

AIR, SPACE, AND CYBERSPACE POWER IN THE 21ST CENTURY
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DAY TWO

SERVICE AND COMBATANT COMMAND PERSPECTIVES

2:00 – 4:15 PM

Admiral Jonathan W. Greenert, USN

DR. CHARLES PERRY: Ladies and gentlemen, can I ask you to come to your seats. For those who are standing up could you perhaps come down and take a seat and get settled. Let me welcome you to the final session of this conference in which we will have the unique opportunity to hear from six of this country's most senior and experienced combatant commanders and service leaders. Together they represent virtually the full spectrum of today's major operational commands and strategic planning centers, including key geographic combatant commands, key functional combatant commands, and the top echelons of our military service headquarters. We are delighted to have you all with us.

In their various capacities, moreover, each of our panelists today has a decisive role to play in designing, fielding, training, exercising, and ultimately deploying US military forces -- including many of the aerospace capabilities we've been discussing for the last two days—to address the increasingly diverse range of regional and global security challenges of that United States and its allies and partners must now prepare for.

And I've picked some out to talk about...really our today, our tomorrow, and where we are headed in the next few years, sort of our focus of effort. Some emerging missions that I look at over the next four years that we are interested in, an enduring aspect that really underpins our maritime strategy. Today's war, our war campaign, is a ground campaign, and we are proud to be enablers of that. And I want to talk a little bit about that enabling role. We in the Navy are sharing in really six general areas, six missions, namely, close air support, counter IED, airborne electronic attack, foreign internal defense, imbedded soft support, and support to theater staff.

Today, teaming up with Air Force and Marine Corps TACAIR counterparts, we do close air support in OEF and Afghanistan. We promise that within four minutes of troops in contact, we will deliver an effect to that ground component that asks for it. And today, we provide about 30 to 40% of the sorties, coming from the aircraft carrier out in the Arabian Gulf. And effectively it is like flying from Philadelphia to Atlanta, hanging out for three hours and then returning for each of those missions that goes on.

The *Nimitz* is there today. She is flying, as I said, about 30 to 40 sorties a day. She's been doing about 9,000 flight hours since September and working predominantly with Air Force, JTACs, on the ground for conventional and ground forces. We're very proud of that effort.

In counter IED, the action today, and it has been for a little while, is in the regional command in the South, in the Helmand province. We have a Navy-led task force, about 1,000 folks there, with an Air Force Deputy Commander, working together with a Navy EOD battalion and about 45 teams spread out around the Helmand province there. The deal is really road clearance, to allow our folks to get around for the surge. We are enabling ground maneuver for the Marine Corps and securing the enemy center of gravity, really, which is to keep them off the road and to keep us on the road.

We provide EOD support for the Army, like I said, the Marine Corps, the SOF, and the coalition. And the deal was also allowing our Provincial Reconstruction Teams to get out and about, to get where they need to go, provide the foothold, get to the villages, and, as some say, win hearts and minds. And it is reinforcing, really; gaining the population's trust and defeating the IEDs in our view is really defeating the insurgent's strategic weapon in the campaign.

We've been doing counter IED suppression since, really, 2001, not long after 9/11. And we've had 12 deployments. Mainly, it's our EA6B *Prowler* and also our *Growlers* are now deploying out there. It's 12 deployments, 24,000 flight hours, 6,500 sorties, if you count that kind of stuff, providing a unique jamming capability vital really to the suppression of the IED signals. Today, and for some time, we've had an Air Force crew, a crew of four airmen with every one of our squadrons.

The focus of effort today in counter IED suppression is escorting the convoys out of Iraq. We sometimes forget that is going on. But there is quite a bit of activity in that direction. And we will be headed back to OEF in Afghanistan in June to continue that set of activities.

