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ASSURING A READY FLEET:
A DISCUSSION WITH ADMIRAL JOHN RICHARDSON
CHIEF OF NAVAL OPERATIONS

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P R O C E E D I N G S

MR. O'HANLON: Good morning everyone. Welcome to Brookings, I'm Mike O'Hanlon with the Foreign Policy program. We have the great honor today of welcoming Admiral John Richardson, the chief of naval operations of the United States, the nation's top naval officer, to Brookings to talk about the state of the Navy and its future. Admiral Richardson, is a 1982 graduate of Annapolis. He studied physics there, so not for the fainthearted by any means. He also wound up getting a master's degree in electrical engineering from MIT among other distinguished accomplishments and an additional master's degree from the Navy in strategy. He has spent a lot of his career in submarines where he commanded SSN's, attack submarines, but also had a stint with the ballistic missile submarine force. Spent also a large fraction of his career on European matters and thinking about theaters that become important again today as we contemplate the state of U.S. Russia relations among other challenges.

So, it is really a wonderful opportunity to have the admiral here at Brookings. I'm going to ask you in just a moment to join me in welcoming him, but first let me explain a little about our format for this morning. I'm going to sit down and give the admiral the floor and he'll speak for about 20 to 25 minutes with his prepared remarks. Then, I'll come up and join him for a brief conversation that we'll have before we go to you for questions and we'll finish up about nine o'clock. So, again I'd like to say how grateful we are, admiral, to have you're here. Please everyone join me in a big Brookings welcome for the chief of naval operations.

ADMIRAL RICHARDSON: Well Michael, thank you very much for that warm introduction and thanks for the opportunity to be here. I would say that as I get around, there are a number of different types of speaking events that I participate in. There are those that I get invited to and I'd honestly rather not do but is probably

something I need to do and so you go and you do those. There are those that you get invited to and you don't have to do them and you don't want to do them and you don't do them. But then there are some like today where we actually had a roll in defining this and so, again I want to thank you for giving us the opportunity. This is a talk that I want to have. There have been a number of those recently where I just want to get a message out. That's what I'll do here from the podium and I look forward to exploring that message in further detail through the Q&A.

I want to anticipate one of the common questions that will come up during the Q&A period which is what keeps you up at night. It is sort of a classic question, what keeps you up at night. I want to tell you about this recurring dream that I have so, just to sort of bring you deep into my psychology. It's a dream that begins on a sports field and it's before the game starts. For those of you who have competed in games whether it's a sport or chess or debating or something, you know what it is like to be in that pregame jitter phase. There is this nervousness, there is this apprehension of what is going to go and you've prepared yourself as best as you can. But then it is time to go and you engage.

So, as the dream progresses, I get out on the field, we're all suited up and we start and there is first contact and it starts out pretty well. As the game progresses, it turns out our plan is doing well. We're actually getting ahead of the opponent and it turns out that as things go, by halftime, we're up, we're up significantly like 28 to 0. We're shutting the enemy out, we go into the locker room. Now we're in the locker room and there are lots of high fives, we're holding the champagne bottle wondering if we should crack it now. The second half is kind of a formality, we'll go through that, we're talking about what are we going to do after the season. Are we going to go to Disney World and all of those sorts of talk, that type of chatter. There is none of this, let's study film, let's explore

deeply how we're going to adapt or any of that for the second half.

So, we're going on, we're having this half time pre celebration, pre party if you will. It goes on and some of the more experienced folks on the team think, you know, this seems like it's been going on a long time, this is a long halftime celebration, it seems like it is dragging on. Then somebody comes bursting in, the team manager or something says, hey what are you guys doing, the second half is underway. The other team has taken the field. So, we get our gear on, go running out there and it is true, the second half is well underway. In fact, we went into the locker room with a 28 to 0 lead but now it is like 24 to 28. Not only has the second half progressed, but the other team has made significant progress while we were in the locker room. It is a much closer game right now and they're all warmed up and ready to go.

The thing that snaps me awake is I lock eyes with one of my competitors, the person right across the line. You can see from the look in his eyes that they spent their halftime in a much different posture. They were studying us intently. They went through all of the film of the first half. They have changed their approach completely. They have adapted their game to our strengths and weaknesses to mitigate our strengths, exploit our vulnerabilities and they are ready for this second half and have already moved out. So, then I kind of wake up so, that's what keeps me up at night is that recurring dream.

That is at the root of my message this morning which is that if there is something I would love to leave behind with you and everybody listening it's that we've got to capture a sense of urgency in what we are doing. A sense of urgency to retain our place in the world. If we get capture that sense of urgency, it will lead to a real change in our mindset and our behaviors will become more competitive and it will allow us to retain our lead. We much retain it, we must. Because while it is hard to retain it, it is so much

harder to try and regain it once it's lost.

