

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

Maj Gen David M. Edgington

DR. CHARLES PERRY: Ladies and gentlemen, can I ask you to come 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 and 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, unusually together 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 or regional and global security challenges of that United States and its allies and partners must now prepare for.

And last, but very far from least we will close with opening remarks from Major General David Edgington, Chief of Staff of US Joint Forces Command—which is responsible again, as you all know, for providing the combatant commanders with timely and mission ready joint capabilities, and are shaping the joint force that will be fighting in the future. So he will have both current and longer term perspective to share with us.

This goes to the second theme of counter IED. I've heard him say many times that, of all the things that keep him awake at night, our ability to predetonate IEDs or try to protect our troops that are most at risk and the ones that we're sacrificing on a daily basis—this is the one thing that we haven't made satisfactory progress on over the last several years of fighting this war on terror.

The next theme, looking more globally and more strategically, would be ballistic missile defense. We have some challenges here, certainly some of which were shared earlier by General Renuart. And we also looking at the consequence management of a potential weapons of mass destruction event, our ability to react to that.

And the last theme that we are really looking at is the Ops/Intel interface of how, as the Air Force has done with our sister services, to get the intelligence and the assets and the collections of ISR down to operators and make sure that we synthesize that linkage to make the best use of the information available to us.

So that is kind of what guided our IPL inputs. As for the main theme of building irregular warfare capacity, we're putting together an assessment that's been coordinated with the services to be go up to OSD at their request to review how much progress we have made in the last couple of years of building a greater, more capable irregular warfare force.

Another key role is that we still hold the portfolio manager role for the department for command and control. And we are working very closely at trying to build the next command and control apparatus, architecture, and doctrine among the services. Our pledge to the services has been, "do no harm." The services are not going to lose anything -- GCCS-Air Force, GCCS-J, any of the systems that are out right now provide -- but we want to be able to blend into a singular system that all of the services can populate with authoritative data sources. .

But it is not just about technology. General Mattis is very famous in his vision and articulation about the fact that command and control is a human endeavor. It is not just about the systems that we develop and what we can actually put in front of command centers. It's about how we use those to enable commanders at a decentralized, lowest level to execute the commander's intent from the strategic level down through the tactical level.

And then, the systems that we do develop, as well as the decentralization of the commander's intent, have to be robust. They have to be resilient. We have to know that we are going to be challenged in the command and control arena. Just like we would target an enemy to try to take away his ability to command and control his forces, we will also be challenged in that as well. It's not just about redundancy. It's not just about protection. It's about the ability to operate when you lose those systems. We inevitably have to assume that we will. Those are the things in the command and control element that we're trying to work on.

On the Joint Force provider role, sometimes we feel like the real outsider in the room when we are going to the services and trying to negotiate and find the next, most appropriate and ready force to be able to deploy. Faced with the challenge of Haiti, in light of the demands that we are placing on all of the forces right now, and asking for the services to provide for the Afghanistan surge, when we haven't completed the Iraqi draw down—all we need to improve on in the Joint Force provider role is to make sure that we have total access, greater visibility, and that we understand the readiness among all the services—so that we can recommend to the SECDEF the right choice of the most appropriate units to be able to deploy when the combatant commanders call for them.

Building and improving partnership capacity is one of the things that General Mattis has also been key on. This entire time you have heard other gentlemen on the panel speak to that as well. And many of you have probably seen articles or heard of General Mattis'

letter that he penned to the SECDEF, even suggesting a new name of our command, Joint and Coalition Forces Command.

He is passionate about including our colleagues, our coalition partners in everything that we do. We cannot develop new capabilities or look at how we are going to move ahead in the future without recognizing that we never again will go alone into a conflict as a nation, which he firmly believes. And so our partnerships that we build on a daily basis have to incorporate that knowledge and openness with our international partners.

Whole of government approach is another theme that we embrace. Again, you heard General Renuart speak to that. You heard Admiral Greenert talk about it. We attempt not only in developing concepts of operations through our experiments, but in every exercise that we engage in and prepare and conduct with our sister combatant commands, to do everything we can to insure that we get a whole of government approach.

We ask our inter-agency partners to send people to exercise with us that they intend to deploy. Don't just pick one person whose job it is to go out and appease the Department of Defense and bounce around. Give me somebody who is going to be empowered to make decisions so that we can build the relationships as we train up to deploy our forces or to handle a certain region of the world. It's slow progress here, but we are satisfied that we are making the input. And there has been improvement in developing that.

Then the last of the six main priorities that he gives us is to improve in joint training and education. We're involved in PME reviews to insure that the PME structure of all the services in the joint world are focusing on today's wars and not teaching yesterday's tactics, techniques, or strategies. Obviously, we are going to learn from history, but we have to focus on those lessons as to how they apply in today's wars, and then train our next generation of leaders to be able to use those tactics and techniques...the right type of curriculum.