Going waterborne for a little bit off the coast of Iraq in the Al-Faw peninsula, there are two, large oil terminals called KA oil terminal and AB oil terminal. And those things are pretty important to the Iraqis because they are 95% of the government's revenue and 97% of all the oil going out of Iraq. We've protected those since 2003 with at task force doing, really, all the maritime security for the Iraqi territorial waters. And we've turned one over in December to the Iraqis. They now protect one of their two oil terminals on their own. And we look forward to turning the other one over when the time is right.

Regarding foreign internal defense, we've deployed riverine squadrons to that Haditha Dam since about 2005. The Haditha Dam is the water source in and around Baghdad and really most of the Iraqi countryside in and around there. But we've moved from protection of the Haditha Dam up the Tigris and the Euphrates and really through our

sixth deployment have really taken out the insurgent water routes and returned those riverways to the people for commerce.

We are now doing the training of the Iraqi army and the police riverine forces. Fourteen hundred Iraqi Army people are now on the waters there with the riverine force. They understand small boat tactics and hand-to-hand combat, and have conducted small arms training.

So we are done in Haditha. We've got the Tigris and the Euphrates. We've won it and we've moved to Basra down south to develop, really, Iraq's major port and their only port, Um Quasar, down there by those oil terminals that I mentioned before. Working with that and the Iraqi border guard to close the scene there between the river border of Iran and Iraq is the mission of today.

Next, I'll talk a little bit about soft support. We've been embedded with our Special Operations Force brothers since the beginning with intelligence, medical, and counter IEDs, as I mentioned before. But today we're expanding a little bit into helo support. We've had a squadron over there for some time, and we will move on to another squadron, supporting them as they need be.

And lastly, in theater staff support, our individual augmentees deploy about 2,000 strong, just filling in where we can in the area of intelligence, as I mentioned before, engineering, medicine, logistics, and legal matters. We will be developing the training for the Afghan National Army in the areas of legal and intelligence. And we look forward to that.

Those are the missions, when you boil down the things we do today, as we look at our strategy and where we fit in with CENTCOM, that is today's war, and we've got to win it. And that's today's focus of effort. It will be tomorrow's and it will probably be for the next two years.

A couple of other areas that are emerging, though, include cyber. It's one of our two new fronts that I think have kind of consumed us as we look toward the future over the next three or four years. Cyber is important to all of us. Every day we hear about attacks. And it wasn't but a few days ago or about a week ago that we heard about the attack in Google overseas. To deal with this, we've looked at it in two ways. First, you've got to start with the headquarters. You've got to start at the beginning and make sure you are organizing training, and, more importantly, equipping your forces to deal with the cyber challenge.

And it is really to us about information dominance. So we've reorganized our headquarters staff and aligned it to meeting that challenge of information dominance. Although we are still platform-centric in what we buy, we really do endeavor to be more capability-centric. And this is really our starting point. We want to focus on the investments that will insure information dominance and treat the information that we get – and if it's good and it's useful, then we call it intelligence – as a weapon.

And you've got to treat the networks that it transfer it as combat systems. And step number one in getting this accomplished to us is embedding a culture of understanding the security therein and the governance of those networks. Our intent is to find the capability requirements for information dominance so we can inform our force structure decisions and those requirements—so that our freedom of maneuver in the information domain is as good and as open as our freedom of maneuver in our maritime domain.

We got to get inside the enemy's decision loop, and we've got to get agility and innovation factored into the development and integration of the information that we are going to move around. With regard to intelligence and tactical information, if we don't optimize the network that they travel on, then the information is going to be irrelevant. And if the information is irrelevant, why did we buy the platform that is gathering it and distributing it?

So, underpinning it all, we are going to manage the community, what we call the information dominance core, from our headquarters—bringing together our intelligence people, our information professionals, our information warriors and our meteorologists and oceanographers, all of whom provide a great bit of our tactical information, and combine them into our information dominance, as I said, our core.