So, let's talk about this competition that has come out of the recurring dream and talk about the nature of competition that we face today. If I could characterize it in one word it is used a lot and I worry that it gets a little stale but the word is exponential. The rules of the game, the way the game is adapted has become exponential, it has become exponential, fueled a lot by information technology which is exponential in so many respects. First of all, there is just the advances in the capability of technology itself whether you're talking about processing or storage or software. And then there is the exponential nature of the amount of information that is being produced. Something like doubling the amount of information in the world every three years or two years or something. A very exponential type of approach. It is not just purely IT but so many of the technologies that are IT enabled. So, you can talk about additive manufacturing, you can talk about unmanned and autonomous technologies, artificial intelligence, genetic science, all of these things take on an exponential character.

Not only are these technologies being invented but they are also being introduced so much faster and employed faster and faster. The distribution and adoption of these tools is about ten times faster today than it was before. People get things faster and they use them faster. So, this idea of first use, first users, is a much more fleeting thing. It is very representative of the early 1900's, the period between World War I and World War II, very flat world in terms of information technology. So, this first user idea is fleeting but it is decisive. So, we must be faster than the competition. We must have outcomes that achieve advantage faster than our competition and then stay faster which requires us to say not only am I going to achieve this outcome but what are my next two or three steps because the competition is going to be right behind me. We have seen this. It is easy to describe this in a theoretical context but we've seen this in the maritime

domain, in our maritime business.

Just in preparing for this talk a little bit, trying to get a sense for how long mankind has been going to sea. What do you think, who wants to venture a guess in terms of how long people have been going to sea.

SPEAKER: 2000 years.

ADMIRAL RICHARDSON: 2000, come on 2000. Read your Bible, it is way longer than 2000 years. 10,000 easy, conservatively, 10,000. They have been doing research in the Mediterranean on Crete that suggests that maybe 100,000 years ago people were doing deliberate voyages to get from one place to another. So, let's think about, let's just say conservatively 10,000 years of people going to sea. You can start your curve 10,000 years ago and kind of plot the amount of maritime traffic from 10,000 years ago to today. The shape of that curve, think about it. The amount of traffic on the oceans has increased by a factor of four in the last 25 years. Which is an astounding fact if you think about getting our start 10,000 years ago. So, again there is this exponential nature to it. The technology that we've talked about has allowed access to resources on the sea floor that were previously unreachable. You can see minerals, natural gas, oil, access to all of that is increasing the business of the maritime domain.

The arctic ice cap is smaller than it has been in my career, in my 35 years since we've been measuring it. That again has given access to continental shelves, to sea routes that weren't open before. So, again this pace is picking up. And then going back to that information world that I talked about, about 99 percent of that information runs across the world on undersea cables. So, the infrastructure that is there at sea, another dimension of our world. Our food is largely being done more and more at sea both protein and carbohydrate being grown and farmed at sea. So, it is a very exponential world not only in technology but also in the manifestation of that technology

particularly in the maritime domain.

So, what about this exponential thing. What is concerning about this is that the competition moves very fast and in an exponential competition there are only gold medals. It is winner take all. There is no silver medal, no bronze medal, it is winner take all. Think about competition in the business world where these technologies are involved. While the number one business is easy to identify, it is much harder to identify number two. It is almost like it doesn't matter. So, that's the nature of competition and why it should concern us.

So, competition implies competitors not just the rules of the game, not just the character of the game and we do have competitors. Those competitors have been finding ways to leverage this environment in very clever ways. They have been studying this hard and analyzing our strengths and weaknesses. So, an important part of this thesis that I'm trying to make this sense of urgency is we are not alone in this. This is not a theoretical experiment, we are here in a world with a number of partners and competitors. So, let's take a quick scan through the competitors because I know we'll get to this at Q&A.

China, in the new frequently in the last decade, has grown really from a region maritime power to a global power in many sense. Their economic power is fueling a lot of that, building many more ships. Their fleet, by some projections, may exceed the U.S. fleet by 2030. They have launched more ships than anybody else since 2013, more military ships. They are operating those ships further and further away. The one belt, one road plan increasing their connection and you can see that manifest itself by watching their naval deployments. They've got a port now in Djibouti. They are doing another port in Pakistan, counter piracy operations in the Gulf. They've got a space facility in Argentina, really kind of becoming a global power.

Another competitor, Russia. You really have to look no further than Syria to see kind of a vignette of Russian interplay in the environment right now. In support of Syria, they deployed their carrier, a small carrier strike group to the Mediterranean and did strikes ashore. Their submarine activity remains brisk and increasingly brisk. As I said, there has been land attack not only from the Mediterranean but also from the Caspian Sea fleet. So, who would have though and they've been really testing out new systems, new techniques, new operations. They are the third largest military spender behind the United States and China and their Navy is getting a fair share of this increase. They've fielded new submarine classes, three at least new submarine classes, six new classes of surface ships. A lot of this arms is exported to other actors around the world.

Another competitor, North Korea, enough said. So, just the concern about the level of escalation and unpredictability with North Korea. Iran, a small but growing fleet to include frigates and submarines. Provocative behavior in the Arabian Gulf and beyond, working very much through proxies again, a beneficiary of technology sharing and then using that technology through their proxy. So, you have this malign influence that you hear about.

