

*AIR, SPACE, AND CYBERSPACE POWER IN THE 21<sup>ST</sup> CENTURY*  
*38<sup>th</sup> IFPA-Fletcher Conference on National Security Strategy and Policy*

*January 20 – 21, 2010*

**DAY ONE**

**SESSION 1**

**8:45 A.M. TO 10:15 A.M.**

**General Robert Kehler**

**ROBERT L. PFALTZGRAFF, JR.:** Ladies and gentlemen, welcome to Session 1 of this conference. I wanted to make a few overview remarks as we begin the session, and to introduce the panel. The purpose of this session, of course, is to set forth the security setting that will confront the United States, and specifically the Air Force, in the years ahead.

Our panel this morning will help us to think creatively about this future security setting and its implications for the Air Force. First, we have General Robert Kehler, United States Air Force, who is Commander of Air Force Space Command, who will discuss the growing role of space. Here, we should keep in mind that several other states are moving forward rapidly, with their own space programs. Satellite imaging is widely available to anyone who wants access to it.

So, I turn the panel to this illustrious group of speakers. And, I ask that each speak for a maximum of 15 minutes in order to allow at least a little time for discussion from this wonderful audience. So, would you like to begin, General Kehler?

**GENERAL ROBERT KEHLER:** Well, thanks Bob, Chief, distinguished guests and panel members. It's a real pleasure for me to be here this morning with you. A little

intimidating to be on the kickoff panel, especially with a group of folks that are as distinguished as the folks here to my right. But, let me give this a shot.

I'm proud to represent about 47,000 of us who are responsible for organizing, training and equipping the Air Force's contributions to space and cyberspace. We have grown over the last year or so, mostly in the reserve components as we have brought cyber-related activities into Air Force Space Command and Transition, the country's land-based strategic deterrent force, the Minuteman ICBMs over to Air Force Global Strike Command.

It's been a net increase, actually, in the size of the command, largely in the reserve component. I'll say a little bit more about that here in a moment. But, our responsibility is to deliver space and cyberspace capabilities to the joint team and to the nation. In some cases, we deliver those capabilities to the world. And, of course, we heard the Chief talk quite a bit about GPS. And, that has become a world standard, almost a world utility, if you will.

We're certainly proud to be associated with that system and the success that it has generated. But, as the Chief rightly pointed out, GPS is in so many places today, we don't know where it is, in terms of its use. And so, clearly, there are vulnerabilities there that we're going to have to address.

We have a responsibility for two of the three Air Force operational domains. We're very mindful that every single thing we do begins and ends in joint operations. I will tell you that I think Dorothy had it right in *The Wizard of Oz*, when she said, "We're not in Kansas anymore." And, as we look around at this changing global security environment, I think it almost goes without saying that "we're not in Kansas anymore."

Not so long ago, Joint Forces Command put out a very good document entitled "The Joint Operating Environment" that outlines, I think, a lot of the things that Dr. Pfaltzgraff mentioned and certainly in the materials that were put out in advance of this conference.

I'm not going to go back through all of that. But, let me tell you how this looks from Colorado Springs.

What we see in Colorado Springs is some fundamental differences in the nature of warfare, in terms of time. Maybe a better word there is "pace." Everything is happening faster. Influence is exerted faster. Things become known faster. Technologies are advancing faster. Threats emerge faster. And so, not only is this an issue about pace, but the ability to influence events, especially when we're talking about space and cyberspace, I think, has changed our concept of time.

And, if you think about what has happened over the last century with air power, changing our conception of things like time and distance, I believe that the advent of the military use of real time space power has changed our views of time and distance once again. And, I think cyberspace will do the same thing again.

The same issue applies to distance. Distances have changed to the extent that I'm not sure they're relevant anymore. And, we're thinking, very carefully, about what this difference in time and distance means for us operationally, because it has huge implications. If you think about a Joint Force or a Coalition Force Air Component Commander, who sits there today and says, "I have to create effects on behalf of my Joint Force Commander. How do I do that? What tools do I have available to do that?"

And, using the air power that's available, we're talking about minutes to hours, depending on where that air power happens to be located at the time. Through space, I would argue we're talking seconds to minutes. Cyberspace, we're talking about milliseconds. And oh, by the way, you can span global distances in those milliseconds so that time and distance has become a very different set of dynamics, I think, for operations.

Similarly, boundaries have changed. Our whole notion of boundaries has changed. I am convinced that today, maybe our concept of boundaries, especially AORs, is put there to

help the enemy. A friend of mine once said, “The purpose of the staff is to simulate the enemy in peace time.” [laughter] I think that what’s true today is the purpose of boundaries is to help the enemy. Because I think what that does is it drives seams in the way we think about the application of power and the way we think about the use of our various components of power.