Now, to serve the fleet and to serve the joint force, we've got to have a properly organized, trained, and equipped component. And we've had a component command in cyber, really, since 2002, with the creation of our Navy network warfare command. We took 23 kind of different disparate organizations and brought them into one to do operations, to defend, and to govern the networks. We brought the security groups and the intelligence commanders together, so that we could do ISR and fleet intelligence, really, in one focus of effort, and deliver the cyber forces and the capability.

We will stand up our fleet cyber command, which is a better organized and better focused command here, at the end of the month, on January 29th. That will be, really, our component to service cyber command and, in the interim, until cyber command stands up officially with the confirmation of General Alexander, etcetera, our fleet cyber command will chop really to STRATCOM for operational matters.

Looking at ballistic missile defense, along with cyber, it's an emerging mission. It's about threat to the homeland, threat to our forces abroad, and, really, to our allies in other countries. We first got started in this, really, in a robust manner in 2004 in the Sea of Japan, when we started doing long range search and track, predominantly due to the threat of the *Taepodong II*.

But recently we've seen ballistic missile defense develop into quite a cottage industry,. All the COCOMs have needs. It's really about our afloat *Aegis* platforms that can provide that information and the SM-3 missile, which has a proven commodity to defeat ballistic missiles. In the future, though, although today it is predominantly for us, and I

would submit for the department, predominantly on an afloat, proven capability, it [Aegis] will merge, and go ashore.

The President's recent decision in Europe to shift from the ground-based interceptor radars in the Czech Republic and Poland has caused us and the country to shift to a phased, adaptive approach. We're a part of that first phase. Well begun is half done, as some might say. And we've got work to do to make sure that we have the capacity and capability in place by 2011. That's when we are going to get started with the THAAD systems and the SPY2 radar in Europe.

But we've got to look at command and control as well, and that is where a lot of you in this room are experts. We, the Navy and the Air Force, have worked on this problem for quite some time, and I would submit to you that we've got to continue working and make sure that the command and control aspects of this are in place and ready to go.

I know our service chiefs have insisted this be discussed at the tank so that we insure that we've got the right joint architecture in place, regardless of where we are doing a ballistic missile defense.

About 2015, as I said, we will migrate to a sea-land partnership in this. Our capacity today is about 20 ships that are ballistic missile defense capable, four cruisers and 16 of our guided-missile destroyers. And those will continue to grow—all linked to our maritime operational commands and to your air operational commands for command and control.

Just a brief clip on irregular warfare. How we are organizing and how we are moving ahead toward our hybrid challenges—we stood up irregular warfare directorate in our headquarters, tasked to synchronize our Navy capabilities with SOCOM and the combatant commanders to make sure that what we're building and how we are training our forces to deploy is in synchronization with the needs out there. We need to get irregular warfare imbedded in our strategy, in our planning, in programming and

budgeting, and get it out of the execution phase and more into the, you know, what are we putting together and where are the irregular aspects of that.

Today we have two programs, relatively new, where we have actually been able to affect the design. And I could say that they have an irregular warfare aspect to them in their design. First is the littoral combat ship. It's got great speed and an amazing volume and an ability to adapt. It's a little smaller than our destroyers, but it's got a multi-mission module and an agility that it is truly unsurpassed.

It wasn't originally designed for a hybrid spectrum of warfare. But we found that with really a minimum of change, with a little bit of innovation, these fine ships will be ready to go for the spectrum of operations. Later, in February 2010, we are going to deploy the *Freedom*, which is the first LCS ship, to SOUTHCOM. We may see it in Haiti, if it applies. But we think it will be a great asset to the SOUTHCOM commander for counter narcotics.

The next program I will mention is the joint, high-speed vessel. It's fast. It's maneuverable. It's got about the size of a football field on its deck and for operations. And it's got enough cargo. It's got 20 school busses worth of cargo, to take basically that amount of cargo from Washington to St. Louis. It's adaptable to HADR, to security force assistance, building partnership capacity, and also maritime security.