If you stick with the four plus one structure, this persistent violence extremism terrorist challenge, the length of the campaign alone, 15 years is something that demands our attention. The idea of the morphing of that challenge over those 15 years, their ability to employ some of these new technologies very adroitly. So, it is clear just to sum up, that our potential adversaries, our competitors are not slowing down. They are employing this environment and our question now is what do we do to address this? How do we employ this sense of urgency?

For the business leaders in the room, this will be nothing new. We study the competition, put together a plan to achieve outcomes to compete. We adequately

fund that program, put together a team of talented people to execute that and then, in fact, we execute the program. As I said, the business leaders have been in competition by nature for some time and this is nothing new. I would say our focus on competition in my world has been different. We've been taking too long to get things done so, I'll just step through each of those elements of the program, talk about what the Navy is doing to address each one.

So, in terms of putting together a program that is informed by our studying of the environment and the competition, we're getting after this in many fronts. We've reoriented, in fact, the way that we design our program, starting with the intelligence picture and then the strategy that is built as a result of studying that intelligence. So, a very strategy informed process. Supported by analysis, supported by war games, all kind of coming into a tightened linkage between strategy, technology and resources, kind of an end ways means. And then inviting a lot of people in to red team it. And you've seen in the literature, just a tremendous amount of discussion about future Navy and I couldn't be happier with that dialogue that is going on. So, in terms of putting the program together, tightening that system up and making it strategy informed.

With respect to funding it, we have less control here than with putting the program together. Here, of course, Congress plays a crucial role. As I've testified, and as many people have said, the lack of stable and predictable funding takes a tremendous toll one our ability to execute that program. Here we are on the eve of the end of the current continuing resolution which is just the latest in a series of eight years of continuing resolutions. We've operated for 30 percent of the last eight years under a continuing resolution. So, if you want to go back to the sports analogy, you're really talking about trying to win the mile race and spotting your competition a lap. You run three laps, I'll run four and we'll try to beat you. Very hard to do that. In fact, four of the

longest continuing resolutions in the history of DOD have occurred in the last six years. So, that is moving in the wrong direction. The Budget Control Act, I would have to say it was based on assumptions of reduced threats, reduced complexity in the environment and therefore a corresponding reduce op tempo that really have just not obtained. In fact, the environment has become more complex, more demanding and op tempo has responded.

This is also not a short term problem. A lot of times when people say how can I help you, what they imply by that question is, how can I help you this year. Boy, I've got all sorts of answers for this year but there is this looming thing about ten years out where we really start to see the major muscle movements of the budget, need to be addressed. This is not something that is going to be solved with an all-nighter in 2026 or something like that, we need to start on the plan to rectify that or our non-discretionary payments are going to cross the line of our total revenues and dependent upon who you look at, 2030 is not a bad estimate of that.

So, we're committed to doing everything we can with the resources that we get, that part that we do control to be absolutely judicious with those to make sure that we are as affective as possible with those resources, that we are being as innovative and creative, accountable for those resources. But this resourcing issue is going to require a vision and leadership by many.

The next step is assembling the team. Again, when we talk about competition, the competition for talent is another thing that is first and foremost in my mind. The most valuable thing, the most priceless thing in the United States Navy is the sailor and the Navy civilian, our people so, a very competitive space. We can't compete in many areas. We can't compete in salary so, we've just got to take that for a fact. We're going to demand a lot of our people, we're going to demand you deploy for six to

seven months at a time, come back and then deploy again. So, it is an interesting challenge for us and it's a remarkable testament that we are now celebrating our tenth consecutive year in terms of meeting our recruiting goals, 120 consecutive months of meeting those goals. One, it speaks to the value proposition and the integrity and the service orientation of the current generation which I see every single day as I move around the fleet, it is truly remarkable. Attracted to our values proposition of honor, courage, and commitment, their desire to be part of that, to be part of something bigger, to support and defend the constitution of the United States. So, we inside the Navy have to be mindful that we reflect those values in every action that we do. Our behavior as an organization is consistent with our values as a profession. So, our attributes of integrity, initiative, toughness so, that we're ready for this environment and accountability are important efforts for us. We've issued two documents, the Navy has, to get after this framework that talks about how we want to develop leadership and a framework that specifically addresses how we want to develop our civilian workforce. Again, going after this increasingly competitive space for people, there's a 2014 report. You're familiar with these numbers but of the 34 million people from 17 to 24 over 70 percent not even eligible for military service and of that only about 1 percent self-identify as being inclined to have a conversation with the military as an option for service. So, those are the same people that a lot of businesses are after as well. It is not even just a national competition but an international competition. So, we have to be mindful that once we bring people in, that our personnel systems are as flexible, agile, up to date, cutting edge as possible. So, we're doing a lot of work in that world to modify and transform our personnel system.

What I am striving for is a picture of every individual sailor, what are their priorities in terms of professional development, family development, their entire life so that we can than tailor a compensation package, if you will, our best offer to get after that.

