we're going to have to deal with enemies who will challenge us asymmetrically, though we use irregular warfare in ways that we're least prepared to deal with.

Now, Krulak, of course, proved prescient. But I would note that in 1997, he was considered way out of step with U.S. security institutions responsible for the conduct of war, diplomacy and intelligence.

Now today, anyone that studies the security environment knows that the world has changed and that that environment is becoming more complex with unpredictable threats. In 2005, when Bob introduced the panel, he quoted Rupert Smith. Rupert Smith is an interesting guy that is part of this project, former Deputy SACEUR. He published

this book in 2005, *The Utility of Force*. And essentially what Rupert is saying in that book is that conflict and instability has changed and it's changed significantly and he says that based on his experiences. You can see the quote, "a paradigm shift in war has occurred from armies facing one another on battlefields to strategic confrontation between a range of combatants using different types of weapons, often improvised." So what Rupert likes to say is there's an old paradigm, and that's the interstate industrialized war that will be prepared to fight in the 20th century, and did fight, and the new paradigm of war amongst the people.

And as you can see, he says it can take place anywhere. And that includes, the theater for irregular warfare, includes streets, neighborhoods, villages, cities, websites, schools, churches, mosques. These settings are where governments are weak and vulnerable to the emergence of armed groups. And the final quote I have on here is from Stan McChrystal. What McChrystal is doing is simply reiterating the assessment by Rupert Smith in his report in the fall of 2009 on Afghanistan. And look at what he says, "this is a different kind of fight. Our strategy cannot be focused on destroying insurgent forces, but our objective must be the population."

Now, the conflicts that Krulak saw emerging in the '90s that Rupert Smith dealt with in Northern Ireland and in Bosnia and in Kosovo, and that General McChrystal deals with right now, they are different than intercity industrialized war. And I would add that these conflicts will be a pervasive part, not the only part, but a pervasive part of a complex 21st century security environment. And so our 21st century paradigm will not be like yesterday.

Now, the question for today that I'd like to focus on for the next few minutes, is what are these differences, new complexities and changed conditions, will characterize this 21st century environment? And this is really just an introduction to a much more detailed assessment. But I want to suggest that at minimum, 21st century security environment will be characterized by the following three characteristics. Now, there are many more, but this is kind of the beginning.

First, there'll be a proliferation in the number of weak and failing states, as well-- and those weak and failing states will be the location in which powerful armed groups will be able to emerge and develop, and affect security and stability in those states. But some of these groups will be able to affect stability and security beyond their states, in the regions surrounding them and even in strategic ways.

Now, a number of research organizations are studying states and if you examine those, their products, what you'll see is that generally they would argue that about half of the states today are in some state of weakness or failing. But mainly degrees of weakness. And by that, they mean that these are states that A, cannot control their territory. B, they don't have control over or dominance over the means of coercion and the use of force. C, they are not able to meet the core requirements that a state has to meet to be a functioning state. And finally, they are pervasive in their corruption and all of this makes for weakness.

Now, if we just think of a couple of examples, there are a lot of examples, but just a couple. And the two I picked, one is Iraq in 2003 and the other is Mexico today. Well, Iraq in 2003, of course before the U.S. intervened, was a dictatorship in which the regime was able to keep control over ethnic, sectarian and tribal differences. With the removal of that regime, the state became sort of a quintessential weak state as these organizations talk about, weak states. And this was a situation that the U.S. was not prepared to deal with and had way too few troops to deal with.

What resulted was the emergence of a significant number of armed groups, I won't go into all of them, but you had the panoply of insurgents, terrorists, militias, criminal organizations, all opposing coalition of forces. And in some cases, fighting against one another. So this was a complex environment that took the U.S. government a number of years to figure it out. They figured it out, but it took a while to do it.

Mexico today, Mexico has all of the earmarks of a weak state. Government doesn't control this territory, part of its territory is ungoverned. It does not control, or have dominance over, the use of force. And what this has generated are some very powerful armed groups that last year were able to cause nearly 6,000 deaths in Mexico. These cartels corrupt and terrorize state, municipal and rural elected officials, police chiefs and important local leaders with impunity.