The enduring aspect that underlies our strategy, and it's really kind of a woven thread and what we are about in the future, is going to be partnerships. And partnerships have been one of the key changes in our maritime strategy that we rolled out with the Marine Corps and with the Coast Guard about two years ago. We talked to the country. We talked to as many citizens as we could. We talked to business leaders, coalition partners, you all, and looked at what we need to do. What are the capabilities that we need to bring to bear.

We're familiar with most of them, forward presence, deterrence, sea control, power projection. But two new ones, maritime security and humanitarian assistance/disaster relief kind of emerged from all of this. Underpinning it all was the desire by everybody to say, "Listen, we've got to develop a network, a maritime network around the world and pursue interoperability and partnerships as we move ahead to the future." And reassuring our allies, nurturing relationships has been a key and critical part to our maritime strategy and underpinning our operations.

Lastly, I'd just leave you a little clip on the Air-Sea Battle that Dr. Perry mentioned earlier. This concept of the Air-Sea Battle, developed by the Navy and the Air Force, really began in the seventies and the eighties, involving the Soviet threat, when the Soviets started developing their Navy and their Air Force and they started moving out. And it's about—today we found there are enough emerging technologies and asymmetric threats out there to really start threatening our action and our freedom of movement. Anti-satellite missiles, anti-ship ballistic missiles, advanced surface to air missiles, small boats, and advanced ballistic and cruise missiles are really a problem, posing an anti-access capability that a third party or a non-state actor could really get a hold of.

So we formed a concept team with the Air Force, the Navy, and the Marine Corps, looking at the full spectrum of operations that we need. That team's been meeting mainly with the major commands. But it has a flag oversight team that will bring their in process review here later this month. And we look forward to it and then shortly thereafter coming to our respective service chiefs and the commandant of the Marine Corps.

More on that, later, for all of you. Thank you very much for your time. And I look forward to discussing your questions.

[Applause]

squadrons of five Prowlers and they are being used heavily in the current fight. And they need to be available for some unexpected future fight.

We see the future of airborne electronic attack, at least in the Marine Corps, being to leverage the inherent capability of the F35. But also key is the next generation jammer, OSD has wisely, I think, laid out that the next generation jammer will have as a threshold both the F18G and the F35. They've done that because it just makes sense to take advantage of the 3,000 3,500 F35s that will be in the battle space.

And so you may end up with a situation where you fly VLO F35s and then, when it make sense, and when threat drives you to this position that you would put next generation jammer on some of the F35s in the force. That is a potential path. But beyond that we see the expansion of UAS capabilities. And putting some of these systems on unmanned aerial systems in the next decade that heretofore had been mostly on manned systems.

So that is the path that we have taken. The Admiral can talk to the path that the Navy has taken, which is the Growler. The next general jammer, as long as it can be a multi-platform system, I think we are going to be in very good shape as we wait for the unmanned aerial system to evolve as we hope they will.

We have a couple of things that we are doing, a JCTD called *corporal*, where we are getting our nose wet with regard to unmanned systems in the electronic support, electronic warfare area. And also, we are very excited about software reprogrammable payloads, which also will have a role to play in the unmanned environment.

ADMIRAL GREENERT: I think George summarized it pretty well. I think if I were to put it in a category, we've got to go digital, just as the ISR radar, you know, did with the electronic scan, what that did for us versus a moving scan, if you will, moving parts. So I think it needs to be digital, and expanded in the frequency spectrum to be broader. Also

it's about pods, not hard mount in the future. So you can go to UAVs if you need to. You can go to prop. You can go to helo I guess.

And it has to be agile enough, if you will, to be used for IW, irregular warfare, and perhaps MCO. Again, that could involve change in the frequency spectrum, the amplitude, whatever. So it's more about mobility and transferability I think in the future. And you got to be able to share it. So there is an international dimension, probably.