So, if they want to fly around the world and be operator's 100 percent of the time, I've got a lot of jobs like that. If they want to stabilize in a particular area to put their kids through school or something, we've got opportunities there. Technology enables to get at that personal level of knowledge and then to package a program to address that. We'll probably never get a 100 percent match but we can do better.

So, there is a ton of potential here. Again, leveraging this information technology. The way we teach and train using virtual environments and measuring performance in those environments and then feeding back. We can get people train and effective much, much faster.

So, having put together the program, having achieved some funding, having put together the team then, now it is down to execution. This involves execution on a number of levels. Our acquisition system is one that I get to spend a lot of time in. Here is a system that is fundamentally not built for competition. It is processed based, not outcome based. In this process, there are a lot of people who get a vote and I would say more accurately not a vote but a veto and in the name of drawing down risk and some conception but I'll tell you, it is a mindset that places very little value on outcomes particularly outcomes in time, competing in time. That approach, today's environment as I started off with, demands that we compete in time. So, within the Navy we're trying to drive agility into that, we've put together an accelerated acquisition program. We are adopting this, again IT, this sort of digital, physical pairing to get better insight into our systems from an acquisition and maintenance standpoint and then also exploiting those in an operational perspective as well.

None of this happens alone. We bring in a lot of partnerships when we moved down these roads. Partnerships with industry, we're bringing industry leaders in earlier so that we can have a dynamic conversation about where we need to put the

marker down with respect to requirements. It allows us to find the knee in the curve everywhere we're talking about so that we can find something that is achievable at a competitive time, at a reasonable risk, at an identifiable risk and at a cost that we can control. That's the knee of the curve. And then that will be better than where we are right now. As I said, in this exponential competition, even as we put that program together, we've got to be ready for the next step. So, think about a ship where parts of that ship may last for 30 years, the hull, the propulsion plan, but the rest of it is built from the ground up to modernize every five years or so. So, this is, I think, a way that will allow as a platform for innovating our way into the future as new technologies come about. So industry, becoming a much closer partner as in that.

As well, our international partners. So, we have always fought with allies and that won't change going forward. We're working very hard to focus our engagements in the international world on again, going to explicit outcomes. To what end do these partnerships work. We've signed a trilateral agreement with the United Kingdom and Japan to increase our effectiveness and combine patrols. It kind of tells you about the global nature of the maritime when you think about a partnership between Japan and the United Kingdom. 180 degrees of longitude apart with the United States.

Last month we signed another agreement with the United Kingdom and France to increase our focus and our cooperation in anti-submarine warfare and in carrier cooperation. So, I look forward to building these partners more. Next month I travel to Singapore for the IMDEX conference and I look forward to strengthening and expanding those partnerships when I go.

So, a bright spot of execution is in the fleet. I will tell you, the fleet is operating tremendous skill and precision. You've seen some examples of that recently. Innovating the way that they operate, moving into the future, trying out new concepts and

so, that part is a pretty healthy part of our business and I give our fleet commanders tremendous credit in terms of moving forward in a very creative way.

So, I'll come to a close. I hope that I'm conveying that we need to recapture this sense of urgency that within the Navy, we're doing everything within our power, putting our game face on to accelerate forward. But that won't be enough to really do what we need to do. We're going to need partners. It is going to be a multilateral effort. We'll have to focus with intensity on the problem at hand and recapture our momentum.

So, going back to this recurring dream, it is kind of like the Christmas Carol. Is this our future as it will be or our future as it can be, can we change it. I would argue that if we get this sense of urgency, we have everything within our power to change this outcome, to maintain our place in the world if we get this sense of urgency, if we look outside. Without this sense of urgency, it is going to be very hard to do anything definitive. With it though, just to borrow a phrase from George Washington, everything glorious is possible. Thank you all very much for a chance to talk this morning, and I look forward to taking questions.

MR. O'HANLON: Admiral, thank you, that was fantastic. What a breadth of topics you raised and what a breadth you have to think about. So, I'm going to touch on a few and I know others will want to get involved as well. We had discussed earlier, and you mentioned you've been speaking a lot about readiness so, I don't want to dwell on that. But if I could summarize what I think I heard you say, you're very happy still with the quality of people and the fleet is performing well. So, if I'm distilling out the main readiness concern, I think you've had today and at other recent appearances, it is the pace at which you're operating would maybe be the number one challenge or are their certain categories of equipment that are, in fact, breaking down or showing huge strain

that you're particularly worried about.