Now, one could identify a number of other examples like this. But let's move to the second characteristic that I have here. This proliferation of state and non-state actors creates new interactions and interrelationships between and among local, regional and global players. Now, what this means is that the situations that I just described, the two, Iraq and Mexico, these two situations do not take place in isolation from the rest of the world. They're not local problems. The intensity and the interplay between state and non-state armed groups can affect the region and it can have even international impact.

Now, an interesting example, I have three quick examples of this, one would be the Niger delta. Now, in the Niger delta, you find, again, these characteristics of a weak state. Government does not control the area, they do not provide poor functions of the state, and so on. And in that environment, several armed groups have emerged, including a very powerful one called the Movement for the Emancipation of the Niger delta, or MEND. MEND is focused on attacking delta oil facilities and those attacks have an impact locally, they have an impact globally, because of course they negatively affect the industrialized world. And MEND, which has resources, is able to acquire capabilities essentially from black market arms dealers, to affect Nigerian oil production.

For example, in 2008, MEND acquired fast boats that allowed them to attack oil platforms 120 kilometers off the coast of Nigeria and shut down those oil facilities, which was about 10 percent of Nigerian oil for two to three months. So this is an interesting capability. And you can see, then, the relationship between what's happening locally and globally, economically, and of course this has then drawn the U.S. and U.K. into

Nigeria to provide military assistance requested by Nigeria to deal with this armed group, weak state problem.

A second example, Mexico again. Armed groups in Mexico are forming linkages and connections with other criminal entities in the meso-America region. And these interconnections allow these groups, then, to carry out their activities globally, not just in the United States, but into Europe through western Africa.

And the final example I would give of this interconnection between the local, regional and global would be al-Qaeda and its associated movements, and especially Yemen. Now, here we have the situation of Yemen, a weak state with all the things that I had mentioned. And, al-Qaeda is there, al-Qaeda is able to take advantage of that situation. And look at what they've been able to do. They've been able to, from there, reach into the United States; Fort Hood, Detroit, and in the suburbs of Alexandria, these five young men that are in Pakistan prison now.

So again, you see this interrelationship. Now, this brings me, then, to the final characteristic, or at least the beginning of the way I would describe today's security environment. These first two developments, in turn, foster the emergence of coalitions comprised of states and armed groups and other non-state actors. These pacts can range from formal to de facto coalitions, to loose affiliations. And you can find them again at the local, regional and global level. And one region that really illustrates this final point, and since I've got about a minute left here, I'll just mention it, is the Levant. In the Levant, you really can see the interplay of allied states and non-state actors, particularly in Lebanon, the Palestinian territories, and Israel, in around Syria, but also encompassing Iran. And that interplay of actors affects the stability in that region, but also goes out beyond that region to other parts of the world.

So this is just an introduction, if you will, to the security environment of the 21st century. I could say much more about the actors and these coalitions and so on, but I'm out of time. But at least this gives you an idea of the way that I, at least, and my colleagues in

through the generations. In the west, we are dealt a blow to that by the political agendas and the timings of how we do things. And we've heard today with the speed of reaction of space and cyberspace, how do we mitigate those factors?

DR. PFALTZGRAFF: Okay, who would like to go next? Over here, we have a question?

AUDIENCE: Brian Green with Systems Planning and Analysis, a question for General Kehler. General Schwartz talked about the need to make space systems more responsive, and I wondered if you could give us your current thinking on how to make those systems more responsive, and for whom you would make those more responsive?

DR. PFALTZGRAFF: Okay, thank you. One or two more, we have time? Please, over here?

AUDIENCE: Mr. Hermann, could you tell us what size warhead the commission looked at? The traditional view has been that only megaton class warheads can create the kind of EMP field that would be catastrophic for the U.S. economy. So could you look at that? And for Bob Joseph, what are the lasting contributions of the Bush Administration to counterproliferation, particularly the PSI?

DR. PFALTZGRAFF: Okay, one or two more? Who else would like to go? Is there one more question? Yes?

AUDIENCE: Ted McFarland from Booz Allen. This is for General Kehler. I'd like to hear your views on how industry can help with this-- you talked about cyber acquisition and the need for speed and how we can help close that gap.

DR. PFALTZGRAFF: Okay, well then let's take those questions. By the way, even though they're directed at a particular member of the panel, or members, others I hope

will feel free to help to respond. So let's begin, and maybe General Kehler, since you had so many questions directed to you?

GENERAL KEHLER: Yeah, I hope these are panel responses as well. It's been so long I talked, I forgot what I said.