And yes, I understand why we draw AOR boundaries. And, you know, don’t go out of here and say, “Well, Kehler says ‘do away with the AORs.’” That’s not my point. Although there are days when I wonder if a global perspective versus a theater perspective is being adequately addressed, as we think about these changes to our national security environment.

But, in particular, look at boundaries that are drawn today. That may or may not have any application, whatsoever, to space and cyberspace. In fact, what we say in Colorado Springs is, “The difference between air and space is where Bernoulli meets Kepler.” It has nothing to do with geography, at least not geography the way we’ve typically referenced it from the ground.

And, we wonder, sometimes, are we looking at this new battle space correctly? Is this not a spherical battle space that we find ourselves in today that doesn’t have the same kind of boundaries that we have looked at in the past? Maybe the boundaries today are legal or moral. They’re certainly not the same geographic boundaries that we have looked at in the past.

And so, time or pace, distance and boundaries, where there are differences today in symmetry, the best way to try to deal with the United States today, in a military sense, is to get us on the ground and out of our vehicles. And so, symmetry will be a significant issue for us, I think, as we go forward. And, by the way, the other way to deal with us is to take away some of our critical capabilities like space capabilities, like you heard the Chief argue. And, I think he’s exactly right. And so, symmetry is an issue we’re going to have to deal with.

Ambiguity clearly is another dimension for us. You know, look at cyberspace today. People ask me, "Tell me about cyberspace. What does this really mean?" And, I've had this analogy about a densely packed urban area for a while. I'm trying out a new one, so let me try this on you today. I think cyberspace is like a football game, where the offense and defense are on the field at the same time. And, by the way, the offense and defense of both teams are on the field at the same time. The bands are on the field at the same time, too. In fact, the fans are on the field at the same time. Not only that, but passers-by are coming through the field. And, this is all while the game's going on.

And so, if somebody commits a personal foul, that's up to the referees to deal with. But, if somebody punches somebody, whose problem is that? And, if somebody drops a bomb in the middle of the field, whose problem is that? And, pretty soon, I think you start to get the idea, here, that there's an awful lot going on in cyberspace.

And, although we use the word "attack" pretty cavalierly, "attack" means something to those of us in the room wearing a uniform. We describe lots of things in cyberspace as "attacks" that I'm not sure really are. They don't fit our definition because, certainly, the U.S. Military isn't going to be responsible for dealing with them, maybe most of them. Vandalism isn't the job of the U.S. Military. So, I think this notion of symmetry and ambiguity is something we're going to have to confront as we look to the future.

And then, finally, I would say what's changed is equality. Because you can become an entrant into the space business today with a credit card. All you have to do is go online and purchase services that originate in space. ISR-- pretty high quality ISR, actually, stuff that, you know, Dr. Hermann and others, in years past, would have invested a lot of money trying to make sure that we were able to do in a classified sense, that you can get for free today.

Go down to REI and buy yourself a satellite telephone and a GPS receiver, and you are now space-capable without making any investment in it. And so, equality has changed a

lot. And, by the way, if you don't think that operationally it's being used, the terrorists in Mumbai used those kinds of devices to execute their operation. Space capabilities enable ambiguous, asymmetrical warfare.

So, those are some of the things that we're worried about as we sit there in Colorado Springs, in addition to the charges that the Chief gave us about improving our capabilities and decreasing our vulnerabilities and integrating our activities better and better all the time. So, what does this mean for us? Well, one thing that it means for us is that space and cyberspace are unequivocally contested domains. We've seen GPS jamming. We've seen satellite communications jamming. And, although contesting a domain means something to some people about things that are actually on orbit, etcetera, my point is that the capabilities are being contested, for sure. That is irrefutable.

And, we've seen the test of anti-satellite weapons, again. So, it is not a stretch. And certainly, in Colorado, we believe that these are contested domains. And, I think there's no question about it. The Secretary of the Air Force uses an anecdote about, you know, it's been 50 years or so since U.S. forces have been subjected to air attack. It's probably been 50 seconds since they were subjected to a cyber attack. And, I would use "capital A" in some cases here.

So, this is a different world. We're not in Kansas anymore. And so, what are we going to have to do? I think the number one thing we've got to understand is this is not about domain protection. It is not about domain defense. This is about mission assurance. And, when you look at mission assurance or operational assurance, how you go about dealing with these kind of threats changes.

I forget who it was-- It was Frederick the Great or Catherine the Great or Peter the Great or somebody who was "Great" who said that, "If you try to defend everything, you defend nothing." I attributed that to Napoleon the other day. And somebody came up to me after the speech and said, "It wasn't Napoleon that said that." And I said, "Well, who

was it?” “Well, it was somebody the Great.” So-- Okay, so some “Great” guy said that. I think they were right. Whoever it was that said that, they were right.

And so, we’ve tried to change our mindset, here, about both space and cyberspace. If you try to defend everything, you defend nothing. And so, this will be about mission assurance. And, it’s about mission assurance using our capabilities in all the domains. Otherwise, we are in a cost-imposing strategy on ourselves. And, we will never be able to assure the capabilities that we need for the Joint Team when they need it.