Even more so, and this brings it back around to irregular warfare, is a passion that GEN Mattis has for modeling and simulation. And trying to make sure that we are investing in live, virtual, and constructive training opportunities, to be able to maximize the training to the people on the ground. Talking to an Air Force audience, this will be an easy description of the things that I've gone through with General Mattis and watched.

We as an Air Force have built the space trainers, the cockpit trainers, and other systems such that when you sit in them you are challenged with emergency procedures and a combat-like environment in an almost virtual setting. They can take you through something more than you would ever be demanded to handle when you get into a combat situation. It is how we have trained the professional airmen that we have.

Our sister services have not necessarily invested in, nor has technology provided them with, the opportunity to give an immersive training capability that is virtual. So the people who in the wars that we are fighting right now are most at risk, who have to walk down the streets of Baghdad or Kabul and try to go door to door to determine who the enemy is, don't have an institutionalized ability to train in a simulation that technology can provide us with today.

You all have seen *Avatar* movies and the things that are out there. You all have seen Disney and what they can do. We need to harness that type of technical energy, invest in it for the entire Department of Defense, but certainly focused on the ground forces in modeling and simulation. And the Air Force piece of that is to be able to blend what we currently have in distributed operations training and to be able to marry that up – so that when a young, infantry soldier (and this is not to bash our Marine partners) is going through and looks at his JTAC who may be training with him, he is in synch.

I went through with GEN Mattis and saw something that the Marines were very proud of, how they were training their JTACs. We walked into this air conditioned environment with about a 160-degree screenview such that when the young man was sitting up at a sandbag in a metal chair in a flat room with a blank screen, and they called for the A10,

you saw a dot. And then you waited about six seconds and you see another dot. And then you waited about another ten seconds, and now you can make out that it is an airplane. And then it appears and, okay, you see that is an A10. And then about three seconds later, five seconds later, you see a little light thing. It is all on a screen. And the guy to whom the JTAC is talking to and the trainee is talking to is a contractor who is sitting at a desk right behind him. So he is not talking 3 to 1 technology. He is not getting the fog and friction of war trying to get through a radio headset. He is not in the heat of battle. There is nothing else going on.

We can do better than that. And, in fact, if we use our Air Force capabilities to be able to tie this in to those guys who are on the ground training—and make that leap that we have made internally to connect places from Alaska to Kirtland, across to Langley to Florida and have everybody virtually connected -- we can do that with our sister service partners. And we can enhance training across the spectrum of warfare. That is the last piece on modeling and simulation of where we need to be able to go.

One final thing that is a recent event that we are going to try to get involved in and try to help guide a little for the Department is information operations. Wow! What a spectrum yet to be defined, although we are attempting to define it within DoD. And everybody has their own perspective of what falls into information operations. So we're going to attempt to put a construct to this and try to suggest it forward.

We've worked a little bit with our Army TRADOC partners as a sounding board. But just trying to make sense of information operations and all the things that play into it. There is certainly a technology piece of this, electronic warfare, cyber, etc. and many of you here are far more versed in the specifics of that. But if you separate out the technical piece and allow the people to continue to work on our technical capabilities, there is also a part of information operations that is influence operations. This is what we need to do to be able to work against the enemy. It is something where you can use psychological operations or influence operations to try to provide a combatant commander with a capability to meet his mission objective when he is out in the field.

me an underlying, if not common theme perhaps, is this sense of a need to build ever expanding partnerships, including untraditional partnerships, to work across seams, both geographic and functional, in ways that we did not anticipate even just a few years ago—and to do that using key enabling technology that perhaps we didn't understand a few years ago in very innovative ways—and to do that as well in more distant, complicated and austere operational environments. You all seem to be hitting on that theme. Let's ask for some questions from the floor first, if we could. Who would like to ask a question first?

AMY BUTLER: Amy Butler with *Aviation Week*. I'm just curious. You are talking about future capabilities. This is probably best for General Trautman and Admiral Greenert. How do you guys see electronic attack evolving? The *Growler* has been fielded but that is primarily legacy technology. And I'm curious where that is going.

GENERAL TRAUTMAN: Well, I'll go first, Admiral Greenert. That will let you trump me if you want.

ADMIRAL GREENERT: Sure.

GENERAL TRAUTMAN: The Marine Corps' view of electronic, airborne attack is that we are going to keep our *Prowlers* going until about the 2019 timeframe. We have four 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, as 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 to 3,500 F35s that will be in the battle space.

And so you may end up with a situation where you fly VSTOL F35s and then, when it makes sense, and when threat drives you to this position, that you would put a 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 EW 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*. As for the next generation 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 systems 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)