DR. PFALTZGRAFF: The audience hasn't forgotten what you said. [laughter]

GENERAL KEHLER: Okay, let me start with cyber, General Shaud, and your question about whole of government. No question about this, this is a whole of government issue. I think you all hear that. You certainly look at that in the articles that are being written and the discussions that are being held. Here's what we have focused on to date. The Air Force has come through a very interesting set of discussions about where we wanted to go regarding cyberspace. We made some decisions, the Chief and Secretary made some decisions a year ago at Corona about assigning lead command responsibility to Air Force Space Command, standing up 24th Air Force, going to the AF ISR Agency and having them establish a group that's going to be in direct support of 24th Air Force, giving Dick Weber, the commander of 24th Air Force command authority over the entire Air Force network, et cetera.

If you listen to all of this, this is really about getting the Air Force's house in order regarding cyberspace and starting there. I think we have done that. And here's what we've recognized in the fairly brief time that we have now been consolidating these cyber activities in this command as lead command. What we understand is that there are many lanes regarding cyberspace and that we are in one of them. We recognize that we are not alone, really, even in the lane that we are in. Our Service colleagues are in there with us. We recognize that we are part of a Department of Defense activity that is still emerging and shaping. And we recognize, I believe, as I listen very carefully to the combatant commanders, both General Kevin Chilton, who you'll hear from at a later point in the conversation who has responsibility, unified command plan responsibility for these activities today. And as they are working their way through what the Secretary of

Defense has directed us to do as a department and standing up U.S. Cyber Command, we recognize that this is a much bigger issue than the Department of Defense.

And so at this point, our focus is really, sir, on making sure that we are looking at ourselves with two major pieces; actually, three. One is doing a better job in installing the wherewithal to protect ourselves and make sure that we can assure the missions. The second is to make sure that we are able to respond to what the joint war fighters are going to need in terms of Air Force participation and how we will present forces, how we will establish those command relations and all of those mechanical things that are necessary for us to take Air Force capability to the joint team.

And then finally, what we do regarding people and how we prepare ourselves to compete, if you will, for the talent. And you heard the chief mention something about that earlier today. That will be a very interesting piece of how we will go forward. And so we are looking at some alternatives, actually, to take back to the Chief and Secretary on how we will do better on that part in terms of organizing ourselves and training and preparing our people.

We do know this is a bigger picture than us, we can tell you. And Dick Weber, who was here, could tell you that our initial activities, we are in fact supporting STRATCOM today with their activities. As I say, General Chilton is responsible for these activities today within the department. And so we know from their experiences and our component experiences with them that this is clearly a whole of government activity. In some cases, my football field analogy suggests to me that we will not be the major player in cyber and that gets back to it depends on what happens on the football field. You know, if somebody comes in and spray paints something over a player's helmet, that's not an Air Force problem. It's somebody else's problem. If somebody hits somebody and there are civilians who happen to be passing by, that's not the football referee's problem. So this is going to be a very interesting set of authorities, responsibilities, and recognizing that we must be very mindful of protecting Constitutional rights.

DR. PFALTZGRAFF: Let's go across the panel and continue with Bob. Would you like to respond to some questions?

DR. JOSEPH: I wouldn't want to try to respond to any of the technical questions. My background in physics is just two courses deep, physics 101 and physics 101. [laughter] So let me just comment on PSI, on the proliferation security initiative. This was one of the principle tools, new tools, that the Bush Administration did put in place relatively early, I think it was May 2003. And it's one of a number of tools. The others were the globalization of cooperative threat reduction, Nunn-Lugar type programs through g8 funding, United Nations Security Council 1540, which this administration has also pushed forward.

The global initiative to combat nuclear terrorism, which is an initiative that President Bush and President Putin sponsored together, as they did with yet another initiative on managing the growth of nuclear energy in a way that hopefully will be more proliferation resistant. But these tools, and other tools like them, including in the defense area, such as missile defense, and new concepts for deterrence, have to be seen I think in the broader strategic context. And specifically in the three tier strategy that the Bush Administration put forward. And as far as I can tell, is still being implemented, at least in part by the Obama Administration.