So, we have a lot of work to do. This is a dynamic security environment. We can’t defend everything. We have to protect our operations. And, nowhere is that more applicable than in cyberspace, where this is not about network defense. It is very much about mission assurance. And, that was a revelation to me, not so long ago. That was an “aha” moment, where I slapped myself in the forehead and said, “Ooh. You know, there’s something to that. I understand what we’re talking about here.”

And, we’ve stood up, 24<sup>th</sup> Air Force, which is our component numbered Air Force to the Joint Team, to present the Air Force’s cyberspace capabilities. And their focus today, really, is on protecting those pieces of the network that lead us to mission assurance or operational assurance, whichever way you’d like to describe that.

The answer is not “Unplug or stop going to space.” We did not stop flying the first time anti-aircraft weapons appeared, nor adversary aircraft appeared to challenge us. We did not stop flying. We didn’t stop flying when SAMs appeared. We didn’t stop flying when other threats emerged. And, we won’t.

The same thing is true with space, and the same thing is true with cyberspace. We must continue to operate there. And, if I was going to take one good phrase from the Navy-- and I like many of theirs, but I would take this one. It’s the old John Paul Jones-- and I know this is true-- It was the old John Paul Jones phrase about, “Give me a fast ship, for I

intend to go in harm's way." We are going to have to go in harm's way. And, as a result, we're going to have to deal with the problems that we've got.

So, when we're in the new security environment, where actors range from nation-states to asymmetric threats to all kinds of other things that I mentioned, and has access to all the capabilities that they really need to try to deal with us, then we're going to have to think about how we present capabilities in a new light.

One of the other things that we talk about in Colorado Springs is the ability to provide capability at the speed of need. That sounds like a catchy phrase, and I hoped that it was. And, it certainly is catching on around my place. But, I've been challenged on that. People say that's just kind of a glitzy thing to say.

The fact of the matter is, that is very descriptive of what we need to be able to do. In some cases, the need is five years from now. In some cases, the need is five days from now. The problem is, we have an acquisition system that gives us something five years from now, if everything goes perfectly.

So, this is about producing things that we need, at the speed of need, and understanding how we need to improve how we work with the Joint Team. So, I think, if we maintain some of these bedrock changes as our focal points, we'll be able to move forward and do exactly what we need to do.

Space, and now, I believe, cyberspace, have shaped America's way of warfare, just like air power did in the 20<sup>th</sup> century. The way we use space, and the way we are using cyberspace, I believe are shaping who we are. We're not going to be able to turn away from those domains now that things have gotten tough.

So, let me end there. And, I'll pass this down the row and be interested in the rest of the panel.

[Presentations were next presented by **Dr. Robert Joseph**, Senior Scholar, National Institute for Public Policy and former Under Secretary of State for Arms Control and International Security; **Dr. Robert Hermann**, member of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack; **Mr. Timothy Thomas**, Senior Analyst, Foreign Military Studies Office, Fort Leavenworth, Kansas; and **Dr. Richard Shultz**, Professor of International Politics and Director of the International Security Studies Program, The Fletcher School, Tufts University.]

## **QUESTIONS-AND-ANSWER SESSION**

**DR. PFALTZGRAFF:** Well, this is quite an outstanding survey. We are running just a little bit behind schedule, but what I would like to do is to allow the audience to ask a few questions. And here's how I think we might best do this. If you would ask your question and indicate the member of the panel to whom that is directed, and we'll put all these questions together, maybe have several of them together, and then give the panel an opportunity for response at the end. So let's begin with a few questions from the audience, and who would like to be the first questioner? Yes, please? Please identify yourself and wait for the microphone.

**AUDIENCE:** Sir, I'm John Shaud, Air University. Like to ask specifically Bob Kehler a question. The chief mentioned as one of the approaches of the 21<sup>st</sup> century, the whole of government. And you used a remarkable analogy talking about the wonderful world of cyber with that football field to even include the fans. And my question to General Kehler, as you approach this with a whole of government view, sir, how are we doing marching down that road?

**DR. PFALTZGRAFF:** Hold that question, and now let's get a few more. Who would like to be next? Please, the microphone will come around to you right there. Can you pass it across?

**AUDIENCE:** Hi, Wing Commander Andy Challen from the British Embassy for General Kehler and also Mr. Thomas. We know that the east and the Chinese and the Asians have got a very patient attitude and we've heard about the long-term reconnaissance that they take part in, and we know that the feudal system hands down the history 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 24<sup>th</sup> Air Force, going to the AF ISR Agency and having them establish a group that's going to be in direct support of 24<sup>th</sup> Air Force, giving Dick Weber, the commander of 24<sup>th</sup> 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 mega tonnage 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