DR. PERRY: Another question?

BRIAN GREEN: Brian Green with Systems Planning and Analysis. Hybrid warfare is a term that has gotten some attention recently in town. I know that the Secretary has used it and it was used several times earlier in the conference. The term of choice among the panelists is still irregular warfare. And I was wondering if I could solicit from the panelists if they have any views about whether there is a difference between the two terms, hybrid warfare and irregular warfare? And if so, what the difference is and whether they think hybrid warfare is a term or concept that has any legs to it.

DR. PERRY: Who wants to take the first cut at that? General McNabb?

GENERAL MCNABB: I will just tell you that to me we are just going to have to be very flexible on the systems that we have that can move all these different ways. Again, the warfighter is going to say, "Sometimes I'm going to need this. Sometimes I'm going to need that", and we are going to have to have multipurpose platforms that we can swing as we need to in support of the warfighters.

And that is across the board. That is every service. And you can see it where we've had those systems and we have been able to adjust them very well. And we have to be thinking that way that you can—and really, hybrid warfare requires that kind of flexibility. Because we don't have the money to have systems for everything. We have to have a system that supports the concept that the war fighting commander will say, "This is what I need to do to win." And we've got to be flexible enough to deal with that.

PANELIST: Brian, I might just add that I think this construct captures a bit of a strategic struggle that is going on in the defining what adversaries might do in the future. I think it clearly acknowledges that you can't discount a conventional, more conventional kind of enemy and a threat. But increasingly, you see actors growing in a spectrum that grows from theater security cooperation through terrorism to countering space threats, countering cyber threats—and an enemy, if you will, that is agile among all of those domains.

So I think this term hybrid warfare is an attempt to try to capture that it is not just irregular. It is not just conventional. It is really a spectrum in between. And we have to be organized, trained and equipped to operate across that spectrum. You know, the war colleges will muse on this some more I'm certain. But I think that is where the Secretary is trying to come up with a way to not limit us but to force us to adapt across a very broad series of operations.

GEN Fridovich: I would like to jump on that one a little bit. It is going to be talked about for a long, long time. And it is going to, I guess, remain still to be defined completely. Probably never will get there completely. If you think in terms of ...(inaudible) in that they know how to politically empower but not avail themselves of the target. Below the line they have got everything they need to project power. They've got everything they need to politically, you know, help run a government or be part of a government and be recognized legitimately. Yet, they still can do things globally with a wide variety of tactical operational, even strategic outcomes engineered with a chain of command.

That might be one of those places to point to and say, "That is truly a hybrid enemy that understands political power, understands not gaining too much where you become an absolute target and then can be disenfranchised from that political power. And they know right where those operations design lines are and stay beneath those. Thinking about that as the higher end of a hybrid enemy, then there are other, lesser I suppose, cases out there that know a little bit about that but haven't crossed over.

Or you might look from an Israeli perspective. Hamas helped themselves to cross over. And as soon as they do, they become the governance. They avail themselves of the target, especially when they start applying some of their weapons technology outside and breaking the red lines that the Israelis might have.

So when you start thinking about it in those notions, and look and understand globally where there are linkages between those players, then we can start saying, if we understand that part of it, now how do we engineer ourselves to be able to counter that, if that is at all possible. This gets you into alacrity, flexibility but probably more than anything else a very deep understanding of the operational and strategic environment that they are using against you and getting into your decision cycle.

Which is one of the things that I failed to mention, one of the strategic notions of a SOCOM is not to be reactive. It's to finally get out there and be pro-active and think about where are the opportunities in the globe that we need to get to, where a small investment might have huge dividends in the future—and start mapping the future that way instead of always reacting to things, trying to get out ahead of that. And I think that is really where our next steps are going to be for the next year or two at a minimum if not longer.

But that does start getting back to the notion of the hybrid. Does that come close to answering?