PSI specifically has now grown to 95 countries. As most of you know, it's aimed at stopping the trade in proliferation. It has created, I believe, a more proactive sort of stance for the international community to deal with the disruption of the trade in proliferation. And it has had a number of key successes, many of them are classified given the nature of the work that has been done through various intelligence channels. But one that does stand out is the interdiction of the BBC China in October of 2003, which did lead to the unraveling of the A. Q. Khan network as well as to the Libyan decision to abandon its nuclear, chemical and long-range missile programs.

DR. PFALTZGRAFF: Thanks, Bob. General Kehler has a comment or two more to make on questions. So let's go back to general Kehler.

GENERAL KEHLER: I didn't want to ignore the other two questions that came my way. So before we go down the rest of the panel, the question that was asked about the Chinese and sort of how we view them; just let me offer one thought about this. Remember, those of us who have children, remember when you would take the kids to the doctor for their shots when they were little? The doctor always had a blue bear. They would hold up the blue bear like this, and the kid would look and then you'd get the shot? I'm not so sure that the direct ascent ASAT isn't the blue bear. I think we need to be mindful of what the other panelists have said here about philosophy and strategic patience and strategic intent and the other things that go with that.

And so what we need to be careful of, it doesn't matter who we're talking about here, is we need to make sure, I think, that strategically we do not find ourselves in some kind of strategy that imposes things on us, that imposes costs, that imposes those kinds of difficulties on us without being certain or at least fairly certain, that we are on the right strategic path. Which gets to my point about mission assurance here. This isn't about trying to launch the equivalent of the *U.S.S. New Jersey* to orbit, which would take a lot of lift, by the way. I'd use Dr. Joseph's two physics 101 classes and tell you that that's a lot of lift that would be required.

And the second thing, someone asked about responsiveness and how we're thinking about space and space responsiveness. I believe that a responsive space capability that as strategic command has outlined to us, has tiers associated with it-- not t-e-a-r-s, t-i-e-r-s-- tiers that would start with the things that we already have and making those more operationally responsive and goes through a series of steps that allows us to have a national strategic capability to augment or replenish or reconstitute some amount of our capability in concert with a mission assurance approach, which means that we would be looking also at air and cyber for part of that, or maybe a significant part, of that reconstitution depending on the scenario we find ourselves in.

I believe that kind of a responsive space contribution would contribute to deterrence. And that's what our objective ought to be as we go down that road. And I believe today, we have a number of elements that would need to come together to have that. We need to have responsive launch vehicles, we need to have a common command and control system so that we don't redo a command and control every time we put up a small, cheap satellite. We need to have common buses, et cetera, with standards. There are some great things going on, and I know Curt Bedke, (Major General, Commander of Air Force Research Labs) is here, the Air Force Research Lab, and elsewhere, about plug-and-play kinds of things. And then what we need are militarily useful sensors that could plug into them. So those pieces are in work at varying levels. I would tell you, I think we've got three of those four, pretty substantially in work today. We don't like what it costs, but I think in terms of a crawl/walk/run approach for national security and a strategic capability for us to contribute to deterrence, I think a responsive space capability is necessary.

DR. PFALTZGRAFF: Thank you. Bob?

DR. JOSEPH: Let me just follow up on the China ASAT. It happened, I believe it was early January of 2007, it happened on a Friday during the weekend. The State Department undertook a number of steps to coordinate the response with allies. On Monday, we called in the Chinese ambassador. I had the opportunity to do that. The Chinese ambassador sat there and responded, A, that he didn't know anything about an anti-satellite test; and B, Chinese opposed U.S. weaponization in space. Needless to say, I did have some fun in that meeting in responding.

But what we did afterwards, I think, was even more instructive. And that is we made the rounds to Congress, to argue that this is a major wakeup call and we need to change the way we approach space and particularly our vulnerabilities in space. As far as I can tell, no one's answered that wakeup call. I hope I'm wrong, but I don't believe I am.

DR. PFALTZGRAFF: Thank you. Dr. Hermann, would you like to talk about the megatonnage issue?

DR. HERMANN: Megatons, right. I can assure you that the commission spent a lot of time on that subject, and there's a couple of elements of what is technically required. And the discussion and the material and the information in those sessions were classified. And so, I can't quite, but let me say as a layman what I think I can tell you.

That both we and the Russians know how to design bombs that will create high electric fields, E&P fields with other than megatons total output. They will create the electric component. It probably takes a big bomb to create a truly disastrous magnetic E3 component.