ADMIRAL RICHARDSON: Well, it is a kind of all of the above. Our model for readiness is that we're not going to send any forces forward that aren't fully certified for whatever may come their way. So, we send folks out certified for the high end fight, if you will. But to really achieve success against more challenging possibilities, more challenging contingencies, we have 100 ships right now for deployed around the world, about 75,000 sailors. Those folks are ready. They won't be sufficient against a high end contingency so, you'll need to surge reinforcements. Those reinforcements need to be ready as well so, it's becoming harder and harder to get that team out the door fully ready. And then those reinforcements, the decisive forces in a contingency are the ones where we have concerns. In particular, we've been very open about this maintenance on ships and aircraft to kind of get those platforms so that we can steam them, we can fly them. That allows us to do that training and this training thing is something that is, time is as I said, is an unforgiving variable there. When you can't fly, it's not like you can go back and recapture that day. Experience goes down overall so, we're very focused on those sorts of aspects.

MR. O'HNALON: So, there's a lot of talk about how the Navy maybe should be aiming for 350 ships plus or minus and I guess today you're right at about 300?

ADMIRAL RICHARDSON: About 275.

MR. O'HANLON: 275 in terms of the number today but 300 in terms of where the previous plan --

ADMIRAL RICHARDSON: Yes, the program of record right now is about 308.

MR. O'HANLON: And so, in this environment, and again you eluded to the fact that none of individually control the budget for the Navy but we're in an

environment where President Trump has proposed a $54 billion increase but that is relative to a sequestration level. So, it winds up by my calculation as being about half that much of an increase relative to a more normal Obama base line. It is only 5 percent. That is not going to, by itself, allow you to grow to 350. So, I guess my question boils down to in a fiscally constrained environment, what is more important to you, trying to push towards that 350 or trying to make sure we do the kind of innovation in everything from robotics to better cyber resilience to different kinds of space assets, unmanned systems or selective improvement in certain kinds of missile defense, directed energy research. I realize you're going to say you can't choose but to the extent, I guess are you worried that the push toward a larger fleet could crowd out innovation and modernization in some of those areas.

ADMIRAL RICHARDSON: Michael, I can't choose. It is sort of all of the above and as we look forward to the future, as I said, there has been a great amount of discussion about what should the Navy look like in the future. I think there's almost unanimous consensus that the future security environment is going to demand more Navy, a bigger Navy. I'll tell you what, if I built 355 of today's ships and operated them under today's concepts and projected that forward into the mid to late 2020's, that's probably not the force that would be decisive and would be able to protect America from attack, protect our interests around the world, promote our interests around the world. So, it really is a combination of both. We've got to innovate. It's absolutely essential that we do so otherwise we will have an irrelevant Navy out there that will not be competitive in that future environment. So, we've got to create space to innovate.

MR. O'HANLON: So, it sounds like if we're going to go for 350 ships, either there would have to be a bigger increase than President Trump has proposed in the overall DOD topline or there might have to be a shift within the DOD budget of which

services frankly we're prioritizing in size in order to accommodate the competing need for a larger fleet and ongoing naval innovation, is that fair to say?

ADMIRAL RICHARDSON: Well, I would put it this way. First, I would ask you just to stay tuned. So, there has been a great discussion about future Navy. The one thing that has been missing from that is, what do we think? There hasn't been a strong U.S. Navy voice on that. That is coming in the next few weeks. We're putting our final thoughts together about that. And what it will address is exactly your question. So, let's talk about the equivalent capability of 355 ships. With some of these new innovative technologies that are really right around the corner, I mean knocking on the door. I'm not talking about something that is an idea or unobtained right now so, there will be capacity dimension to that. The size of the Navy matters. If you look over the panorama I painted during my remarks, we're all over the world. Every place that there is conflict and U.S. interest, the U.S. Navy is there. You've got to have a capacity to be there so, there will be a capacity part of this. But there is also this capability dimension. What do you do to provide credible options to leadership? You've got to be there to be credible and have an option but you've got to have the right capability set as well. And then, of course, there is this discussion. Is it a budget informed strategy, a strategy informed budget or what have you. It has got to be mindful of the resources that are available so, that's our challenge and we should be coming out with something compelling here in the next couple of weeks.

MR. O'HANLON: Excellent. Thank you for the preview today. Let me ask you just briefly about China and Russia and then we'll go to all of you. So, with Admiral Harris, of course, has been in town and I guess he's the longest serving Combatant Commander now. He's had a lot of experience and we're heard a lot from him. I wondered if there was anything that you want to say yourself this week as we're

digesting where we stand with North Korea, with China. I guess the way I would put the question is how do you feel about the state especially of U.S. China relations right now? Your Navy has done navigation operations, tried to begin the process of having 60 percent of the fleet in the western half of the world so to speak with the rebalance. How do you feel the state of the rebalance and the state of U.S. Navy engagement with China is right now.

ADMIRAL RICHARDSON: I would say just the last couple of weeks and there has been a tremendous amount of focus on the USS Carl Vinson strike group. But think about what that strike group has done in those two weeks. One, it started with a port call in Singapore. So, doing those sorts of diplomatic engagement with Singapore, very important part of the world there. If you think about the amount of traffic that flows through the Singapore straights and all of that is a very important partner. Then underway to do some pretty high end exercises with Australia. One of our allies there, very capable. So, we like to do high end things there. Started to transit north. All along the way, exerting and influence over its environment in terms of hey, we're going to navigate through international waters. Wherever international law allows, that's where we will be so, there's that statement. We come further north, we start to work with our allies in the Japanese Maritime Self Defense Force, so again, this partnering opportunity. Now moving further north, exerting an influence on the U.S. Korea dynamic. So, a tremendous tool at the disposal of international leaders, U.S. leaders in particular. So that, I think, we just need to step back a little bit from the day to day headlines and appreciate what that has done. That is the sort of influence of this maritime maneuver force.