GEN Trautman: I think we are on a slippery slope when we try to characterize warfare with stark terms. We better be ready as warriors to flex between various types of things that we will encounter in the battle space. You may think that you are on occupation duty in Lebanon or the Gaza for years. And you may, indeed, be there. But then, the next thing you need to do is figure out how to integrate fire and maneuver rapidly, and operationalized intelligence—and respond in a wholly different way from the way that the force has been used in the previous months.

Same thing in Iraq. You may be in a COIN environment in Al Anbar and find out you have a very tough urban fight in Fallujah. It is the nature of warfare that you need to be able to flex among the various options that the enemy chooses to place you in.

So I sort of like the term hybrid warfare. I don't know why none of the panelists said it. In my mind, and I think in most of the Marines' mind, a fair description, an apt description of what the future holds for us.

DR. PERRY: General Edgington, did you want to weigh in on this at all?

GENERAL EDGINGTON: I guess I probably need to because General Mattis is one of those who has kind of embraced the hybrid concept. And when he was first reading about it and was just starting to embrace it, it was the Hezbollah, as General Fridovich points out, using RPGs in the second Lebanon war—that a traditional, terrorist enemy is having modern weapons. And so where is the line being drawn?

Getting back to the question, specifically, it dawns on me that we are a society of labels. We need to label something and define it. And there is certainly purpose in that. But as soon as we do, we create the opportunity for seams. And so I think hybrid is probably the best word in the English language to define that. We just have to put aside the boxing, the container-izing of exactly defining what this type of warfare is—and realize, especially in light of the cyber world that we are going into now, and the potential of where we can get challenged—that warfare can encompass just about anything that we have thought about and probably some things that we haven't thought about.

So let's continue to be open to define the fact that war is not uniformed militaries across the Maginot Line fighting it out like what we had studied in school. It has evolved. But I would tell you that probably in World War I there were flag officers discussing something of this nature of, "Hey! This is a new way of warfare. What is this?" And trying to work

on a label for it at that time, too. So I would just resist trying to fully define it and get the concept of the fact that warfare can include just about anything.

DR. PERRY: Does anyone have one, last, burning question? This gentleman right here. And then we will close it there.

Japan Self-Defense Force Officer: I have a question with regard to missile defense. Admiral Greenert, you touched on the missile defense capability somehow. Do you have somehow a joint doctrine or concept of operation to respond to ballistic missile and cruise missiles simultaneously?

ADMIRAL GREENERT: We don't now. I mean we have a concept. If we had what we wanted for radar fire control, but you are talking about a ballistic missile launch simultaneous with a cruise missile launch. I think that is what you said. If you are talking about the same vessel, then that is part of what we would look toward a future radar for, a multi-volume, if you will, radar, multi-level radar. But we do have that concept within the sea base if you will and defense therein.

So, in other words, the concept of operations among several platforms is there today, but we don't have a platform right now today that does both simultaneously.

DR. PERRY: General Renuart.

GENERAL RENUART: I might just add, Jon, there is a joint, integrated air and missile defense construct that is being circulated through the services for final approval. And it is designed to acknowledge that you could have air or ballistic or cruise missile threats near simultaneously. What it attempts to define, and we've been involved with PACOM and the Navy and others in developing this concept, is that it depends upon a system of sensors that allows you to look for both and can capture and characterize and assess, especially low altitude, high speed, low visibility targets, like a cruise missile.

So we are pursuing this forward in the area of homeland defense. But it also has significant impact for deployed forces forward. And I think we still have a little work to do. And there are not yet sensors that allows us to be highly confident that we can capture all of those pieces simultaneously. There are pieces and parts and we are working through that.

DR. PERRY: Well, it only remains for me to thank you all for being with us and giving us your time and the benefit of your vast knowledge, and it was vast. I appreciate it very much. This is the end of the session and we will now have closing remarks by Dr. Pfaltzgraff and General Schwartz. (END OF SESSION)