The next question is, well, would any minor player with a handful of weapons or one or something, would they be able to have it? And then there is a contest between the intelligence community which says we see no evidence. And then there's Rumsfeld who says the absence of evidence is not the evidence of absence. And so there's a discussion as to whether somebody would have the ability to create it. But on the other hand, stealing apparently is a behavior of humans. And so stealing ones that are already developed by somebody seemed to be a possibility. So there is a question about whether or not the cheap shot by a minor player will be fulfilled by some other than a-- it won't be confined to a super power issue. And I would say I came away persuaded that I don't know what people have, but I see a plausible way for somebody to destroy my country unless we actually take modest measures to keep it from being a catastrophe.

DR. PFALTZGRAFF: Timothy Thomas?

MR. THOMAS: With regard to the question about China, I would say they already have a whole of government approach. They really do look at this whole issue holistically. There's an old saying, quantity has a quality all its own. And when you've got about 350

million Chinese who speak English, you have lots of people that they mobilize for cyberspace issues. They also have information industrial exercises over there, they have mobilization exercises quite often. So they really are practicing now in peacetime for something which doesn't sound all that good, to be quite honest with you.

Terminology seems to be to me the one bugaboo that we have in this country. We are so focused on our sound bites and we live by our sound bites and we expect others to live by our sound bites. And I think that's just one of the biggest mistakes we make. For example, take the term asymmetric warfare, I challenge anybody in this room to come up with a Chinese definition of it. They don't think like we do. Asymmetric warfare, one of the definitions I saw was the application of abnormal logic through the exercise of 12 crafty tactics. Now, that's something that we don't even come up with in this country. And if you don't understand where they're coming from, what strategy is, how they look at these terms, you really are off base from the beginning.

General Schwartz's comment this morning about we need space control, really is something that strikes at the heart of China. They look at control as more important than dominance. They would refer to something like Kosovo and say, "You had information dominance, but you still didn't have information control because the Serbs were able to influence you by some of the things they did on the ground and cause you to shoot weapons at mock-ups and those sort of things." Control is a huge issue for them and it lies at the heart of what they're doing, I think, in many different arenas.

The last thing I'd like to say is just the fact that with the football analogy, I like it. I like this whole idea of being on the playing field. The only thing I worry about is are we scouting the other team? Do we really know what the other team's doing? And if these rules and regulations are not the same, are they playing rugby when we play soccer? Or as General Kehler said, are they the ones who are going to spray paint your face because that's part of their rules and regulations? You really have to think hard about these analogies because it isn't the same team. And if we don't scout them, if we don't

know what kind of offense and defense we're playing and we know what we're doing, so what? We got to know what they're doing, too. So, thank you.

DR. PFALTZGRAFF: Dick, you have the last word?

DR. SCHULTZ: Well, I would note that the concept, whole of government, really grows out of the wars that we've actually been fighting since 2001, not ones that we might have to contemplate in the future. And that concept deals with the kind of security environment that I outlined. In Iraq, in Afghanistan and elsewhere, what we found is that we needed a different approach to conflict and security. We learned it the hard way in Iraq, but we learned it.

Now, what that means is that military forces and an array of other capabilities, or military forces doing things that other agencies of the government ought to be doing, have to come to play in order to stabilize the situation and deal with the kinds of conditions that we've been dealing with in the wars we've been fighting. How well are we doing in terms of developing this whole of government approach really is the second part of this project that I mentioned to you.

We're doing okay. To use a football analogy, since it seems prevalent here today and since I played that game for seven years, we've advanced the ball a bit, but we have a long way to go in terms of dealing with the irregular warfare. Now, remember the QDR in 2006 said this regular warfare environment was increasingly what we were going to be involved in. Secretary Gates last year said it's as important, irregular warfare, as the other kinds of warfare we may contemplate fighting in the future. But in terms of a whole of government approach, we're not there yet.

DR. PFALTZGRAFF: I would like on our collective behalf to thank this outstanding panel for its outstanding contribution in helping us to set the stage for what is to follow in this conference. I realized that we are running a few minutes behind schedule, so therefore I hope that you will make the break very brief. Certainly at the maximum, 15

minutes. We will run, of course, a little bit into the lunch hour with the next panel, which promises to be another outstanding contribution to this conference. So again, we adjourn the panel at this time and welcome the new panel in a few minutes.

END OF SESSION I