I think that it is very important with respect to your question. First of all, it is all going to be made very clear when I get through *A Glass Half Full*. So, I look forward to

reading this and thanks very much for --

MR. O'HANLON: That's my new book with Jim Steinberg.

ADMIRAL RICHARDSON: Yes so, I do look forward to reading it. It was just released yesterday. The length is perfect.

MR. O'HANLON: It should have come out in December for stocking stuffers.

ADMIRAL RICHARDSON: As I've talked to my counterparts and people's liberation Army Navy, like any fully dimensional relationship, it is complex. There are areas where we agree, where we have common interests and boy, we want to double down and really emphasize those areas. There are areas where we have disagreements and we have to work together to resolve those disagreements. And then while we are having those discussions, let's have an approach that minimizes the possibility of some kind of tactical miscalculation to allow decision space, allow room for maneuver to resolve our disagreements. So, in the Asia Pacific, we have such an agreement put in place by my predecessors. The code for unplanned encounters at sea, by enlarge, many more navies are abiding by that and it keeps things on track and sane and predictable, minimizes that chance for miscalculation so, I think that that is the general way forward.

MR. O'HANLON: That is going a little better than perhaps some of the encounters with Russia, is that fair to say?

ADMIRAL RICHARDSON: I would say that that is fair. We have such an agreement with Russia, the Ink Sea Agreement. It was put in place in the Cold War and it was put in place, really the thing that closed the deal in the Cold War, was the consequences of such miscalculations. The sort of acts of bravado if you will. Well they were resulting in collisions, they were resulting in loss of life et cetera so we just had to

stop that. And then there was this idea that something tactical could escalate so, the agreement is there but we're not seeing as much compliance with that agreement with Russia.

MR. O'HANLON: Okay thank you, I've had a great opportunity to ask some questions so now I'll share the pleasure with those of you in the audience. Please wait for a microphone, identify yourself and if you could keep it to just one question so we can get through a few of them. We'll start here in the fourth row please.

MR. CRICHER: Good morning Admiral, Otto Kreisher with *Sea Power* magazine. You've talked about the budget situation. You're now in thing where Congress is likely to another minor CR before maybe giving you a budget. There is the question of how much of a supplemental -- how much can you spend if Congress actually gives you something close to what the NDAA recommended and then some supplemental. How much can you actually spend this year and what would you do with it?

ADMIRAL RICHARDSON: All of it. I'll spend it all. We have an obligation. This goes to this judicious responsible dimension of this discussion. It's completely on me. So, it has been an absolute requirement that as we have watched this discussion, participated in this discussion, every single dime will be executable inside the appropriate timeframe. So, you know that it kind of depends on the color of money, if you will, but we'll be able to execute, that's part of the deal.

MR. O'HANLON: I think there was one more question up here in that same row.

MR. SALLINGER: Hi Admiral, Mark Sallinger with *Defense Daily*. You mentioned you're going to come out with something in the next few weeks. Are you referring to the 30 year ship building plan or some other document?

ADMIRAL RICHARDSON: This will be an article that will describe our

vision of the future Navy. So, it's not the 30 year ship building plan.

MR. O'HANLON: If you could pass the microphone to the gentleman to your right, thank you.

SPEAKER: They took my questions.

MR. O'HANLON: Okay then the lady up here.

MS. CHING: Good morning. My name is Ni Ki Ching. I'm the State Department correspondent for *Voice of America*. I hope you would like to answer my question not have to answer my question. What is the discussion on frequency of future ops in the South China Sea under this administration? Is that more frequent than quarterly? The administration is reaching its 100 days. Was there already a (inaudible) in the South China Sea? Separately, if both of you could please address the danger of creating the perception that North Korea's threats are overshadowing territorial disputes in the South China Sea that would be great, thank you.

ADMIRAL RICHARDSON: First, in terms of discussion of future operations is just something I'm not going to touch on and so, the frequency of future operations including freedom of navigation types of operations, I don't think it is useful to describe those. Except that freedom of navigation as an expression of our advocacy for international rules and norms going where international law allows us to transit, doing so in a way that shows resolve in that area, a strength of our position. It would be great, because it is international law, I think, greater international participation there would be something to look forward to as sort of a strategic approach to that.

With respect to the dynamic of, I think if I understand your question, the current press on North Korea versus the persistent challenge not only in the South China Sea but around the world. Always a challenge isn't it, to make sure that you're not captivated by the bright and shiny object of the current headlines and take your eye off

the broader strategic currents that are flowing around the world. So, we'll do our best to maintain our balance there.

MR. O'HANLON: I'll give a quick additional thought which is while I certainly agree with the Admiral, I would also say I am more worried about the behavior of North Korea than the behavior of China. I think we have a viable strategy that the Navy and other services are implementing. It is not a done deal. We have to keep very vigilant on the issue of the South China Sea, but I feel that the U.S. and Chinese militaries and governments are both essentially, on both sides of the Pacific, professional in some sense. Not every aspect of the Chinese government do I equally admire, but I don't feel like they want a war. I feel like they're trying to flex their muscles as they're becoming a near super power and they are doing it in ways that cause us angst.

I think we have a relatively viable strategy for how to push back where as Kim Jung-un scares me. I don't know how to understand how he views the world, I don't know what his goals are. Unfortunately, he kills off a lot of the inner circle that might give him advice on issues that he needs to hear when he's got something wrong. Even though I don't think he wants war either, he is more unpredictable, he's in more of a one man echo chamber and he's doing some very dangerous things. So, I actually think we have to focus on North Korea quite a bit. I'm not sure that the posturing that's been going on lately really solves the problem and I don't think anybody would claim it does but I think that the North Korean threat is at least as worrisome to me as the Chinese threat. The time horizons may be slightly different but the North Korean threat has been there a while too and it is not going away any time soon.

ADMIRAL RICHARDSON: Maybe if could add on to that, when we go back to U.S. China relations, what a fruitful area for us both to cooperate on in terms of addressing the North Korean threat. So, I think there is a real opportunity there for us to

come together and collaborate on an approach to that threat.

MR. O'HANLON: Okay so, the gentleman in the eight row.

MR. WELDON: Thank you, Admiral. My name is Weldon, I'm a graduate student at Johns Hopkins SAIS. Admiral Zukunft, the commandant of the Coast Guard was here at Brookings back in November. Among other things, he discussed the role of Coast Guard in the Asia Pacific and he's also been quoted in the press as being in discussions with you, sir, about the Coast Guards role in the region. Can you tell us anything about the state of those deliberations or how you envision the Coast Guard's role in American defense strategy and naval strategy in general?

ADMIRAL RICHARDSON: Yes as I think about it, it is a great question. Paul Zukunft and I talk a lot about this. We have habitual staff talks to make sure that as we approach this, as I see it, it is really a matter of maritime security. It includes not just Navy but also the Coast Guard and also our merchant Marine force and some of the other dimensions that come into making sure that as a maritime nation, the United States has a firm grasp on maritime security through which we get so much. So much of our trade is manifested over the seas and so, the Coast Guard has capabilities and particular authorities that we don't have with respect to law enforcement and so, we want to make sure that we move forward in a very collaborative and also deliberate manner so that we are using each of our capabilities and authorities to best defect and not duplicating and being random about things. So, I would say in particular, where we have trouble meeting demands just because of priorities in places like the Arctic, in places like the Caribbean, that is where the Coast Guard has just been fantastic in terms of covering down on establishing U.S. maritime security in those areas.

MR. O'HANLON: A couple of hands in the back.

MS. HAUCK: Hi Admiral, Caroline Hauck with *Defense One*. I wanted to

ask about the March memo that you issued asking members of the Navy to think more strategically about their public communication. There have been some reports that it has encourage some people to just tamp down on all communication. What has been your perspective on how people have responded?

ADMIRAL RICHARDSON: I'll tell you it is interesting. Whenever you put a communication like that out or any communication, the way that different people interpret that is always -- so, a communication like that is just the beginning of a dialogue and I appreciate you letting me continue that. One, and I made it clear in the memo, this does not mean stop communicating. So, this just means there are some things that I believe strongly, particularly if you buy my theory that we are in a competitive environment. So, I use a sports analogy type of thing again because it allows us all to identify with it. If I'm going into a game, I'm not going to give the other coach my play book. That doesn't make any sense to me. So, there are, I would say, appropriate venues. So, as the questions have come up, it is sort of the industry, the business community has come back to me and said, hey, hey, hey, I thought you were saying we want to communicate more with industry and I say I do in the appropriate setting and the appropriate venue, we'll have all the conversations that we need to have to do real good business together.

In the media, boy there is an awful lot that we could be talking about that is interesting and vital. But when we get down to specific capabilities, weapons systems capabilities, when we get down to specific operations, it is just in an era of competition, we have to be thoughtful about that so that we don't show our hand. So, that was really what I was after.

MR. O'HANLON: I'm going to ask one more question on the sports metaphor before we go to the last couple here. By the way, for a minute, it sounded like

you were a recovering Atlanta Falcons fan because I think they were actually ahead 28 to 3 in the Super Bowl, God bless them I still don't know what happened in that game.

ADMIRAL RICHARDSON: It was about adaptation. In the first half, you could see the Patriots moving and adapting on the fly.

MR. O'HANLON: That's a good point, actually. So, it's about weapons and vulnerabilities and threats and so, in that regard, if you had to, I know you've got a lot of concerns about where we could fall behind. But if you had to pick one or two, it seems to me that cyber and space vulnerability and missiles and maybe submarine threats would be among my top four. But would prioritize among that list or add any others?

ADMIRAL RICHARDSON: Well I'll tell you, all of those go in group one. As we think about where we need to innovate, in particular, we enjoy an advantage right now under sea but that is fleeting. If we don't continue to mind that closely, that advantage will evaporate and so, we've got to be mindful of the competitive space in the undersea and continue to invest there.

With respect to missiles, we've got to innovate. We are on the wrong side of the cost curve on this. Interceptors are very expensive and few and they have to go up potentially much less expensive and many missiles. So, how do we turn that around? I think that there are some solutions right around the corner that will allow us to do that.

With respect to space and cyber, I mean if you go back to the last time where we might want to consider ourselves in real competitive 25 years ago, nobody was talking about those at all. So, trying to appreciate and get our mind around those as competitive even war fighting domains, just a tremendous challenge. So, I would say all four of those are front and center.

MR. O'HANLON: So, I think there were two hands in the back area.

We'll take those together as we wrap up.

MR. CREAD: Good morning sir, Brad Cread from the Association United States Navy. On the issue of rapid acquisition, Admiral Moran spoke very passionately and encouragingly about it during sea, air and space. His comments were specifically within the context of tactical aircraft programs. I was wondering if the rest of the PEO's are as amped up and passionate about championing that and also if you could point to a specific example of where rapid acquisition has really played about in the Navy recently.

ADMIRAL RICHARDSON: With respect to acquisition, this is an area also, as I talk about processes, that we have got to challenge all of our assumptions. So, it just takes too long to do stuff. For the private sector, for industry to the degree that I can characterize it and I'll probably over simplify it which is dangerous. There are two regimes that they operate in. If they do business both commercially and with government there is sort of fast moving competitive regime, very dynamic that they have to do to compete in the private sector and the commercial environment. And then there's their government business which is like in a different world. It is almost like a science fiction movie where people are moving around at different time scales and so much slower, much less responsive, much more process dominant and much less competitive to be honest. So, we've got to come over more towards these much more dynamic acquisition models. Why does it take us so long to design a ship these days? Why does it take us so long to build that ship once designed or aircraft or whatever? And then when we design that ship, boy if we take the last ship and iterate it forward, we're going to miss a tremendous opportunity in terms of providing a platform for innovation to the future. So, we're working very hard with industry right now to really do a full court press on those assumptions and get things done faster. I mean, design the ship in one third, one half of the time that historically we've done. Build that thing faster.

Now, that requires stable and predictable funding. It is a business proposition on their side and so their corporate investors and their stockholders are looking for a signal of confidence that this is an area where they can invest in and get a return. So, it all kind of has to work together.

MR. O'HANLON: We'll have the one last question there and finish up here.

MR. DOUBLEDAY: Hello sir. Justin Doubleday with *Inside the Navy*. The congressional budget office just came out with a report this week that said it would cost about $26 billion a year to build up to 355 ships. That's using, of course, today's fleet architecture, today's ships. Will your future fleet projection that you're coming out with, will that include a discussion of cost at all and what is your assessment of CVO's numbers?

ADMIRAL RICHARDSON: I haven't had a chance to study the cost, the details of CVO's numbers. But to answer your question it kind of goes back to the discussion earlier. If we just have a resource uninformed wish list for the future, it is worth the paper it is written on or maybe not even. It has got to be resourced informed if it is going to be legitimate going forward.

MR. O'HANLON: Right up here for our final question please.

MS. ZOLATOV: Adize Zolatov, Center for Naval Analysis. Sir, you discussed the rate of data creation increasing very rapidly. I think that leveraging the power of that data requires a level of skill to do very computationally comprehensive analytics, big data and machine learning, artificial intelligence, some of the things you discussed. What is your plan, what is your vision for bringing those things to the Navy so that you can harness that analytic power?

ADMIRAL RICHARDSON: I think of that as really the new competitive

space in terms of achieving advantage. There is no shortage of data, sensor data anymore. And there is really no shortage of payload options, kinetic and non-kinetic. But it is stitching all of that together. What is the network that brings all of that together? If I think about sensors at one level and I think about payloads at another, in between sort of the orient and decide part, that's making sense of all of that so that you can come to decisions and then employ a payload. Not only a payload but the payload, the most optimum payload to achieve the effect you need, that's going to require help. A lot of that help is going to be an artificial intelligence that can tee up the decisions for people to make because we are talking about weapons deployment here. So, tremendous space there in terms of getting after how to do that, what are the ethical dimensions of that. We've got to start exploring that now so that we get into the O and D of the OODA loop because I think that is where the competition is now.

MR. O'HANLON: Admiral, thank you for joining us at Brookings. Thank you for what you're doing for the country in these very, very challenging times, really appreciate.

ADMIRAL RICHARDSON: Thanks Michael, and thanks for the great book.

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